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MEDICAL RECORD.

A Weekly Journal of Medicine and Surgery

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1904

EDITED BY

GEORGE F. SHRADY, A.M., M.D.

CONSULTING SURGEON TO ST. FRANCIS HOSPITAL, TO THE GENERAL MEMORIAL HOSPITAL, TO THE COLUMBUS HOSPITA TO THE HOME FOR INCURABLES (FORDHAM), TO THE HACKENSACK (N. J.) HOSPITAL, AND TO THE HOSPITALS OF THE HEALTH DEPARTMENT OF THE CITY OF NEW YORK.

THOMAS L. STEDMAN, A.M., M.D., ASSOCIATE EDITOR.

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Original Articles.

A PLEA FOR JUSTICE TO THE CONSUMPTIVE.*

A REPLY TO RECENT ATTEMPTS TO DISCRIMINATE AGAINST THE CONSUMPTIVE, NOT ONLY ON ACCOUNT OF HIS PHYSICAL INFIRMITY, BUT ALSO ON ACCOUNT OF HIS ALLEGED MENTAL AND MORAL DEFECTS.

BY S. A. KNOPF, M.D. (PARIS AND BELLEVUE, N. Y.), NEW YORK CITY.

VICE-PRESIDENT OF THE AMERICAN ACADEMY OF MEDICINE; HON. VICE-PRESIDENT OF THE BRITISH CONGRESS ON TUBERCULOSIS; VICE-PRESIDENT OF THE PENNSYLVANIA SOCIETY FOR THE PREVENTION OF TUBERCULOSIS; HON. DIRECTOR OF THE NEW HAVEN ANTITUBERCULOSIS ASSOCIATION; CORRESPONDING MEMBER OF THE INTERNATIONAL CENTRAL BUREAU FOR THE PREVENTION OF CONSUMPTION; MEMBER OF THE NEW YORK TUBERCULOSIS COMMITTEE OF THE CHARITY ORGANIZATION SOCIETY; VISITING PHYSICIAN TO THE RIVERSIDE SANATORIUM FOR CONSUMPTIVES OF THE CITY OF NEW YORK; CONSULTING PHYSICIAN TO SANATORIUM GABRIELS, GABRIELS, N. Y.; ETC., ETC.

Mr. President, Fellow Members of the Society of Medical Jurisprudence, and Invited Guest:

IN order to plead my cause successfully before a distinguished audience of the jurists and physicians of this great metropolis, I must, to speak in legal parlance, state my case. To do this intelligently and conscientiously I will divide my discourse into three parts, and speak first, of official, second, of private, and third, of professional phthisiophopia.

Phthisiophobia means, in plain language, an exaggerated fear of the presence of a consumptive. Official phthisiophobia started in the United States about two years ago when the Surgeon-General of the Marine Hospital Service issued a declaration that pulmonary tuberculosis must be classed as a dangerous contagious disease, and that in future immigrants, or aliens visiting our shores, afflicted with pulmonary tuberculosis, must be debarred from all ports of the United States. In June of last year an order was issued confirming the above decision, and adding that tuberculous individuals should be debarred regardless of boards of special inquiry, which heretofore had used their discretion in the matter.

It goes without saying that none of us desire pauper immigration, and we do not want any such class to enter our country, whether they are tuberculous or not. The question here is simply: is it right, just, and scientific to declare pulmonary tuberculosis a dangerous, contagious disease, and exclude on that account worthy immigrants who offer a guarantee that they will not become a burden to the community, or to exclude aliens and visitors afflicted with pulmonary tuberculosis? Have those who have been instrumental in bringing about the Government decision to declare pulmonary tuberculosis a dangerous contagious disease, or who favor this decision, ever thought of the fearful meaning of a designation which virtually classes every American consumptive with patients who may be suffering from smallpox, leprosy, yellow fever, etc.? Have they ever thought how really few families there are who have not at least one, more or less near relative or friend who is a consumptive? Tuberculosis is the most frequent of all diseases, and it is most prevalent in the pulmonary form. It is a disease of the young and old, of the poor and rich, the East and the West, the North and the South.

I cannot do better here than to give you the concurrence of opinion of the medical profession of this city on this subject by reading to you the resolutions which I had the honor to present to the New York Academy of Medicine at the time, and which were seconded by Prof. Edward G. Janeway of this city and adopted by the Academy at its regular meeting on February 6, 1902:

Whereas, The Treasury Department of the United States, upon recommendation of the Surgeon-General of the Marine Hospital Service, has recently decided to classify pulmonary tuberculosis with dangerous contagious diseases, Be it

Resolved, That the New York Academy of Medicine deeply deplores this decision, which is not based on either clinical experience or on scientific experiments. Be it further

Resolved, That the Academy considers the exclusion of non-pauper tuberculous immigrants and consumptive aliens visiting our shores unwise, inhumane, and contrary to the dictates of justice. Be it further

Resolved, That, while the Academy is convinced of the communicability of tuberculosis and urges all possible precautions against the spread of the disease occasioned by sputum and tuberculous food, the Academy is opposed to all measures by which needless hardship is imposed upon the consumptive individual, his family and his physician.

The secretary of the Academy was instructed to forward a copy of the resolutions to the Treasury Department, the Surgeon-General of the Marine Hospital Service, and to the secretary of the New York State Medical Society.

Of the men who stood on my side at the time I presented these resolutions and helped me to carry them, I wish here to remember gratefully Prof. Edw. G. Janeway, Prof. Hermann M. Biggs, Prof. T. Mitchell Prudden, Prof. Geo. M. Peabody, Dr. A. H. Doty, the Health Officer of the Port of New York; Dr. Aug. J. Lartigau of the Pathological Department of Columbia University, Dr. Geo. B. Fowler, Ex-President of the New York County Medical Society; Dr. Geo. F. Shrady, Editor of the MEDICAL RECORD; Dr. Andrew H. Smith, the present president of the New York Academy of Medicine, and Dr. Frank P. Foster, editor of the *New York Medical Journal*.

Let me also give you a few opinions of men outside of our own city on this vital question. Dr. Geo. M. Gould, the editor of *American Medicine*, in a leading editorial on this subject, said: "We think professional and lay opinion will not justify the exclusion of tuberculous immigrants on the simple ground that the disease is 'contagious' or 'communicable.' It is only so in such a low degree that the severe measure of exclusion for this reason alone seems unjustifiable." Dr. Geo. H. Simmons, editor of the *Journal of the American Medical Association*, the representative organ of the American medical profession, says in regard to the resolutions: "The resolutions presented to the Academy of Medicine are to the point and express the opinion, I believe, of about 90 per cent. of the best men in the profession who have given thought to the subject." Dr.

*Read before the Society of Medical Jurisprudence, on December 14, 1903.

U. O. B. Wingate, the secretary of the Wisconsin State Board of Health, expressed himself regarding this matter as follows: "The action of the head of the Marine Hospital Service in this matter is simply inhuman."

To the best of my knowledge this almost universal protest on the part of the medical profession of this country regarding the decision of the Surgeon-General, acting under the authority of the Treasury Department, has to this date remained unheeded.

Before I speak of the results of federal official phthisiophobia on the general public, let me proceed to a chapter of State phthisiophobia. I do not wish to arraign here the attempts of certain California and Colorado statesmen who wish to exclude phthisical invalids from their borders, but I shall confine myself to our own State, New York. Our present Governor has, by the signing of the Goodsell-Bedell bill, at the close of the last Legislature, put himself on record as one favoring official phthisiophobia.

What is this Goodsell-Bedell law? Under the law of 1900, Chapter 327, cities of the first class were authorized to erect sanatoria for the treatment of consumptives outside the city limits, such acts and the selection of the site to be subject to the approval of the State and local Boards of Health. Private property was sufficiently protected by the general laws. The effect of the Goodsell-Bedell law is to make it hereafter practically prohibitive to establish such a sanatorium anywhere in the State. If any board of supervisors of a county or a town board should be opposed to the establishment of an institution for consumptives, the mere adoption of resolutions would suffice to make the creation of such an institution impossible.

The Governor was implored from all sides not to sign the bill. The New York Academy of Medicine protested, as it usually does when there is danger to the public health and welfare from injudicious legislation, and passed the following resolutions on the subject:

Whereas, There has been recently passed by the Legislature of the State of New York an act to amend the public health law in relation to the establishment of public sanatoria, hospitals, or camps for the treatment of tuberculosis, which act reads as follows: "A hospital, camp, or other establishment for the treatment of patients suffering from the disease known as pulmonary tuberculosis shall not be established in any town by any person, association, corporation, or municipality, unless the Board of Supervisors of the county and the town board of the town shall each adopt a resolution authorizing the establishment thereof, and describing the limits of the locality in which the same may be established," and

Whereas, The effect of this bill, if it becomes a law, will make it impossible for any city in the State, or any fraternal order, charitable society, or philanthropic individual, to establish a hospital, camp, or other establishment for the treatment of consumptives, outside of the city limits, except under conditions which are practically prohibitive, and

Whereas, By chapter 327 of the laws of 1900, cities of the first class are authorized to erect sanatoria outside of the city limits, such action and the selection of a site to be subject to the approval of the State Board of Health, and by the same law, hospitals and institutions, now, or hereafter established or maintained, are made subject to the approval of the local board of health, and

Whereas, Private property rights are sufficiently protected by general laws, and the process of injunction is open, in case it can be positively shown that unwarranted injury would be inflicted by the establishment of a hospital on a particular site, and the necessity of obtaining the consent of the State Board of Health being an ample guarantee that a site shall not be selected which shall threaten or unduly expose the health of any particular neighborhood, and

Whereas, It has been demonstrated in this country and in Europe that properly conducted sanatoria, hospitals, and camps for consumptives are not a danger to the neighborhood, and that such institutions are places where the consumptive poor receive a hygienic education and have the best possible chance to be cured and become again useful citizens and supporters of families, and

Whereas, There is at present a great deficiency of hospital accommodation in New York State for this class of patients, Be it therefore

Resolved, That the New York Academy of Medicine deeply deplores the passage of the above bill, and urgently requests his Excellency the Governor, to withold his signature to the act, which, in case it became a law, would involve the loss of thousands of lives and increase the spread of tuberculosis within the crowded districts of our cities and towns, and would have to be considered an act of the greatest injustice and inhumanity.

Similar resolutions were passed by the New York State Medical Society, the New York County Medical Society, the New York County Medical Association, and the medical societies of Buffalo and Syracuse. The Committee on the Prevention of Tuberculosis of the Charity Organization Society appealed to the Governor for the same purpose through its Secretary, Mr. Edward T. Devine, by a lengthy and explicit letter. The Grand Secretary of the Grand Lodge of Free and Accepted Masons of the State of New York, M. W. Edward M. L. Ehlers, wrote on behalf of the masonic fraternity, earnestly requesting the Governor to withhold his signature from the Goodsell-Bedell bill.

Of leading citizens who have since communicated with me and approved of a repeal of this inhumane law, I may be permitted to mention the Right Rev. Bishop Potter, Rev. Minot J. Savage, the Hon. Carl Schurz, Commissioner Homer Folks, Mr. Lee K. Frankel, Mr. Jacob C. Schiff, Mr. I. N. Phelps Stokes, Mr. Nathan Straus, the Hon. Theodore Sutro, Miss Lillian D. Wald, the editors of all our leading New York medical journals, Professor Francis P. Kinnicut of Columbia University, Professor Hermann M. Biggs, Chief Medical Officer of the City of New York, Dr. Henry L. Elsner of Syracuse University, Dr. Arthur W. Hurd, Superintendent of the Buffalo State Hospital, Dr. A. L. Benedict of Buffalo, Dr. Addison W. Baird of this city, and others.

In commenting upon the Governor's apology for signing this bill in spite of the many protests, the editor of *Charities*, the organ of the New York Charity Organization Society, says: "All that we can say is that undue consideration seems to us to have been given to the 'property interests' to which the Governor refers and none at all to the consumptives, of whom some twenty thousand will die of their disease in the State of New York this year."

There is a reason why I appear before this audience, composed of men of law and men of medicine. As a humble representative of the latter I come to you, leading representatives of the bar of New York to help us medical men to have this infamous law repealed. We must have sanatoria to save the lives of thousands of our fellow citizens, and there must not be on the statute books of this great State a law whereby a municipality or a philanthropist could be prevented from establishing a sanatorium, providing the ordinary rules and regulations for such an institution are complied with.

What has been the result of this Federal and State phthisiophobia on smaller authorities, such as municipal, town, and village boards? Municipalities, situated in particularly healthful regions, which formerly allowed their unsupervised boarding-houses to be crowded with consumptives—which was unsafe and unwise—have gone now to the other extreme, prohibiting the establishment or the existence of well-conducted sanatoria in their neighborhoods. Yet it is known to us all that there is not the slightest danger from well-conducted sanatoria; they are, on the contrary, veritable schools of hygiene, exerting a most beneficial influence by educating the people at large in preventive measures.

As soon as town or village boards learn that the establishment of a sanatorium is contemplated in the vicinity of their respective communities, they come together and simply oppose every movement favoring such a plan. Those of us who are occasionally asked to help in selecting a site for a sanatorium for consumptives will bear me out when I say that at the present time there is nothing more difficult in our beloved State than to find a suitable site for a sanatorium in a community which would welcome the establishment of such an institution. The small municipalities, the towns and villages are now strengthened in this insane prejudice by the Goodsell-Bedell law. Yet, as I have proved again and again by most reliable statistics, instead of a danger sanatoria for consumptives are a blessing to the neighborhood. In the two German villages, Goerbersdorf and Falkenstein, where five of the most flourishing sanatoria for consumptives have been in existence for the last fifty years, the mortality from tuberculosis among the inhabitants of the respective villages has decreased by one-third from that which it was before the establishment of the institutions. This remarkable result is simply due to the fact that the villagers voluntarily imitate the hygienic precautions which are obligatory to the inmates of the sanatoria.

Again, the well-known fact that in carefully conducted and well-equipped sanatoria, where the precautions concerning the sputum are most strictly adhered to, one is safer from contracting tuberculosis than perhaps anywhere else, should open the eyes of these narrow-minded and prejudiced village authorities.

There is an urgent and crying need for more sanatoria for the treatment of tuberculous patients, and the sooner the Goodsell-Bedell law is repealed the better it will be for the financial as well as the sanitary conditions of these very communities who are now opposing the establishment of such institutions. These sanatoria educate and cure at the same time; they cure the curable, and when patients are sent there at the right time, they have at least 75 per cent. of chances of being cured, and this often in less than a year's time. Not treated and not tured, they will cease to become breadwinners and linger often as burdens to the communities for one or two years.

In contrast to the stand taken by the Governor and the Legislature of the State of New York, in enacting the Goodsell-Bedell law, let me tell you of the different spirit which animated the late New Mexico Legislature. Chapter 17 of the law of New Mexico of 1903 provides that any company or corporation which shall, within one year from the passage of this act, commence and within two years after the passage of this act shall have expended at least $100,000 in the construction of a sanatorium in New Mexico for the care of invalids and persons with tuberculosis and other pulmonary diseases, shall thereafter be exempt from taxation on all property actually used in connection with such sanatorium for a period of six years after the expiration of two years after the passage of this act.

Private phthisiophopia has resulted partially from the Federal and State phthisiophobia just discussed, and partially from the excessive caution of those who are not sufficiently educated in the matter. Let me give you a few instances of the form it takes: Poor sewing women have been discharged, not because they were consumptive themselves, but because they were imprudent enough to mention in the presence of their employers that they were living with or were related to some consumptive. Employees in offices, having an innocent cough, are discharged for fear of contagion. Of the number of cases of phthisiophobia which came under the observation of Prof. A. Jacobi of this city, and which he was good enough to relate to me, one seemed particularly pathetic. A man with a large family to support, but strong, vigorous, and of excellent physique, was discharged from employment because of a non-tuberculous cough which, however, did not get well fast enough to suit his employer.

Had the following case not come under my observation, I would not have thought it possible that phthisiophobia could be productive of such cruelty. The husband of a woman of beautiful character, and devoted as only a woman can be, declared that since there was no longer a doubt that his wife was suffering from consumption he would have to leave her, for he would take no chances. The little sweet-faced sufferer proved to be a most conscientious patient and most eager to carry out all the precautions which would render her a safe companion to associate with.

I wonder if the Surgeon-General of the Marine Hospital Service and his advisers, our solons at Albany, and our distinguished Governor ever realize the sufferings of mind and body they have caused by fostering this new disease, phthisiophobia? Heart-rending as the results of this senseless fear, senseless ruling, and senseless legislation have been to the unfortunate persons afflicted with tuberculosis, still more serious are the results of this official phthisiophobia in its sequel of an exaggerated fear of the presence of consumption considered from another point of view. Individuals who suffer with the early symptoms of tuberculosis, or others who feel themselves in danger of becoming consumptive, will hesitate to seek medical advice for fear of being declared to suffer from a dangerous contagious disease and becoming subject to social ostracism. What a fearful loss of life a retarded diagnosis in pulmonary tuberculosis means, I need hardly dwell upon in an audience of this type. All our hopes in phthisio-therapeutics are centered on the early recognition of pulmonary consumption. Our American sanatoria report as many as 75 per cent. and more of recoveries of incipient cases. How very much lower the percentage of cure is when the patients have passed the incipient stage we all know only to well.

Now comes what I consider the saddest thing of all, namely, the professional phthisiophobia. Thank God, it is rare, very rare; but the recent appearance of an article on "Psychical Relations of Tuberculosis in Fact and Fiction" shows that there is also in our own ranks at times a manifestation of phthisiophobia. The article referred to is from the pen of a Dr. G. A. De Santos Saxe, and appeared in the *New York Medical Journal* of August 1 and 8, 1903. I have neither time nor inclination to refute all the conclusions this young author has come to from his reading and experience, but I will only quote two of his remarkable statements. Quoting another author, who had found a number of patients disregarding his orders concerning the care of their expectoration, and observing *one* who had expressed the wish that his young wife should not survive him, Dr. Saxe says the following: "To me this account shows the germination of a homicidal tendency, which is the resultant of the psychical defects that I have outlined in my analysis of the average consumptive's mental peculiarities. Here, psychasthenia, the loss of self-control, and the rise of brute selfishness have combined to distort the clearness of ethical perception." . . . "The funda-

mental factors in the psychical make-up of the typical consumptive are the loss of self-control, the rise of brute selfishness, the increase of susceptibility to suggestion, to emotion, and to nervous irritation, and the tendency to rapid nervous and psychical fatigue."

While I may, perhaps, claim that I have had a somewhat extensive experience with consumptives of all classes of society, in special hospitals, health resorts, and private and consultation practice, which might entitle me to refute the statements of Dr. Saxe, let me first give you a few extracts from letters which I have received from some of our leading authorities on this subject in answer to a letter of inquiry.

In this letter I gave the name and date of the journal containing Dr. Saxe's article, quoted the above-mentioned conclusions at which the author of that article had arrived, and asked the following questions: (1) In your vast experience with consumptives, have you ever noticed among them a greater tendency to immorality or crime than among individuals afflicted with other diseases, or among well persons? (2) In your opinion, is the average consumptive inclined to brute selfishness, to loss of self-control and consequent distortion of the clearness of ethical perception?

Dr. Lawrence F. Flick, Medical Director of the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis, of Philadelphia, says: "I have not, in my experience, noticed among consumptives a greater tendency to immorality or crime than among individuals afflicted with other diseases."

Dr. Arnold C. Klebs, one of the founders of the Committee on the Prevention of Tuberculosis of Chicago, and a well-known specialist on consumption, writes: "In my estimation it is a great mistake to use such instances as cited by Dr. Saxe, for artificial construction of a consumptive type. There is no such thing as a specific psychopathology of tuberculosis."

Dr. Edward D. Fisher, Professor of Nervous Diseases at Bellevue University Medical College, said: "There is no special form of insanity due to tuberculosis. Tuberculosis is more common in the insane as a result of the lowered vital condition than as a cause of mental disease."

Dr. Edward O. Otis, Professor of Climatology at Tuft's Medical College at Boston, and well known by his writings on sanatoria and tuberculosis, says: "I can say emphatically that I have had not the slightest evidence, in my long experience with consumptive patients in all stages of the disease, that there was any greater tendency to immorality and criminality than among patients afflicted with other diseases or among well persons. In fact, I would put it this way: That there was no greater tendency to immorality and criminality among consumptives than among well persons. Secondly, I have never, in my remembrance, had cases of distorted moral vision."

Dr. James Tyson of Philadelphia, Professor of Clinical Medicine, of the University of Pennsylvania, writes: "I am thoroughly in sympathy with you in the feeling that there is a ridiculous phthisiophobia now prevalent which is far more selfish than any conduct I have observed in the average consumptive. I am totally out of sympathy with the methods which have been pursued to discriminate against the consumptive."

Dr. Hermann M. Biggs, Professor of Clinical Medicine of the Bellevue University Medical College and Chief Medical Officer of the Health Department of this city, says: "I have never noticed any special tendency to immorality or crime among individuals afflicted with tubercular diseases; nor do I believe that there is any greater evidence of selfishness, loss of self-control, or distortion of ethical perception in them than in other persons."

Dr. Edward G. Janeway, Professor of Clinical Medicine and Dean of the Bellevue University Medical College, has this to say: "I have not noticed any such tendency as you inquire about on the part of consumptives as regards immorality or crime as compared with well people or with those ill with other diseases, placed under similar circumstances. It is to be remembered that criminals and the insane are prone to be victims of tuberculosis, and hence someone who studied this class of people would be liable to form very unjust views about the consumptive class as a whole. Nor is it my experience that the average consumptive is inclined to brute selfishness, loss of self-control, and hence distortion of the clearness of ethical perception. I have found so much to the contrary that I am surprised at so broad a charge against the consumptive invalid."

Dr. Sherman C. Bonney, Professor of Medicine at the University of Denver and member of the Board of Managers of the Denver Home for Consumptives, writes as follows: "From a close personal experience with something like two thousand private patients afflicted with pulmonary tuberculosis I have noticed a far less tendency to immorality or crime than among individuals afflicted with other diseases, or among the well. In answer to your second question I will state that it is my conviction rather than being inclined to brute selfishness, loss of self-control and consequent distortion of the clearness of ethical perception, the consumptive exhibits precisely the opposite tendency. It is my experience that in an exceedingly large class pulmonary invalidism works in precisely the opposite direction, toward patience, sympathy, self-restraint, a new gentleness and a greater charity."

Dr. William Osler, Professor of Medicine of Johns Hopkins University and Physician in Chief of Johns Hopkins Hospital in Baltimore, writes as follows: "I quite sympathize with you in your movement, and in reply to your questions I would say: first, I have never noticed among consumptives any greater tendency to immorality or crime than in other individuals, I should rather say the contrary. My impression is that the unfortunate victims of tuberculosis are above the average in their mental and moral character; secondly, I should say emphatically that the average consumptive is neither inclined to brute selfishness nor any special distortion of the ethical perceptions. I am glad you called my attention to the article in the *New York Medical Journal*. So far as my experience goes, such statements as you say are made therein are an unwarranted slander."

Dr. Vincent Y. Bowditch of Boston, Founder and Physician in Chief of the Sharon Sanatorium for Consumptives, and visiting physician to the Massachusetts State Sanatorium, writes as follows: "I have read Dr. Saxe's article. The remark which you quote is entirely unjustifiable, judging from my own experience of more than twenty years' association with consumptive patients. Doubtless we come across *individual* cases of selfishness and of loss of self-control; but such symptoms are, to me, simply an exaggeration through disease of elements *which existed in the patient's character before the illness ever appeared*. Certainly I can give my testimony to innumerable cases of patient suffering, of unselfishness, and of heroic struggle against weakness and nervous irritation. In answer to your question number one: I have not noticed "a greater tend-

ency to immorality or crime than among individuals afflicted with other diseases, or among well persons." I decry every such statement made by our medical brethren which shall tend to increase the already insane fear of tuberculosis which exists in a large portion of our community. You know perfectly well my position in the matter. I can say this, however, that I have certainly seen, in consequence of this fear, the most brutal exhibitions of selfishness among the friends and relatives of patients suffering with pulmonary disease, and more than I have ever seen among those afflicted. Hoping that this may be of service to you in your endeavor to help the trying position of every consumptive, I am, etc."

I have received one more letter, and I read it last because I treasure it most. It comes from a man to whom all who know him personally, and all who know his works, look up not only as a great physician, scientist, and specialist on tuberculosis and the pioneer of the sanatorium treatment in this country, but also as a great humanitarian and a most noble character and example what a man, though consumptive himself, can do for his fellowmen. Dr. E. L. Trudeau, who twenty years ago, as a seemingly helpless invalid, made his home in the wilderness of the Adirondack Mountains, became through his untiring work, his unselfish devotion to science and the highest ideals of human helpfulness, the founder of one of the most beautiful and flourishing sanatoria for the consumptive poor in the world, the founder of a prosperous village crowded with consumptives of the wealthier classes, a teacher to the medical profession in practical phthisio-therapeutics and a teacher in practical philanthropy to the American public and the world at large. These are his words:

"I have never noticed any greater tendency to immorality or crime among consumptives than is to be found in the average of the human race, as far as it has come under my observation. On the contrary, I have seen all the finer traits of human nature developed to the fullest extent by the burdens which chronic and fatal illness, often slow in its progress, adds to the sum total of what men and women usually have to endure in life. I have seen certainly more patience, courage, self-denial, and unselfish devotion to others in consumptives than I have noticed in the majority of healthy human beings. Indeed, the sanatorium work never could have been carried on were it not for the self-sacrificing devotion to the suffering of others shown by my associates, the nurses, and even the employees at the sanatorium, most of them having come here originally because suffering from tuberculous disease. History is full of instances which prove that tuberculosis does not interfere with the development to the highest degree of the intellectual, the moral, or the ethical sides of man's nature."

It would hardly seem necessary after this array of opinions from men in the very height of the medical profession, to add my own opinion, though based upon an experience of many years of practice among consumptives in different climes and different countries, and among men and women in all stations of life. I may say that I have not only practised but also lived among them and with them, and from all my experience I can only confirm what has been said by the great authorities just mentioned. Never have I noticed consumptives to be more inclined to immorality or crime than individuals afflicted with other diseases, or even well people; only in a few instances have I noticed real selfishness, and never what one could call a distortion of the clearness of ethical perception, among them. On the contrary, as in the experience of Drs. Osler, Janeway, Trudeau and Bowditch, it has always seemed to me that many consumptives are above the average in their mental and moral characteristics. Instead of brute selfishness, I have frequently witnessed the most touching evidences of self-sacrifice and devotion. I have seen colleagues in institutional and private practice, trained nurses and sisters of charity, who, though they knew they had contracted tuberculosis in the pursuit of their professional duties, did not leave the battlefield, but continued to labor and help their consumptive fellow-sufferers. Two of my most beloved teachers, to whom I owe an everlasting debt of gratitude for the inspiration and help they have given me in my work, Professor Grancher of Paris and Geheimrath Dettweiler of Falkenstein, were both consumptive. They have taught and practised among consumptives for a quarter of a century, and are still leaders in the anti-tuberculosis crusade in Europe.

Among the sweetest experiences and recollections of my life I will always count the gratitude of the consumptive poor or rich, expressed either at the assurance of their recovery or for the care bestowed upon them when their case was beyond human help.

After this, my personal testimony, resulting from my experience with sane consumptives, let me again refer to the letters of Professors Janeway and Fisher in regard to the frequency of tuberculosis among the insane and criminals, and be permitted to add my opinion on this subject. While it is true that the lowered vitality in many insane invites the invasion by the tubercle bacilli, just as privation and misery of social origin predispose to consumption on the one hand and often invite the heretofore honest individual to become a criminal, to my mind the frequency of tuberculosis among the insane and criminals has other sources. The close confinement in insane asylums and in prisons, the lack of exercise and the depressing influence of institution life, but, above all, the close contact with the inmates who are already tuberculous, the want of sanitation and proper hygienic precautions in many of our insane asylums and prisons, and, lastly, the lack of facilities in treating the tuberculous, are the main factors of the frequency of tuberculosis in the insane asylums and prisons.

That insane tuberculous patients can be isolated and cured of both their physical and mental infirmities, has been beautifully demonstrated by the tent life inaugurated by Dr. McDonald and his associates at the Manhattan State Hospital for the Insane on Wards Island. That something can be done for the tuberculous prisoner to cure his tuberculosis and make of him a useful and healthy member of society, has been demonstrated by the Texas Agricultural Colony for tuberculous prisoners. Let me incidentally mention that $25,000 remained as net earnings during the first year of its existence.

There is a great and urgent work in this direction before our public sanitarians, the managers of insane asylums and prisons of our own and many other States. It is our right and our duty to confine the mentally deranged in an asylum for his own good and that of others, but in doing so we must protect him from contracting other diseases. For the good of society we must also confine the criminal, and it is our right to punish him by years of seclusion according to the gravity of his offence. But however great the crime he may have committed, we have no right to sentence him to contracting tuberculosis, which, as prison life is now in most of our States, must almost invariably result in death.

There are probably at this moment in the United States from six to seven million tuberculous patients. The Treasury Department classifies their disease as dangerous and contagious, like leprosy, smallpox,

and yellow fever. Thus, in spite of the opinion of the best authorities in the United States and also the Academy of Medicine of New York, the Government stamps several million of American citizens with a stigma wholly undeserved. Annually 150,000 of these consumptive patients, living in the United States, will die of this disease, and three times that number will be attacked in the same period unless more rational methods of prevention and cure are universally instituted than heretofore. For the State of New York, I believe, we are safe to say that at least 45,000 will become tuberculous annually, and 15,000 will die from the disease.

Yet, modern science declares consumption a preventable and very often curable disease. The prevention of consumption naturally lies not only in the precaution necessary to prevent the transmission of the disease from one human being to another, but also in the betterment of the social conditions of the majority of our laboring classes. They must be better housed and fed. So long as we allow the poor to be housed in dark, dreary tenements, where sun and light rarely enter, so long can we hope for no appreciable decrease in the frequency of tuberculosis. Never was the need of more model tenement-houses and the creation of more parks and playgrounds in our crowded tenement districts more strongly impressed upon my mind than when, a few weeks ago, I visited the famous "lung block." I wish I had the pen of a Jacob Riis to describe to you in vivid language what I saw during my visit to this plague spot. The peculiar odor, so characteristic of badly housed humanity, the dark bedrooms in which no ray of sunshine ever entered, the ill-smelling and badly-kept school-sinks, and the pallor of the faces of the emaciated tenants—adults and children—I shall never forget. When looking in the faces of the large number of children, whose playground was the little space between the back and front tenements, half of which was occupied by the ill-smelling water-closets, I thought I could discern among them many little candidates for consumption. No wonder then, when tuberculosis has once made its appearance in such environments, it becomes an epidemic disease and its eradication is only possible by erasing the buildings. As you know, this "lung block," which is the home of a thousand families, is that section of the lower east side which is bounded by Cherry, Market, Hamilton, and Catherine streets. The Board of Health, as well as the Tenement-house Commissioner, have done their very best to improve the insanitary condition, but realizing that remedial agents were of no avail, the destruction of the block and its replacement by a park was recommended to the Board of Apportionment. The matter is now under consideration, and I hope that wise council will prevail. In the meantime let us hope that some philanthropists will arise who, instead of libraries and churches, will build a number of model tenement-houses where honest laborers may find, for a reasonable price, heathful and sanitary homes. The time has come, however, when purely philanthropic enterprises in regard to model tenement houses no longer suffice. Municipalities as large and as rich as ours should consider the feasibility of undertaking to build tenement-houses themselves. That this can be done successfully, without financial loss, and with great sanitary and moral gain, has been amply demonstrated by the city of Glasgow.

Alcoholism, which is such a curse to our nation and which is indirectly a cause of the frequency of tuberculosis, will invariably diminish with the better housing of the poor. The honest laborer, who now, when he returns home, finds often dark, ill-smelling, dingy rooms, should be pardoned if he seeks occasional forgetfulness in the brightly lighted corner saloon. Give him a cheerful home, a wife who has been taught to cook a healthy, appetizing meal, and he will ten times rather remain home in the circle of his family, than go to the saloon and become intoxicated. In the money which is spent for alcohol instead of food, we often see the cause of underfeeding of our tenement population. The establishment of some place of amusement, where the laborer can go evenings and Sundays, alone or with his family, and there find healthful amusement and non-intoxicating drinks, offers another field of practical philanthropy.

The best place to cure the average, and particularly the poor, consumptive, is the sanatorium, but his Excellency the Governor has virtually called a halt to the establishment of such institutions. I think I could approximately estimate how many persons could be cured of the 15,000 who must now die from the disease, not because it is incurable, but because there are no places to cure it. If I were to give you the figures it would, indeed, be humiliating to our public conscience. I am full of hope that the resolutions which will be presented to this society will be unanimously adopted, and being sent to Albany, will cause a speedy repeal of the Goodsell-Bedell law, and that state-phthisiophobia at least will become unknown in New York.

What can we do to combat the ever-increasing private phthisiophobia? One word could answer that question, and that is *education*. Education of the adult and the child, of school teachers, employers and employees, by physicians, through health boards, societies for the prevention of tuberculosis, all aided by an intelligent and generous public press. Let the ways and means whereby the conscientious consumptive who takes care of his expectoration may become as safe an individual to associate with as anybody else, be known everywhere and to everybody; let it be known to the public that consumption is a preventable and curable disease, and that the earlier a consumptive submits himself to medical guidance and treatment, the greater are his chances for recovery; and let it be known that good food, plenty of pure and fresh air and a sober life are the most important factors in accomplishing this cure. Let the public be taught not to shun the consumptive, but to be helpful to him, so that he may have no occasion to hide his disease and thus become a secret source of infection. Let all those who can, financially or otherwise, help in the establishment of sanatoria for consumptive adults and tuberculous and scrofulous children.

Like an oasis in a desert was my privilege, a few months ago, at the occasion of the opening of the Stony Wolde Sanatorium for consumptive working girls and women, to listen to the words of a man converted from phthisiophobia to a stanch friend of the unfortunate consumptive. In explanation of the event let me state the following: This institution was called into life by Mrs. James E. Newcomb and Mrs. Geo. F. Shrady, both wives of leading physicians of this city, with the aid of a number of equally devoted philanthropic women from all classes of society, and who deserve our everlasting gratitude for the work they have done for their unfortunate sisters. Very near the sanatorium is the cottage of Dr. Newcomb, who with Mrs. Newcomb superintended the construction of the admirable institution. Because of the high standing of our converted friend and his great worth to the community, I know that I will be pardoned if, for the good of the cause, I quote in conclusion of my address his eloquent, generous, and chivalrous words.

They impressed my friend, Mr. Edward T. Devine of the Charity Organization Society and me so deeply that we wrote them down immediately after the closing of the ceremony, so as to be sure never to misquote them.

The Rt. Rev. Henry C. Potter, the Bishop of the Diocese of New York, at the opening ceremonies of the Stony Wolde Sanatorium, on September 15, 1903, in making the congratulatory address, closed with the following words: "I wish to make one statement, and I confess that I do it with a feeling of deep humiliation. As perhaps many of you know, I am interested in a summer home some seven miles from Raybrook. On learning that a State hospital for consumptives was to be established at that place, with many of my neighbors I began to protest. I have written minatory letters to the Governor on the subject. Dr. and Mrs. Newcomb have shown us here a different spirit. They have brought this sanatorium to their very home; they have built it within the shade of the camp in which they live. This teaches us again that we cannot help our fellowmen save as we are in personal touchwith them."

Let us hope that all those who are still afflicted with Federal, State, professional or private phthisiophobia, will follow the example of this good man, and become converted to friends of the consumptive and to helpers of a good and noble cause. the eradication of the "great white plague."

The following resolutions were submitted by the reader of the paper and seconded by Charles P. Blaney, Esq.; they were, according to the ruling, referred to the Board of Trustees for action:

Whereas, There exists a regrettable official and private phthisiophobia, and

Whereas, Through this exaggerated fear of the presence of consumptives untold sufferings are inflicted upon consumptive individuals and their families, and

Whereas, Recent attempts have been made to discriminate against the consumptive, not only on account of his physical infirmity, but also on account of his alleged mental and moral defects, and

Whereas, According to the opinion of the highest medical authorities on the subject of pulmonary tuberculosis there is among consumptives no greater tendency to immorality or crime than among other individuals, nor any ground for declaring the average consumptive to be inclined to brute selfishness, to loss of self-control and consequent distortion of the clearness of ethical perception, and

Whereas, Through the passage of the Goodsell-Bedell law, which was signed by Governor Odell at the close of the last session of the Legislature, it has been made impossible for any city in the State, or any fraternal order, charitable society, or philanthropic individual, to establish a sanatorium, hospital, camp, or other establishment for the treatment of consumptives, outside of the city limits, except under conditions which are practically prohibitive, and

Whereas, By Chapter 327 of the law of 1900, cities of the first class are authorized to erect sanatoria outside of the city limits, such action and the selection of a site to be subject to the approval of the State Board of Health, and by the same law hospitals and institutions, now, or hereafter established or maintained, are made subject to the approval of the local board of health, and

Whereas, Private property rights are sufficiently protected by general laws, and the process of injunction is open, in case it can be affirmatively shown that unwarranted injury would be inflicted by the establishment of a hospital on a particular site, and the necessity of obtaining the consent of the State Board of Health being an ample guarantee that a site shall not be selected which will threaten or unduly expose the health of any particular neighborhood, and

Whereas, It has been demonstrated in this country and in Europe that properly conducted sanatoria, hospitals, and camps for consumptives are not a danger to the neighborhood, and that such institutions are places where the consumptive poor receive a hygienic education and have the best possible chance to be cured and become again useful citizens and supporters of families, and

Whereas, There is at present a great deficiency of hospital accommodation in New York State for this class of patients, and

Whereas, Tuberculosis in insane asylums and prisons is becoming more and more frequent, and experience has demonstrated that through proper sanitation, proper treatment, isolation and agricultural colonies the death rate from tuberculosis in asylums and prisons can be greatly reduced, and

Whereas, The destruction of insanitary tenements and their replacement by model tenement-houses, the creation of parks and playgrounds, are most efficient general means to prevent the development of consumption in a community, Be it

Resolved, That the Society of Medical Jurisprudence, while convinced of the communicability of tuberculosis, and while urging all possible precautions against the spread of the disease by sputum and tuberculous food, is opposed to declaring tuberculosis officially as a dangerous contagious disease, and to its classification with smallpox, leprosy, and yellow fever. Be it further

Resolved, That the society is opposed to all measures by which needless hardship is imposed upon the consumptive individual, his family and his physician. Be it further

Resolved, That in accordance with the opinion expressed by the highest authorities on the subject of tuberculosis, this society does not think it just to state that among consumptives there should exist any greater tendency to immorality or crime than among other individuals, or that there is any ground for declaring the average consumptive to be inclined to brute selfishness, the loss of self-control, and the consequent distortion of the clearness of ethical perception. Be it further

Resolved, That in view of the great frequency of tuberculosis in insane asylums and prisons the Society of Medical Jurisprudence urges the respective authorities to inaugurate such sanitary, preventive, and therapeutic measures as will diminish the frequency of tuberculosis among the prisoners and insane. Be it further

Resolved, That the Society of Medical Jurisprudence urges the continuation of the work of the Health, Tenement-house, Park, and Street-cleaning Departments in improving the sanitary conditions, particularly those of our crowded tenement districts. Be it further

Resolved, That the Charity and Health Commissioners be enabled to establish and maintain sanatoria for the consumptive poor and those of moderate means, and that the building of model tenement-houses by private philanthropy or municipal enterprise should receive the greatest encouragement. Be it further

Resolved, That the Society of Medical Jurisprudence deeply deplores the Governor's action in signing the Goodsell-Bedell bill, and appeals most earnestly to His Excellency the Governor and the Legislature of the State for a repeal of this law, which, if it should remain on the statute books and be enforced, would involve the loss of thousands of lives and increase the spread of tuberculosis within the crowded districts of our cities and towns in an alarming degree. And be it further

Resolved, That copies of these resolutions be sent to the Treasury Department, the Surgeon-General of the Marine Hospital Service, to the Governor of the State of New York, and to the Speakers of the Senate and the House of Representatives at Albany, and to the medical and lay press, and that the President of the Society of Medical Jurisprudence also appoint a committee to take such steps as will bring the matter before the Legislature at the earliest possible date and cause a repeal of the unwise, inhumane, unjust, and cruel Goodsell-Bedell law.

16 West Ninety-fifth Street.

A Case of Trigeminal Neuralgia and Excision of the Gasserian Ganglion.—T. E. Gordon describes the case of a woman of sixty-three years who suffered such extreme pain from trigeminal neuralgia that she had attempted suicide. All her teeth were extracted in the vain hope of relief, and her life was made scarcely endurable by hypodermic injections of morphine. Removal of the Gasserian ganglion was decided on and the Horseley-Krause operation chosen. In this an opening is made in the temporal region of the skull; the brain and dura mater are together raised from the floor of the cranium as far as the points of exit of the second and third divisions of the fifth nerve; the space of Meckel is opened, thus exposing nerves and ganglion; finally the nerves are divided and the ganglion with its large sensory root removed. About eight months after the operation the patient was in good health and entirely free from her neuralgia. The scar was very slight, and the hair having grown, concealed the depression. The operation is a difficult one, and not unattended by danger, but it is encouraging to notice that there is a low mortality attending it.—*The Dublin Journal of Medical Science.*

THE DIAGNOSTIC SIGNIFICANCE OF CERTAIN REFLEXES AND TENDON-PHENOMENA.*

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It is well known to you, gentlemen, that the testing of the tendon-phenomena and skin reflexes has attained increasing importance, from year to year, in the diagnosis of nervous diseases. Therefore, it may not be unwelcome to you to learn what I think of the value of such investigation based upon my own personal experience. I will essentially confine my remarks to the state of the tendon-phenomena and skin reflexes of the lower extremities.

First concerning the knee-phenomenon; it is certainly generally acknowledged, that the disappearance of this reflex represents a symptom of disease of the greatest importance. Especially for the reason that this is a reflex which is constantly present in healthy individuals. From my own experience in this connection, I desire to make the following statement: During the course of many years I have, nevertheless, known two or three individuals in whom from early youth this reflex could not be demonstrated. Once, in a markedly neuropathic individual with various anomalies in development—for instance, prognathism and syndactylism—I was compelled to assume that the absence of the knee-phenomenon was likewise considered an hereditary stigma degenerationis. In a second case in which the knee-phenomenon in mother and daughter could not be elicited, similar conditions were present.

On the other hand, there are individual cases which must be considered from a different standpoint; cases in which the knee-phenomenon in children of syphilitic parents is lacking, and which have the appearance as though the hereditary syphilitic contamination manifests itself exclusively in the deficiency of this reflex, without the necessity of other symptoms of hereditary lues being present. In such cases the thought always remains, that other symptoms of nervous diseases depending upon hereditary lues may develop in later life.

If you will consider the great number of individuals I have had occasion to examine in the course of time, concerning the state of the knee-phenomena, you will acknowledge that the very few exceptions only prove the rule, and you will accord me the right to say that the knee-phenomenon in healthy individuals almost never, hardly ever fails, and that we have in the deficiency of this reflex a symptom of the greatest worth in the recognition of diseased conditions. But there is one thing we should not forget: that there are pure mechanical conditions, which may render the demonstration of this reflex difficult or impossible. Obesity belongs in this category. The patellar tendon may be so buried in fat, that it may be impossible to percuss it and bring the muscle into contraction. Diseases of the knee-joint, characterized by swelling and deformity, or even a marked œdema, may have a similar effect. I remember two cases of advanced genuvalgum, in which the knee-phenomenon could not be elicited on account of the mechanical conditions. Lastly, there are certain individuals in whom the patellar tendon is very short and rigid, so that it is difficult or impossible to excite it, and in such a case you would again have a mechanical impediment, which could render the demonstration of this reflex impossible.

I will speak neither of the special importance of Westphal's symptom at the present time, nor concerning the exaggeration of the knee-phenomenon, but will at once consider another tendon reflex, viz., that of the Achilles tendon or, as I call it, the Fersenphaenomen (heel-phenomenon). As is well known, it consists in the fact that plantar flexion of the foot is brought about by percussion of the tendo Achillis. Notwithstanding the fact that this phenomenon had been known for a long time, it had never attained great importance in diagnosis, especially for the reason, that this reflex was believed to be quite inconstant in healthy individuals. This view could no longer be maintained when it became apparent that by a certain modification in the method of examination, namely, with the individual in a kneeling position, the reflex could be regularly elicited.

We must now say that the heel-phenomenon is a constant reflex in health. But if we were compelled to make certain exceptions concerning the constancy of the knee-phenomenon, the same holds good for the heel-phenomenon, though to a somewhat greater degree. This is true for the following reasons: Sciatic neuralgia, and especially sciatic neuritis, may, beyond a doubt, cause a disappearance of the heel-phenomenon. Moreover, sciatica is a widespread disorder. Nevertheless you might say it is a diseased condition. Naturally. But even after recovery from sciatica the heel-phenomenon may remain permanently absent. Since a great many persons have been affected with sciatica, you should not be surprised to find a number of otherwise healthy individuals in whom this reflex is absent on one side.

Further, the mechanical conditions, which may hinder the appearance of this reflex, play likewise an important rôle. The deformities of the foot, which are so frequent, particularly talipes valgus, may so influence the tonicity of the calf muscles or the tension of the Achilles tendon, that the reflex may be greatly weakened, or even rendered impossible. The frequently occurring traumatic and inflammatory affections of the ankle-joint may act in a similar manner. It also appears to me that a marked development of varicose veins has a tendency to weaken this reflex. Wherever none of the foregoing exceptions are present, you are permitted to consider the absence of the heel-phenomenon of great importance, and may depend upon this phenomenon, particularly in establishing a diagnosis of incipient tabes dorsalis, since according to recent observations, the heel-phenomenon may disappear a long time before the knee-phenomenon. But do not forget that alcoholism, diabetes, and other affections may likewise produce the same symptom.

Of the skin reflexes, the sole reflex has attained in our time an enormous importance, though it was formerly practically neglected. As is well known, it was through the efforts of Babinski that this reflex was given its diagnostic worth, in that by stroking the sole of the foot, he was able to differentiate between the movement of the foot and that of the toes. Formerly only the movement of the foot was essentially considered, and thereby, the fact that the movement of the toes was entirely different from that of the foot was overlooked. Under normal conditions, by stroking the sole, the foot is drawn backward—dorsal flexion, and the movement of the toes is that of plantar flexion. This is the new fact found by Babinski, upon which all else is based. It was further demonstrated that there are pathological conditions, under which, by

*An address delivered before the Anglo-American Medical Association, in Berlin, November 28, 1903. Translated into English by William W. Graves, M.D., St. Louis, Mo.

stroking the sole of the foot, a dorsal reflexion of all the toes, or especially of the great toe, is brought about. And thereby a diagnostic criterion was found of unusually great importance.

Nevertheless, it is not possible to condense into a law or formula the conditions under which this dorsal flexion occurs and which we now call Babinski's symptom. On the contrary, a number of conditions are involved which, however, intermingle to a certain degree.

First of all, we find Babinski's symptom in cases of spastic paraplegia of both spinal and cerebral origin, and especially in the former with greater regularity. The Babinski symptom would, therefore, appear to be a result of hypertonicity. But we will soon see that the law in this form is not fully true.

There are also conditions of hypotony and even of atony, of the leg muscles in which, in spite of the absence of tendon reflexes, Babinski's symptom is present. Then let us try to formulate another law. Babinski's phenomenon is a sign or a result of a lesion of the pyramidal tracts. In a general sense, at first sight, this seems to hold good. We find Babinski's symptom in affections which are characterized by either systematized or localized degeneration of the lateral pyramidal tracts. These conditions lead to the symptom complex of spastic paralysis, therefore, we might assume that Babinski's symptom is inseparable from spastic paralysis. But this is not the case. I have said before that it is also occasionally found in atonic conditions of the musculature. How is this to be explained?

There are affections which are not alone confined to the pyramidal tracts, but at the same time involve other areas of the nervous system, and thereby have an antagonistic influence on muscle tone. In this category belong the combined lateral and posterior sclerosis. Friedrich's disease and the combination of tabes dorsalis with hemiplegia. Under such conditions, the hypertonic influence brought about by degeneration of the pyramidal tracts can be fully compensated, an atony can develop, the tendon reflexes can fail, and of all the symptoms of disease of the pyramidal tracts only one remains—that of Babinski.

In a general way, the same holds good for a combination of anterior horn and pyramidal lateral tract affection or amyotrophic lateral sclerosis. Here, again, are two processes which oppose each other. Babinski's symptom may here likewise be the only symptom that indicates a degeneration of the pyramidal tracts, but this is by no means always the case.

When the pyramidal tract in the brain is involved, as in the usual form of hemiplegia, Babinski's symptom is, as a rule, present.

But it appears that coincidental lesions of certain cerebral tracts or areas may prevent the appearance of Babinski's symptom. Perhaps they are of certain tracts which originate in optic thalmus, tegmental motor tracts, perhaps lesions in central ganglia alone, perhaps of tracts which originate or end in the cerebellum, however we are still unable to make definite statements in this regard.

That Babinski's symptom is present in the first year of life is perfectly natural, because the child is born with undeveloped pyramidal tracts.

Assuming the law to be correct, that the presence of Babinski's symptom means a degeneration of the pyramidal tracts, are we always justified in concluding that Babinski's symptom indicates an anatomical change in the pyramidal tracts? No, not by any means. Because in epileptics, and after an epileptic attack, Babinski's symptom may occasonally be demonstrated. Inasmuch as there are other conditions under which this phenomenon appears, we do not always have the right, from the presence of this symptom alone, to conclude that an organic disease in the pyramidical tracts is present.

There is still another, though really obvious exception, to be mentioned. If through a peripheral disease or by a poliomyelitis the flexors for the toes are paralyzed, the normal reflex cannot take place, but instead, a dorsal flexion of the toes.

In conclusion, gentlemen, permit me to call your attention to a phenomenon which occupies a position very close to that of Babinski, and which was first observed and described by myself.

If, in a normal individual, on stroking the inner surface of the leg from above downward, with either the thumb or the handle of a percussion hammer, or by pinching a fold of skin on the inner surface of the leg, either no reflex movement will follow or a flexion of the toes will result.

Under pathological conditions—that is to say, in affections of the pyramidal tracts—instead of a plantar flexion of the toes, a dorsal flexion of the toes and foot is observed. This reflex differs from Babinski's, not alone in the point from which the reflex is brought about, but especially therein, that not only the extensor hallucis longus participates in the reflex movement, but likewise as constantly the tibialis anticus and often the extensor digitorum communis and the peronei. The contraction of the extensors for the foot is physiological when examining the plantar reflex, and the pathological reflex is only made known through the contraction of the extensors for the toes, whereas with the phenomenon found by me, the pathological reflex is more plainly indicated in that only under diseased conditions the extensors for the foot also contract, and especially the tibialis anticus. There are not a few cases in which the estimation of the toe reflex, according to Babinski, is uncertain, and it is just in such cases that the behavior of my reflex may prove decisive.

Diagnosis has been so advanced through the the establishing of both of these reflexes, that the so necessary differentiation between organic and functional nervous diseases is to-day no longer a difficult matter.

COMMENTARIES UPON LUES AND LEPROSY AS SUBCATABOLIC DISEASES.

By HOMER WAKEFIELD, M.D.

NEW YORK.

Lues.—Syphilis or lues is one of those diseases which while uncertain as to its exact etiology appears to be in abeyance to the strenuous efforts being made by an army of medical investigators in all civilized countries, and from all conceivable standpoints, to unveil the etiological mysteries of other diseases. Syphilis has in the past been the subject of much research and discussion as to its etiology, but all efforts having been without result, ambitious investigators have now turned to more fruitful fields. No parasite having ever been proved to be pathognomonic to the disease, and no clue to a more fruitful line of future research ever having been elicited, hopes have been blasted and interest has waned. It should be stated, however, that there are many bacteriologists and syphilographers who assume without supporting evidence that so serious and contagious a malady must be of parasitic origin.

Notwithstanding that there is as great a lack of evidence opposing the parasitic theory of origin

as there is supporting it, I have no hesitancy in emphasizing the statement that the manifestations of the disease are those of intense subcatabolism, and that the contagious virus may be aseptic, *i.e.* free from microorganisms, and entirely chemical in its pathogenic action, acting as an irritant, or as a virulent protoplasmic poison, opposing chemically the activity to normal catabolism.

A form of subcatabolism is thus the direct or acting cause of the syphilitic manifestations, and notwithstanding that gummatous tumors and ulcers do differ somewhat from other varieties, yet the same general processes, more or less modified by the peculiar nature of the poison, obtain.

The fact that toxins of bacteria *per se* are known to act largely as chemical poisons, and also that many drugs are known to act as subcatabolic agents, differing as they traverse certain channels and affect certain organs, proves conclusively that all of the manifestations of syphilis, and even of diseases of admitted bacteriological origin, may be due to chemical causes.

Perhaps no statement in my original paper on the "Pathology of Catabolism" caused more remark and adverse criticism than that in which syphilis was listed among the diseases of subcatabolism. Whatever be the theory of primary etiology that one may hold of syphilis, it must be borne in mind that its subcatabolic character can not be taken as a contradiction to it; for while catabolic stasis certainly predisposes to infection in all processes primarily of non-infectious causation, yet it must be admitted that also many processes primarily of infectious etiology may by mechanical or chemical irritation or other cause produce a typical subcatabolic condition or process.

That syphilis is a subcatabolic disease and follows a subcatabolic process is attested by the quite generally admitted fact that from the simple congestion to the inflammation, or hyperplasia, the acting cause is of an irritative character. The same is true of the gummata or syphilitic callosities, which by some observers are supposed to differ from the other manifestations; whether they are whitish or reddish-gray soft masses of intermixtures of gelatinous and fibrous tissues, something from wandering cells or hypertrophied connective tissue, none is excepted.

There is an undeniable analogy between gummata and the neoplasma of tuberculosis (phthisis, lupus), scrofula, and leprosy. The former diseases I have elsewhere analyzed and the latter I will follow with. Wagner[3] regards gumma as a specific new formation, in the same light that he regards all neoplasma. Lang[4] observes, "The gumma is thus a cellular new growth," though he follows, "I think it is better for clinicians to regard gumma as a *chronic* inflammatory process."

It has been suggested by Lang and others that "the contagium of syphilis retains its faculty of reproduction in healthy persons only for a certain time, probably coinciding with the time during which it may produce symptoms of irritation in the syphilitic subject. Since we find gummatous products in certain parts while in others there are yet only symptoms of irritation, we must explain the possible existence of infection by the assumption that it remains only in that part of the virus which has not yet lost its irritative property." The chancre is a "proliferation" of connective tissue of the skin and of the small vessels, which may be thickened to the point of their occlusion.

While it may be said that syphilis usually is typical to the extent of recognition, yet it occasionally differs so widely from the characteristics as to make it difficult of differentiation from other maladies of subcatabolism, producing similar lesions and degenerations. Syphilis may be said to differ principally from malignant growths in its greater degenerative activity combined with a much lessened general suboxidation, though it must be admitted that syphilitic manifestations may approach so closely to one or other of the many manifestations of subcatabolic conditions as to defy diagnostic distinction, except by being viewed together with coexisting lesions and conditions.

Tissues and blood cells having taken up the virus of syphilis, undergo a degradation from which they never recover. Those which become involved in the earlier toxicity undergo degeneration and thus give up their protoplasmic-held virus, to be again taken up by other cells. Finally, if the body survives the systemic reaction (the secondary manifestations), the attenuated virus is so distributed among the cells as to give partial or complete immunity, by virtue of the perpetuated virus-holdings of cellular protoplasm, acting as a toxic influence against newly acquired parasites, or as an "acclimatization" of the cells, and hence of the body as a whole, to the toxic influence of the virus; thus providing against or modifying the effect of newly acquired infection. Thus it is observed that the course of the primary and secondary reaction, the tertiary manifestations or the immunity attained, would not differ markedly, whether the virus were a bacterial product, or an organic venom, acting chemically or mechanically on the tissues, or whether the acquired immunity operated as a toxic, reacting upon the bacteria excreting it, or simply amounting to a cellular inurement to the attributes and activities peculiar to the virus.

The recent experimental expositions of agglutination, as I interpret them, display the reaction of cells to the irritative influence of heterogeneous substances, which so act only when cellular harmony and adaptation are impossible. As soon as acclimatization of the cells to the previously heterogeneous substances is attained they fail to cause irritation, although *per se* perhaps unchanged. Syphilitic manifestations, whether they be erosions, scleroses, papules, pustules, acne, ulcers, œdema, lymphadenitis, fever, roseola, pigmentation, leucoderma, alopecia, affections of the bones (decalcification), joints, muscles, sheaths, tendons, synovial sacs, etc., only present new combinations, arrangements and degrees of severity of some one or more of the manifestations of other subcatabolic diseases of non-specific characteristic. In progress, syphilis is very chronic in character. If it be sufficiently long continued in its ulcerated course, as would result from a long-continued irritation, carcinoma may, and does occasionally, occur.

In the blood, anæmia, chlorosis, leucocytosis, leukæmia, etc., occur as syphilitic manifestations as well as of benign affections.

Syphilis is second only to tuberculosis as a constitutional disease leading to amyloid degeneration.

Cachexia is produced in syphilis just as in other chronic affections, as a result of long-continued general systemic depravity. Pigmentation also occurs in the chronic sores of prolonged duration, in syphilis as in those of other processes.

The decalcification of bone and the lime redeposit (chaotic calcification) of gelatinized and putrefying tissues does not materially differ in syphilis from other chronic subcatabolic affections.

Rheumatic muscular pains accompanying the cutaneous eruptions of syphilis suggest the analogy to other processes displaying this symptom.

That syphilis is more general in its action and

manifestation than other processes most closely allied to it is universally evident.

Malignant, or galloping, syphilis, as characterized by increased disintegration, extensive ulceration or mortification, *nearly always* is accompanied by a marked depravity such as scrofula or tuberculosis, or still more frequently alcoholism, malaria, scorbutus or some other similar malady, which appears to add to the effect exerted by the specific irritating virus. Such is the case with the influences of traumatic, chemic and other injuries on the specific processes.

A development of a cheloid from the ecthyma pustules, and an evolution of the leucoplakia of syphilis into carcinoma have been reported.

During the irritative stage of syphilis, the lymphatic glands grow to tumors as large as or larger than an almond. Syphilitic eruptions have the same tenddencies to recur at the site of previous lesions, in scar tissue, as they do in cancers.

Whatever else can be said of the toxic virus of syphilis, it is certainly an agent that, when lodged in the protoplasm of the fixed and circulating cells of the body, acts powerfully as a retarder and perturber of catabolism, to such a degree that complete stasis followed by degeneration may be the result of the coincident action of any of the other causes of subcatabolism, namely, cold, fatigue, strain, traumatism, irritation, hyperacidity from gastrointestinal fermentation, ingestion of acid foods and beverages, suboxidation and deficient elimination of physiologic excretions. Any or all of these factors also acting singly or in concert will invariably aggravate syphilitic processes, and they in turn are aggravated by syphilis, as they are, one by another.

The specific virus is not sufficiently heterogeneous to the tissues of the lower animals to irritate them to the point of producing any of the manifestations characteristic of its toxicity in man. The same may be said of the toxin of leprosy, though this is known to be parasitic in man.

Leprosy.—My excuse for bringing the unusual disease of leprosy into the discussion of the pathology of catabolism is owing to the fact that it is the disease *par excellence* of extreme catabolic stasis. Leprosy, compared to other neoplastic diseases, is far the more general and universal in its action upon the human body, and in its two diverse forms, which are admittedly from the same bacterial origin, many *b* points set forth in my hypothesis of catabolic stasis are well illustrated.

The lepra bacillus of Hansen is very closely related to the tubercle bacillus of Koch; sufficiently so for one to be an evolutional product of the other. Certainly tuberculosis differs no more from tubercular leprosy than does the anæsthetic form of leprosy: that is accredited as a product of the same (lepra) bacillus.

The clinical lessons presented in the two diverse forms of leprosy are worthy of the profound consideration and reflection of medical philosophers. Both of the bacilli mentioned are decidedly saprophytic, for they can act only in degenerated tissue, the product of general or local subcatabolism. In the case of the ordinary tubercle bacillus, it is well known that a healthy person may be surrounded with them, they may inhabit the mouth and other cavities of the body without finding sustenance for pathogenic activity or procreation. Thus an individual may, while enjoying an active catabolism, give habitation to ordinary tubercle bacilli without suffering a pathogenic transgression. The same law applies to the lepra bacillus, only with much more pronounced manifestation, for infection of leprosy is much more easily traced than that of ordinary tuberculosis, and its horrible outbreak can be connected with the traced infections, entirely free from possible error. The lapse of from a few weeks to twenty or even thirty years may occur after infection, before conditions favorable to proliferation are developed.

A well-defined and highly illustrative case of this kind is that of a healthy European child of nine years, who became infected in Java, but did not manifest the disease until he was seventeen, while he was undergoing the vitiating life of a student in Holland, from which he returned to Java a confirmed leper, two years later.

Many individuals go through life without displaying a sign of the disease, after having for prolonged periods been exposed to all phases of infection, such as living among and having unrestricted communication with lepers in all stages and manifestations of the disease.

The other pathological rôle which is graphically portrayed by this disease is the radical variance between the manifestations of the two principal forms.

It is observed that accordingly as individuals are exposed to causative factors (of subcatabolism), as cold, fatigue, strain, worry, irritation, suboxidation, subelimination, gastrointestinal hyperacidity, etc., and it might be added accordingly as certain tissues of the body are determined to subcatabolic degeneration, the infection, course and progress of the disease are governed; and not by the intrinsic peculiarity of the microbe, except as to the general property of excretion of a toxin of great irritative power, and to the number of the bacilli involved, which governs the vicious cycle.

Accordingly as the body is subjected to the different causes of subcatabolism, the superficial or deep initiatory manifestations of the disease are determined. Wherever the primary degeneration of catabolic stasis is located, there the bacilli will become first established, and thus the tubercular or the anæsthetic varieties of the disease are predestined as typical vicious cycles. The former, a process attended with induration and hyperæmic reaction, exhibits a state of much better *general* oxidation, the catabolic stasis being more or less limited to the localized lesions, and surrounded by the indurated margin of intermediate and reactionary tissue. In the latter, however, the general oxidation is primarily at fault, indurations are rare or absent, and the degeneration is both widespread and in an advanced state.

It is of interest that in tissues in which oxidation is *normally* most active, the mal-chemistry is all the more pronounced when its dependent conditions become such as to inhibit it. This is well illustrated in the eye, which requires great oxidative activity for its functions, and is quick to manifest a crippled condition when its oxidative action is deficient. In the epithelia also we have *normally* great oxidase capacity and consequently a high degree of oxidation; but when any of the factors of oxidation are absent or lowered, it is very quick to undergo the degenerative metamorphosis, as is illustrated in normal milk "secretion" and in many pathogenic processes characterized by colloidation and putrefaction. The nucleonic substance of the nervous system also is no exception to the above rule, and when great general subcatabolism is present, as in leprosy, its degeneration is rapid, and to this is largely due the anæsthesia of that form of the disease which is identified with it.

The influence of inhibited circulation of blood upon sensation is of great interest in this connection. Anæsthesia may be produced, by arresting circula-

tion in a part, too rapidly to admit of its acting by interfering with nutrition, hence we may, by exclusion, deduce that it must be due to the arrest of cellular respiration (oxidation.)

Accordingly as we retard circulation, a tingling sensation, numbness, or complete anæsthesia may be produced. These manifestations are observed as blood-vessels are occluded by degenerate, colloid and other tissue detritus, by thrombi, emboli, and by pressure, etc.

Especially noteworthy in this connection is the local anæsthesia produced by injecting a circumscribed area of tissue with sterilized water, when by perfect distension of the part, the circulation is arrested so completely that the area is blanched and the anæsthesia will permit of any kind of a surgical, or other otherwise painful, operation.

While all active causes of suboxidation may be the predisposing factors of leprosy, yet there are two which are perhaps more important than the others, namely, narcotic habits and the hot rays of a tropical sun together with an excess of water vapor in the atmosphere.

How the excessive red rays of a tropical sun retard catabolism is explained by their degradation of the blue and ultraviolet rays which promote oxidation. And the approach to dyspnœa of humid atmospheres, with its train of suboxidation events, is capable of two explanations: firstly, that the oxygen of the air suffers dilution by the unrespirable water vapor, and secondly, that the percentage of oxygen of the air is lessened by new combinations of free oxygen with an excess of hydrogen, forming water in the lungs. It has never to my knowledge been determined by experiment, whether the deficiency of oxygenation of humid atmospheres is due to simple dilution or to the formation of water in the alveola.

No true student of tropical maladies will fail to recognize as a factor in the etiology of leprosy, and in particular of the sluggish anæsthetic form, that general disposition of such climates to relaxation, lassitude, lethargy, torpor, and with it all extreme sedentation.

It is observed that a large number of persons who came in contact with leprosy during childhood, without contracting the disease, but who did contract it years afterward, far removed from leper communities, did so generally during the adolescent period, or (in women) when debilitated by marital relations, pregnancy, parturition, or lactation. It is noted that women in general acquire the necessary catabolic stasis after marriage; during which the long sterile lepra bacillæ become virulent, thus developing the vicious cycle of leprosy.

The disposition to excessive ulceration and sloughing off of the extremities is due to the colloidal infiltration and obstruction of the vascular system, and the maximum effect of the consequent suboxygenation, and suboxidation occurs at the extremities; hence the extreme subcatabolism in these regions.

If the bacilli attain great virulence on the surface, the skin or membranes, macules and nodules appear and the so-called tubercle form presents. However, if the bacilli gain entrance to the general circulation it is characterized by irritative, atrophic changes in the nervous tissues and the so-called anæsthetic form of leprosy manifests itself. This is simply an observed relation and does not evince which element precedes, the subcatabolism or the parasite that must be deduced from the total evidence.

I have already set forth my analysis of the action of the elements of nervous structures (the nucleins) upon oxidation [8b]. I have pointed out why such tissues of easy digestibility atrophy instead of hypertrophy, when exposed to irritation and other accidents of similar import, and why catabolism would fail and general sluggishness and putrefactive degeneration ensue, as a result of disorganization and atrophy of oxidase, and the consequent subcatabolism. In this respect the anæsthetic form bears the most marked contrast to the tubercular form, in that the former presents the most characteristic picture of the extreme form of subcatabolic degeneration.

Anæsthetic leprosy also presents the best-defined illustration of the progress of diseases of catabolic stasis, and while it is decidedly atypical, its slow and prolonged course permits of a very elucidative observation of its several stages.

The site of ingress of the bacilli is not by any means the sole determining cause of the peculiarities of the two principal forms. I have mentioned that those tissues which by previous vicissitudes have become subcatabolized, constitute the tissues involved and the avenues of extension. The extent of their degeneration as well as the nature of the involved tissues exerts a powerful influence over the progress of the disease. The superficial form (tubercular leprosy) appears invariably to offer the most favorable media for the multiplication of the bacilli, and this fact alone serves as a modifying influence upon the activity of the disease, because of the hyperæmia so caused; the hyperæmia in turn being in part at least responsible for the fibrosis and sclerosis.

Accordingly as the nervous structures are invaded and destroyed and the circulatory system of the body becomes clogged with tissue detritus, the circulation becomes impeded, and from a combining of this and a degeneration of the heart muscle, oxygenation of the tissues is interfered with; and whether the tubercular form has preceded or not, the entire body sinks into that subcatabolic depravity which is known as the anæsthetic form. With the development of this form either primarily or secondarily, inasmuch as the lepræ bacilli become attenuated to an extent, often, that they are scarcely in evidence, it would appear that they have suffered suboxidation or tissue putrefactive toxæmia, and the disease progresses thence along a course, far more characteristic of subcatabolism than of that of the bacillus of Hansen. There is good reason to believe that if Hansen's bacillus could be eliminated from an anæsthetic leper, his disease would progress just the same. It is evident that the lepra bacillus is a saprophyte dependent for sustenance upon gelatiniform or putrid organic matter. It thrives best among slovenly people, and among such it finds succor both in the environment and upon the person of man.

Communities in which general slovenliness is universal, where persons seldom bathe the whole or any part of the body, where personal and bed clothing is never washed, but is passed from one to another generation, the bacilli thrive, and when they gain access to the sebaceous and sudoriferous glands of the skin, they find an abundance of putrid excretions occluding the ducts, into which they resort.

It is impossible to transmit leprosy to a perfectly healthy, hygienic person, even by inoculation, as has been proved by Danielson,[8] yet many cases are on record in which individuals have acquired leprosy by inoculation as well as by much less formidable methods. If the inoculation be accompanied by sources of irritation, such as will produce subcatabolism of the part, before the death or excretion of the bacillus, then a favorable condition may be

produced for the propagation of the parasite; otherwise it fails and finally dies.

The races most afflicted by leprosy are addicted to vices and I have no doubt that narcotic habits and excessive venery play a part in the production of susceptibility. Both are active producers of general subcatabolism. The fact that lepers quite generally attribute their original infections to "colds," and the causes of ulcers to traumatisms, is significant to students of catabolism.

One factor of subcatabolism, identified as a cause of leprosy, is chill, damp abodes, either in moist, cold, or humid, hot climates. Dry climates of all temperatures are most immune, which is universally the case with all diseases of subcatabolism. I directed attention to the importance of differentiating between moist and dry temperatures in 1901, in connection with cardiotherapy.[8a]

The hyperæmic state, the roseola of leprosy, are not unlike those of syphilis, while the leucoderma and pigmentations are histologically not unlike those complicating cancer. The thickenings, fibrosis and sclerosis suggest the same causative factors at work as in other diseases, only in different orders and degrees. Alopecia, as is well known, is a complication of typhoid fever, syphilis, and many scalp affections.

The tubercles of leprosy show a greater tendency to ulcerate and putrefy than those of tuberculosis. "In many cases the neoplasm undergoes a sort of fibroid degeneration. . . . The ulcerative process varies accordingly as the necrobiosis involves the center or the totality of the tubercle" (Morrow).[6] This attribute of ulceration I have called attention to in neoplasms of malignant type.

The site of ulceration on the lower extremities is marked by a well-defined œdematous infiltration which we observe often, though less pronounced, in simple ulcerations. A swelling precedes the ulceration. During the course of the tubercle form, ulcerous tissues rapidly heal, while tissues suffering the anæsthetic form heal with difficulty. The course and character of the ulceration of leprosy, like the most malignant courses of cancer, are determined by situation as regards exposure to air, and by intercurrent inflammations involving hyperæmia and better oxidation of the tissues.

Erysipelas when occurring on lepers has been observed markedly to improve and even cure the leprosy, yet Coley's toxins[1] have failed to accomplish what has, by the active, mechanical irritative effect of the virulent bacilli, been achieved. Leloir[4] has observed in cases of association of the anæsthetic with old cases of the tubercle form that the integument, subcutaneous tissues, and the muscles of the face, have acquired a gellatiniform colloid degeneration, of the consistency of trembling jelly. Leloir[5] has remarked of having been struck by the enormous number of persons affected by scrofula, tuberculosis, anæmia, and chlorosis in the leprous regions in Norway, which he visited. He observed that the coincidence of the scrofulous diathesis disposes the leprosy to partake of a scorbutic appearance. Leprosy occurs very often in persons of scrofulous and tuberculous antecedents. The coincidence of leprosy and pulmonary phthisis has been often noted in families.

Leloir[5] has been impressed with the remarkable coincidence of goiter and leprosy in Italy. The coexistence of goiter and of diffuse and œdematous infiltrations of leprosy has suggested the use of thyroid extract, and it has been found of limited value in a class of cases, probably when the thyroid gland suffered leprous involvement.

The excessive dissolution of the more highly digestible tissues, coupled with their suboxidation, is, as in gout and other analogous diseases, responsible for a dearth of tissue detritus in the circulatory fluids of the body, which, taken together with some other symptoms which have been mistaken for plethora, have led to the erroneous diagnosis of this condition and to the practice of venesection in a class of patients already almost too weak to walk.

Conclusion.—I wish to close this brief comment on syphilis and leprosy by directing attention to the fact that in their therapeutics, parasiticides, *per se*, however powerful, unless they are also active oxidants, are of no value whatever, and conversely oxidants, if active, are of the greatest value even if devoid of parasiticide properties. Moreover, mercury, in the primary stage of syphilis, does not even destroy the virus, as is attested by the later appearance of the secondary and tertiary manifestations. The iodide of potassium accomplishes a similar purpose as an oxidant in syphilis, leprosy and in cancer, though it is most valuable in the former. All manner of agents producing hyperæmia of the tissues have been found of the greatest value. Erysipelas has been mentioned: the bites of venomous serpents, scorpions, hornets, etc., when not proving fatal, are even curative; which suggests the hyperdermic injections of attenuated venoms, to the same end. Hot baths, exercise, cardiac stimulants, oil massage, using the oil of highest reduction (oxidation) power, chaulmoogra oil, perhaps, and oil internally, which has been found so efficient in leprosy (though I would commend that it be phosphorized to enhance its superficial oxidative value), have all been found of value. Theoretically, an arrangement by which Röntgen or ultraviolet rays of light, or still better, high-frequency currents, could be administered to the entire body for long periods daily, would be most efficacious; yet it must be impressed upon the reader that several of these agencies must be harmoniously combined to attain the best results in a given case.

The rational basis of treatment, however, must be the accomplishment of the one end, namely, the restoration of normal catabolism and the combustion and elimination of the accumulated and decaying refuse of past subcatabolism, and not any attempt at independent parasitic destruction.

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151 SEVENTY-SIXTH STREET, WEST.

Relative Consumption of Whiskey and Beer.—In sixty years the annual per capita consumption of whiskey has gradually decreased from two and a half to one and a quarter gallons. In forty years the consumption of beer has increased from less than two to more than seventeen gallons per capita.

DIAGNOSIS OF ACUTE LOBAR PNEUMONIA.

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In arriving at a diagnosis of acute lobar pneumonia we have to consider the previous history of the patient, the symptoms, the physical signs, and the points of differentiation. The customary history related by a patient with this affection is of some recent unwonted exposure to cold or to a wetting, which, however, in the light of our present knowledge, is simply the final act in the destruction of the natural barriers to infection. Preceding this exposure, there may have been noticed a variable period of debility, yet oftentimes no account is given of a prior indisposition. Nevertheless, in my opinion, a predisposing cause other than the mere chilling of the surface, which in itself is not generally sufficient, already must have been established. It has long been my conviction that whoever is in a perfect physical condition, which means power of resistance unimpaired, is practically exempt from pneumonia. But this subject pertains more especially to the etiology of the disease, and has been discussed by me at some length in a former dissertation.

A typical case of acute lobar pneumonia begins with a severe chill of considerable duration. There is fever even during the chill and the fever rapidly rises to a high elevation. With this there are headache, loss of appetite, and general pain and discomfort. After a few hours the patient is taken with a sharp stitch in the side, a short painful cough, and rapid, shallow, catching respiration. The face is flushed; sometimes the flush is confined to one cheek, and then the reddening is often on the side corresponding to the pneumonia. The position, when in bed, is upon the back or else upon the side which is affected. Herpes may appear upon the lips, and also on the cheeks, nose, eyelids, and on the body elsewhere. The expectoration is at first frothy mucous, then a clear, viscid material, scanty and difficult of expulsion. Later it is more or less tinged with blood, somewhat less tenacious, and more abundant. It varies from a faint lemon to a dark brickdust color, and is known as the rusty sputum of pneumonia.

This peculiar reddish, semi-gelatinous, substance, appearing in small discrete masses, each surrounded by a zone of frothy mucous, and sticking to the bottom of the receptacle, is one of the distinctive features of a pulmonary inflammation. Exceptionally, there is blood-streaked sputum, and even clear hemorrhage. When the expectoration is dark brown in color and confluent, it is considered an unfavorable indication. The temperature rises in a few hours to 104° or 105° F., and maintains a high elevation to the end of a week or ten days with but slight daily fluctuations. It then, as a rule, rapidly falls to or below the normal standard. The pulse, which is full and tense, ranges from 100 to 120 in frequency; the respiration is increased from 30 to 40 per minute. The tongue is coated white and furred, and in severe cases, becomes dry and brown; the bowels are usually constipated, and the quantity of the urine is diminished. With characteristic symptoms of pneumonia the physical signs are apt to be equally well-marked, and under these circumstances, the disease commonly is diagnosticated. But idiopathic, secondary, and also terminal pneumonias may occur with few, if any, outward indications. When such is the case, physical examination is liable to be neglected and the condition of the lungs thereby is overlooked. Although the initiatory chill is one of the most constant events in pneumonia, it may be absent nevertheless, and sometimes in adults, as well as in children, there will be no cough, no pain, and no expectoration. There may be simply a moderate increase of the temperature and pulse and respiration. Rapidity of the breathing alone in a patient lying quietly in bed is a suspicious circumstance. The temperature may not be above 102° or 103° F.; the pulse may not exceed 90 or the respiration 30 per minute. The cheeks may be pale instead of flushed. Herpes is not a constant manifestation. In very old persons occasionally there is no elevation of temperature. While rapid devervescence of a few hours duration in the nature of a crisis is the rule in pneumonia, the decline of the fever is not infrequently by lysis, which, in other words, is gradual and prolonged. This disease is especially prone to latency in alcoholic patients. Secondary pneumonia, which occurs in such maladies as typhoid and typhus fevers, diphtheria, rheumatism, and influenza, may give rise to no symptoms that can be distinguished from those of the disease with which it is associated. Likewise with terminal pneumonia, which so frequently closes the scene in chronic diseases of the heart, the lungs, the kidneys, in diabetes mellitus, and in malignant affections. It is important, therefore, as a routine practice, always carefully to explore the chests of all patients under observation in which there is even a remote possibility of an idiopathic, intercurrent, or a terminal pneumonia. In fact, nothing but the frequent observance of this precaution will save the attending physician from the surprise and mortification of being confronted at a necropsy, sooner or later, with the evidences of a pneumonia previously unsuspected.

Consolidation occurs anywhere in the lungs from the base to the apex, and from the center to the circumference. Wherever begun it may spread through part of the lobe, the whole lobe, or practically the entire lung. It may involve both lungs in varying degrees simultaneously. Inspection of the patient reveals either a picture of the disease that is unmistakable or else nothing which is especially characteristic. Rapid and possibly difficult breathing with inspiratory dilation of the nostrils are seen, attended by marked activity of the accessory muscles of respiration. Meantime, the affected side will be restricted as much as possible in its movements. The apical impulse of the heart is about in its normal position. There is generally no visible enlargement of the side involved, yet mensuration may show a slight increase in its semi-circumference. On palpation vocal fremitus over the solidified lung is usually exaggerated. In so-called massive pneumonia, in which the exudation fills the bronchial tubes, and where a thick deposit of fibrin, or a fluid effusion, covers the lung, this vibration of the voice is not appreciable. The immobility of the affected side is confirmed on palpation; also the fact that the heart is not materially displaced. On percussion there will be varying degrees, at times modified by a tympanitic note, up to complete dulness wherever there is consolidation. Flatness, which predicates an entire absence of a pulmonary quality, is not developed in pneumonia unless there is an exudation also into the larger bronchi, a considerable pleurisy, or else the greater part of the lung is solidified. In central pneumonia, if the lesion fails eventually to reach the surface, no abnormal resonance is likely to be developed. Sometimes, owing to exceeding stoutness neither dulness nor other physical signs can be demonstrated. Still, ordinarily, under these conditions, with fever preceded by a marked rigor, and associated with rapid breathing, and the peculiar pneumonic sputa,

diagnosis should be made notwithstanding. By means of auscultation we find, if the patient is seen early enough, a decrease in the intensity of the breathing in the region involved. Later there may be heard close under the ear a multitude of fine dry crackling sounds at or near the end of inspiration. These sounds, known as crepitant râles, undoubtedly are produced in the pleura. Frequently, they are not developed unless the patient is made to take a deep inspiration. Hepatization of the lung is accompanied by bronchial or tubular breathing. Meantime crepitant râles may remain audible in the immediate neighborhood. Exceptionally bronchial breathing appears without râles of any kind, and likewise without râles disappears with the absorption of the exudation. The kind of breathing heard through solidified lung is like that which is audible in health over the lower end of the trachea and its bifurcation. This normal bronchial breathing may have an unusually wide diffusion into the surrounding pulmonary tissue, and, unless care is exercised by the examiner, it may be mistaken for a sign of consolidation. The voice transmitted through the lung where there is solidification is known as bronchophony. It may have a peculiar bleating quality which is called ægophony. Central pneumonia and small areas of hepatized lung in various situations that otherwise might be overlooked, often can be detected by a bronchial whiff, which is generated only by and during an enforced cough on the part of the person under examination. All the negative conditions for bronchial breathing may exist, but if the patient will not or cannot breath deeply, from fear of pain or from exhaustion, the bronchial quality will be either feeble or else undeveloped. When the larger bronchi are filled by an exudation, such as occurs in massive pneumonia, there will be no bronchial respiration. Resolution of the products of inflammation is attended by the gradual disappearance of bronchial breathing as well as by dulness and the various other signs of pneumonia, though the dulness may remain in a moderate degree indefinitely. The bronchial resolves itself into bronchovesicular and thence into vesicular respiration, during which process and for a variable period afterward are heard large and small mucous râles, together with fine crepitation. The heart sounds in pneumonia are generally well-defined and the pulmonary second sound usually is accentuated. If the right side of the heart is giving out, which is caused by infectious degeneration and increased pressure in the lesser blood circuit, the accent upon the pulmonary second sound will disappear. When the entire heart is failing in strength, all the sounds become weak, and, losing their muscular element, valvular in character. The urine in pneumonia is commonly acid in reaction, of high specific gravity, and it may contain hyaline, granular, and epithelial casts, together with traces of albumin. Indican may be in excess. Urea and uric acid are variable in amount. The chlorides are diminished. This decrease in the chlorides of the urine is a striking feature of pneumonia. Microscopical examination of the expectoration as a rule reveals the diplococcus pneumoniæ of Fraenkel and Weichselbaum. And, inasmuch as pneumonia is a constitutional as well as a local infection, this organism has been found also in the living blood, where in future, with improved technique, it will probably be looked for with regularity, just as we now seek for the plasmodium in malarial affections. The demonstration of the diploccus pneumoniæ in the general circulation will be of diagnostic value, especially where the pulmonary signs are indefinite and there is no expectoration. A blood count ordinarily shows an inflammatory leucocytosis. Increase of the white corpuscles occurs within a few hours after the chill, and amounts to 12, 20, and even 60,000 cells per cubic millimeter. With a slight decline after the first twenty-four hours, this increase remains comparatively great until the advent of defervescence. A definite parallelism between the degree of leucocytosis and the extent of the pulmonary exudation has not yet been positively established. Nor has an exact correspondence been shown to exist between the amount of leucocytosis and the grade of the infection. The mildest and the most severe infections have been known to occur without leucocytosis. Among six cases of pneumonia with moderate infection but of extensive solidification recently under my care, only two had more than nine thousand white blood cells per cubic millimeter, and all eventually recovered. Consequently, the general condition of the patient, in connection with the cardiac and pulmonary signs, is a more reliable guide in regard to the gravity of the situation than the degree of the leucocytosis.

In deciding between pneumonia and typhoid fever a marked increase in the number of white blood corpuscles would be in favor of pneumonia. Distinction between acute tuberculous pneumonia and simple acute lobar pneumonia, which formerly depended almost entirely upon subsequent events, can now be made with much less delay by the microscopical examination of the expectoration. Tubercle bacilli are found in the sputum of acute tuberculous pneumonia before the physical signs of local softening are demonstrable. For example, a case not long ago came under my care which, so far as physical signs and symptoms were concerned, was apparently simple acute pneumonia, but certain suspicious facts in the history led to a search for the tubercle bacilli in the sputum, and they were found in abundance, whereby it was settled much earlier than formerly was possible that we were dealing with acute tuberculous pneumonia or acute pneumonic phthisis. Further developments confirmed the finding of the microscope. There is often danger in children of confusing the cerebral symptoms of pneumonia with those of meningitis. An examination of the chest, which ought never to be neglected, should reveal the presence of the pneumonia; moreover, in tuberculous meningitis there will be a normal or a subnormal leucocyte count, while commonly there is leucocytosis in pneumonia. It is sometimes difficult to decide in adults as well as in children between pneumonia and pleurisy with effusion. This latter affection may begin with all the usual symptoms of pneumonia, though commonly they are less pronounced. In pleurisy the fever may be intense at the start, but, instead of maintaining its intensity, as in pneumonia, it rapidly declines and gradually disappears. There is nothing like the peculiar rusty sputum of pneumonia in pleurisy. Nor is there any such decrease of chlorides in the urine of the last named disease as there is in pneumonia. On examination of the chest there is a lack of mobility of the side involved in both affections. There may be in pleurisy a decided enlargement of this side, whereas in pneumonia enlargement is almost imperceptible. The heart is pushed toward the side away from an effusion; it is not materially displaced by a consolidation. Vocal fremitus is absent almost invariably in pleurisy, while it is always present in pneumonia if not exaggerated. The existence of this vibration of the voice as appreciated by the hand in the one, and its entire

absence in the other disease, is a valuable point of differentiation. It is important, however, to remember that a person with a naturally weak voice, or with an acquired aphonia, will develop neither vocal fremitous nor resonance under any circumstances.

Upon percussion in pleurisy there is flatness over the fluid from the dependent part of the chest upward; in pneumonia, there is dulness, irrespective of posture, wherever there is consolidation. The flatness of pleurisy, unless there is a very large effusion, changes in position with the patient's movements. If sitting, the resonance may be normal in the infraclavicular region, or dull, or else possibly tympanitic, but when lying face downward there will be flatness. Exceptionally there will be flatness in this region when the patient is sitting, and tympanitic resonance when lying upon the back. The dulness of pneumonia, on the other hand, as previously mentioned, maintains its position in the chest regardless of changes in the attitude. There is a resistance to the percussion stroke over fluid which to an experienced examiner is quite distinct from that over a consolidation. Traube's semi-lunar space of tympanitic resonance, which is bounded by the liver, the lower border of the left lung, the spleen, and the left costal arch, is obliterated by an effusion in the left pleural cavity, whereas the peculiar hollow sound of the stomach in this locality remains unaffected by pulmonary hepatization. Vocal resonance is diminished, though seldom absent in pleurisy, and present in pneumonia if not intensified. When there are crepitant râles on auscultation in pneumonia there is commonly coarse friction in pleurisy. In pneumonia the respiration becomes sharply defined and bronchial; in pleurisy, it is either feeble, absent, or else faintly bronchial in character; heard as from a distance and as if muffled in the one it is close under the ear and distinct in the other instance. Sometimes, however, the breathing is as strongly tubular in pleurisy as in pneumonia, not only with children, in whom it is more often found, but also with adults, and especially in the infraclavicular region. But perplexing as this problem at times may be, it should not often require for its solution an exploratory aspiration. The use of the hypodermic needle wherewith to decide between a fluid effusion and a solidification, except upon rare occasions, to say the least, is unnecessary. To determine the nature of the fluid, however, it is indispensable. If an examiner with a fairly acute ear and delicate sense of touch will gently percuss over the region in question, with the tips of the fingers so as not to develop extraneous collateral resonance, there will be found, generally without difficulty, both flatness and its peculiar resistance. Moreover, this flatness will extend in large effusions, unlike the dulness of pneumonia, beyond the edge of the sternum of the affected side, and, with fluid in the left pleural cavity, down into the Traube's semi-lunar space of tympanitic resonance. Furthermore, there is the dislocation of the heart referred to above, and, if the effusion is in the right side, also a possible depression of the liver, neither of which is found in pneumonia. As there is generally a large amount of fluid where the bronchial breathing most resembles that of pneumonia, there is little room left for a change in the level of flatness with an alteration of the position of the patient. Vocal resonance is diminished and vocal fremitus is absent, at least in adults with pleurisy, as already described.

Finally, bearing in mind that the right in health usually transmits sound more than the left side, there may be an increase in pleurisy anywhere from half an inch to an inch and a half in semi-circumference, whereas in pneumonia the enlargement, if present, is insignificant.

115 East Thirty-fourth Street.

The Sign of the Orbicularis in Peripheral Facial Paralysis.—George N. Jacoby says that it has long been assumed that the upper facial nerve was not involved in hemiplegia. This is now known to be a mistake, and the recognition of the error is due in great part to the sign of the orbicularis. The symptom consists in the inability of a hemiplegic voluntarily to close the eye upon the paralyzed side, except in conjunction with the other eye. The author thus summarizes his study of the subject: (1) The statement of Bard that the sign is invariably lacking in peripheral facial paralysis and is, therefore, a distinguishing mark of central affection, is incorrect. (2) The presence of the sign in peripheral paralysis is further proof of the existence of commissural fibers between the nuclei of the seventh nerves. (3) The sign is of clinical value as far as its presence in peripheral paralysis shows that complete recovery has not occurred. (4) The secondary over-action in the orbicularis palpebrarum, which is late in appearance and always coincides with some recovery in power, does not occur in those cases in which the sign, having been present, has passed away.—*Journal of Nervous and Mental Diseases.*

Bacteriology of Middle Ear Suppuration.—Wyatt Wingrave has microscopically examined the discharge from one hundred cases of middle ear suppuration, and analyzes the results with special reference to the presence of tubercle and "acid-fast" bacilli. His conclusions are as follows: Acid- and alcohol-fast bacilli are demonstrable in a large proportion of cases of chronic purulent ear discharge. In seventeen cases they were presumably tubercle bacilli, in so far that they conformed to the recognized morphological and staining characters, and were for the most part associated with reliable clinical evidence of tuberculosis. In seven (pseudo-tubercle bacilli) cases, while conforming in a greater or less degree to the staining requirements, they were morphologically unlike tubercle bacilli, yet five of the patients had either a family or personal history of phthisis. Success in their demonstration in any great measure depends upon the methods of collecting and staining together with perseverance in search. In the peculiar selective action of the squamæ in retaining the carbol fuchsin—a property specially attributed to certain bacilli—we have at once a possible source of error in diagnosis and an explanation of the peculiar affinity of other bacilli for fuchsin.—*Annals of Otology, Rhinology, and Laryngology.*

Pneumococcic Arthritis: Report of Three Cases.—Campbell P. Howard reports these cases. That lobar pneumonia is an acute general infection, and not a purely local disease of the lungs, the author states, has long since been established beyond all dispute. But he thinks that still further evidence may prove of interest. The first case affords a good illustration of septicemia from Fraenkel's pneumococcus without marked pulmonary involvement. The clinical summary is as follows: Acute lobar pneumonia, right mid-lobe; acute pericarditis (seventh day); arthritis of the right shoulder (seventh day); acute vegetative endocarditis (eighth day); meningitis (ninth day); arthritis of the right ankle (tenth day); death (eleventh day). The organism isolated from the blood and that from the ankle-joint were run through the various media, and showed typical growth. In the case of the second patient, the left shoulder and right knee-joint contained large quantities of purulent fluid. Smears showed capsulated diplococci. In the case of the third patient, the pneumonic consolidation involved only a small area on the apex of the upper right lobe. The smears from the mitral vegetation and joint fluid showed the presence of typical lanceolate diplococci.—*Bulletin of the Johns Hopkins Hospital.*

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THE CARE OF MILK AS A FOOD FOR INFANTS.

THAT milk is, under almost all conditions, the best form of food for infants is almost universally agreed, and, as a rule, mother's milk is preferable to cow's milk. As to methods of preparing milk, by sterilization, by pasteurization, by refrigeration, by dilution, by addition, there is, however, less universal agreement. It will be recognized by all practitioners that a variety of factors enter into the decision. On the one hand, there will be found children who thrive in the absence of all dietetic precautions, while, on the other hand, there are children who fail notwithstanding the greatest care with respect to the character and the preparation of their food. The factors underlying such contrariety of result must reside in part within the individual, in part within the milk used as food. One aspect of this subject has received consideration in the course of an investigation undertaken by Drs. Wm. H. Parke and L. Emmett Holt (*Archives of Pediatrics*, December, 1903, p. 881) into the production, transportation, and feeding of cow's milk in New York City, and extending over a period of two years. The following objects were had in view: (1) a comparison of the results of infant-feeding in tenements in summer and in winter; (2) a determination of the influence upon the results exerted by the character of the milk used, especially its original bacterial count, its preparation, and whether heated or not; (3) and of other factors, such as the care of the infants and the surroundings to which they were exposed.

Satisfactory observations were made and records obtained in 632 cases. The children were studied in small groups, not exceeding fifty, principally at their homes, and the existing conditions being left unchanged. Clinical study and bacteriological investigation were carried on jointly, in order to determine whether any relationship existed between the number and the character of the microorganisms present in the milk and the amount of diarrhœal disease in the children using the milk. As a result of the observations made, the opinion was formed that the most important factor in securing good results is intelligent care. This applies to bottles and nipples, to methods of feeding, quantities, frequency, withdrawal on the development of diarrhœa, etc., the milk itself in the house, methods of sterilizing, clothing and cleanliness and fresh air. The results, in general, were found to be much less affected by the character of the milk than had been anticipated and distinctly less than by the sort of care the infants received. The surroundings alone, also, had less influence than anticipated. The depressing effects of great atmospheric heat, 90° F. or over, were marked, apart from the character of the food. A bad method of feeding, or feeding without any method, was responsible for bad results when the milk itself was of good quality. Comparatively little appeared to be accomplished by the distribution of printed slips of directions, partly in consequence of ignorance, partly in consequence of stupidity, unless supplemented by personal explanation.

It was found that during cool weather neither the mortality nor the health of the infants was appreciably affected by the kind of milk or the number of contained bacteria. The different grades of milk varied much less in the amount of bacterial contamination in winter than in summer. During hot weather, when the resistance of the children was lowered, the kind of milk taken influenced both the amount of illness and the mortality. Those who used condensed milk and cheap store-milk did the worst, while those who received breast-milk, pure bottle-milk, and modified milk did the best. The effect of bacterial contamination was marked when the milk was taken without previous heating, but unless the contamination was excessive the effect was only slight when heating was employed shortly before feeding. The number of bacteria that may accumulate before milk becomes noticeably harmful to the average infant in summer differs with the nature of the bacteria present, the age of the milk, and the temperature at which it has been kept. When milk is taken raw, the smaller the number of bacteria present the better are the results. Heat above 170° F. destroys not only most of the bacteria present, but apparently also some of their poisonous products. When milk of average quality was fed, sterilized and raw, those infants that received milk, previously heated did, on the average, much better in warm weather than those that received it raw. No special varieties of bacteria were found in unheated milk that seemed to have any special importance with relation to the summer diarrhœas of children. The number of varieties is great and the kinds differed according to the locality from which the milk came. After the first twelve months of life, infants are less and less affected by the bacteria in milk derived from healthy cattle. When the milk has been kept cool, the bacteria did not appear to injure the children over three years of age at any season of the year unless present in great excess.

Of the methods of feeding now in vogue, it is believed that with milk from central distributing stations unquestionably possesses the most advantages, in that it secures some constant oversight of the child, and, as it furnishes the food in such a form that it leaves the mother least to do, it gives her the smallest opportunity of going wrong. The use for infants of milk delivered in sealed bottles should be encouraged whenever possible. Only the purest milk should be taken raw, especially in summer. To secure intelligent care, mothers and those looking after infants should be educated in the proper method of feeding. This, it is believed, can be most effectively done by the visits of properly qualified trained nurses or women physicians to the homes, supplemented by the use of printed direc-

tions. Bad surroundings, though contributing to bad results in feeding, are not considered the chief factor. The observations indicate that close percentage-modification of milk, although desirable in difficult cases, is not necessary for excellent results in the majority of infants, and that a certain adjustment of a healthy infant to its food is usually soon secured. Breast-feeding should be encouraged, as bottle-feeding is, as a rule, badly done. The injurious effects of table-food to infants under a year old and of fruits to all infants and young children in cities in hot weather should be much more generally appreciated.

LIMITATIONS OF BIOLOGICAL RESEARCH.

BIOLOGICAL research has but recently gained any considerable foothold in America. The practical importance of this field of observation commands our acknowledgment for the first time. There are doubtless many reasons why this is so. The fundamental cause, however, is to be found in our essential characteristic as a nation. We are above all a practical people. Scientific research without an immediate practical gain therefrom does not appeal to our inherent ideas. The lack of practical application and the apparent limitations of biological investigations have been our strongest arguments against the claims of this science upon our time. It is therefore not surprising that we have allowed others to lay the foundations in this department of knowledge. It is a fact, however, that the limitations of a science comprise no argument against its practical importance. European nations, especially Germany and France, have brought this clearly to view. Professor Loeb, in his address at the dedication of the Rudolph Spreckels Physiological Laboratory of the University of California, August 20, 1903, has particularly emphasized the practical importance of biological study. When we consider biological research, we should adopt the same standards which govern our decision concerning other departments of science; as, for example, physics and chemistry. One of the fundamental problems of biology is the production of living matter out of dead matter. This has hitherto been found impossible. The obstacles to be overcome seem unsurpassable. They constitute the great limitations of biological research. Such limitations are, however, neither different in kind nor degree from those encountered in physics and chemistry. Neither the production of perpetual motion, nor the making of gold, have been accomplished by the physicist or chemist. We nevertheless regard physics and chemistry as practical sciences. In these fields facts have been discovered which form the bulwarks of our modern civilization. After all, the biologist has evolved many facts which throw light upon the production of living from dead matter. We know that the substances found in living organisms have a definite chemical composition. They can be obtained outside the body. A living being maintains its existences by the constant transformation of dead into living matter. So far as the dynamics of this transformation are concerned, enzymes alone are operative. These enzymes do not differ in their origin from inorganic catalytic agencies. The anatomical structure of living beings is another important characteristic of their essential individuality. Upon such structure the action of the enzymes is vitally dependent. The transformation of one species of living beings into another species of living beings is a further biological problem. At present this seems as impossible of solution as the transformation of dead into living matter. Vital processes in living beings are chemical in character. The importance of physiological chemistry in the solution of biological problems is therefore apparent.

The force of Professor Loeb's remarks cannot be too highly appreciated. The solution of many practical problems lies within the domain of the biologist. Those already solved greatly increase our power over diseased conditions and our knowledge with respect thereto. Serum therapy owes its origin to biological study. Our accurate understanding of many of the infectious diseases is also to be ascribed thereto. The study of cytolysis, now being so extensively pursued, offers amazing therapeutic possibilities. As American clinicians, therefore, let us give our hearty support to research in this field, realizing that the object to be attained is the alleviation of the sufferings of mankind.

THEORY OF THE INCUBATION PERIOD OF ANTITOXIN RASHES.

AT times certain definite symptoms follow the inoculation of antisera. Such appearances comprise albuminuria, acute conditions of the joint and lymph glands and various cutaneous eruptions. Constitutional symptoms may also be present. The definite causation of these disturbances is not clear. Pirquet and Schick (*Wiener klinische Wochenschrift*, 1903, No. 45) have evolved a theory with respect thereto. They state that these manifestations are not due to the antibodies contained in the inoculated serum. This is shown by two facts, viz.: (1) The occurrence of the symptoms depends in no way upon the quantity or strength of the serum used. (2) The symptoms do not develop until seven or eleven days following primary inoculations. In secondary inoculations this period is from twenty-four hours to five days. The quantity of antibodies, however, is at a maximum immediately after the inoculation. As the result of serum inoculations certain reaction products are produced by the body. These products give rise to changes in the inoculated serum. When such changes reach a sufficient magnitude symptoms appear. The period of incubation is shortened following secondary inoculations because these reaction products are already present in the body as the result of the primary inoculation. Vaccination is a further example of this principle. The period of incubation is shorter following a re- than a primary vaccination. The reaction following the inoculation of tuberculin shows the same peculiarity. Here the clinical reaction produced demonstrates the presence in the system of reaction products against the tuberculous toxin.

We think it generally conceded that clinical symptoms are outward manifestations of the body toward pathological conditions. As the result of ordinary infections, and, as the authors suppose, antisera inoculations, such reactions are directed toward the products of the infecting microorganism or the inoculated material. By these reactions in both cases antibodies are produced in the system.

They are reaction products. Antibodies produced in the system as the result of ordinary or experimental infection occupy the same biological relation to the process as the supposed "reaction products" which arise as the result of inoculated antisera. That is, in both cases they combat the substances introduced. For all practical purposes, therefore, the views of the authors constitute a distinction without a difference. These various antibodies (reaction products) cannot as yet be accurately isolated. The supposition that they reach a maximum in the body *immediately* following the inoculation of antisera is warranted neither by laboratory nor clinical observations. Until more knowledge is obtained general theorizing with respect to "reaction products" is neither profitable nor wise.

The State and the Mosquito.

At last the mosquito question is regarded as of national importance, and men of light and learning in all branches of life have been brought to believe and to appreciate the fact that the mosquito is a foeman by no means to be despised. The mosquito has long been regarded as an excellent medium for jesting, and the evils which it brings in its wake have not been recognized at their full significance. Of course, up to a comparatively recent date, the disease-bearing properties of certain mosquitos were not known; but even now, the humorous side of the matter is more apt to crop up than is the grave. The convention called by Governor Murphy of New Jersey, and which held its session a short time ago in New York, discussed in all its bearings the situation as regards the mosquito. The meeting was attended not only by men of science, but by those prominent in various other ways. The suggestions advanced with a view of exterminating or of keeping out the insects were many, some of which seemed feasible, and some chimerical. Mr. Walter C. Kerr of Staten Island was of the opinion that if the City of New York would begin the work of extermination by spending $2000, the rural communities would continue it until mosquitos ceased to exist. Dr. L. O. Howard sent an interesting letter, and many others spoke or wrote. Finally resolutions were adopted recommending that a provisional committee be appointed by the convention to consider the formation of a central organization of national character, with which local bodies might coöperate in conducting a gigantic mosquito crusade.

The most gratifying and encouraging feature of the convention is that it signifies the awakening of the American people to the truth, that the mosquito has wrought and is capable of wreaking, an immense amount of injury to life and property. These insects have done incalculable harm in all parts of the world. Several of the European nations, and Japan in the Far East, have already organized vigorous crusades against the mosquito. This country has been slow in acting, but as soon as it is thoroughly well understood how great is the power for harm possessed by the mosquito, the United States will take measures which will equal or surpass those of other lands in suppressing the pest.

Tenement-House Inspection.

The New York *Evening Post*, December 19, has an article on some hitherto unpublished extracts from the report of the Tenement House Department. The inspection of tenements has been conducted during the past two years by 150 women, and most excellent results have been secured. Nearly all the inspections as yet made have been carried out in response to citizens' complaints, and from August 21, 1902, to June 28, 1903, 32,825 of these have been investigated. Out of this number, 17 per cent., or about 5000, were found to be without basis. In many instances, however, the sanitary conditions revealed by these inspections were frightful beyond compare. According to the report described in the *Evening Post*, "Pigs are still found in tenement cellars in Manhattan. Goats are even more frequent. Even a family cow is maintained in the nether depths by the more prosperous. Basements are constantly used as stables. In the living quarters all kinds of household pets are maintained, from mangy dogs and cats to white mice, parrots, and turtles. A favorite resort for pigeons is the wooden partition under the sink. Many tenements are overrun with chickens. Perhaps as bad are the "raw materials," especially rags in all stages of filth, which are stored in living rooms. One tenant who dealt in the entrails of animals made a practice of keeping his stock in his apartments. Rooms used for such purposes, too, are usually unventilated, and hardly need added stenches of this kind to make them uninhabitable."

There is an immense field of work in the tenement district of New York City, and the Department to which is relegated the duty of improving existing conditions, and of rendering the districts where dwell the poor, fit for human habitation, has a task which will tax to the utmost the energies of its members. The work has, so to speak, only just begun, but the results already attained augur well for a successful issue.

Fighting the Plague in Japan.

The manner in which the Japanese fight the plague and the plucky and unconcerned way in which those suffering from the disease endure their lot, is well described in the New York *Sun*, of December 22. The enclosed and segregated area where the stricken are detained, is about two hundred paces broad, containing some four or five hundred houses, surrounded by a corrugated zinc fence six feet in height. The fence is broken at intervals by a sort of lich-gate, guarded by two police officers. Along one side, barracks of corrugated iron had been erected within the barrier to accommodate the salved goods and chattels, and to shelter the owners thereof.

The most remarkable feature, however, of the isolation camp was the behavior of the inmates themselves. Despairing, dull, resourceless, and sullen countenances were absent, and in their place were exhibited smiling faces as if rather an amusing inconvenience than otherwise were being undergone. The particular methods of sanitation put into force did not seem to be altogether in line with those used in India and in other parts of the globe where plague flourishes and where European countries and America have control of the arrangements. In fact, the *Sun* correspondent was not quite clear as to what the scheme of sanitation might be. The point which most impressed the writer was the insouciance and absolute unconcern with which the Japanese faced the situation, just as they did when they fought China. It may be said that it is only about four or five years since the plague first appeared in the congested areas of Japanese cities and towns.

Reading in Bed.

The British public recently appear to have been greatly exercised in mind as to the effect upon health of reading in bed. The *Daily Mail* "set the ball rolling" by initiating a discussion among its

readers in regard to this matter. Many physicians who contributed to the symposium pointed out that the habit was a dangerous one, both on account of fire and the probabilty of injury to the eyesight. In an editorial in the supplement to the *New York Times*, attention is drawn to the fact that in these days there is no need to fear fire when reading in bed, as the use of a movable electric light will obviate all dread of this catastrophe. Persons, too, when they read in bed do not as a rule assume a recumbent position, and consequently their eyes should not be strained to any great extent. Many authors, it is said, protested against their books being utilized as sleep-producers, although the deadly narcotizing influence of the majority of the works of fiction produced nowadays cannot but be apparent to all who have the courage to dive into them. Reading in bed, however, is not to be recommended as a particularly healthful habit. Perhaps with some persons it is not injurious, while it may even be beneficial to a few.

The young should be prohibited from indulging in the practice, for putting on one side the probable strain to the eyesight, there is always the fear that the habit when formed will be abused, and that the hours which should be passed in recuperating the forces of the mind and body, will be spent in wasting these powers. It is never wise to burn the candle at both ends. In certain cases reading in bed is harmless, in some instances it tends to do good, but on the whole the practice is not one to be advised.

The Emoluments of the Ship Doctor.

The *Lancet*, December 5, contains a letter treating of this subject. A correspondent of a recent edition of *Lloyd's Weekly* has expressed the views of a ship doctor in the following words: "Many travelers are in doubt as to the position of the ship's doctor in regard to his remuneration from passengers for services rendered. The Merchant Shipping Act enacts that every foreign-going vessel having 100 persons on board or upward, shall carry on board as part of her complement a duly qualified medical practitioner. Furthermore, an emigrant ship—*i.e.* a foreign-going vessel which carries 50 or more steerage passengers—must have a medical man irrespective of the number of crew or of the other passengers carried. The salary of the doctor on board is commensurate with these duties to his ship. To any passengers who are suffering from ordinary forms of sea-sickness and its concomitant evils or who receive injuries which are in any way due to the ship, the doctor's services are free. For any sickness contracted before sailing or during a voyage which is not connected with the above-named conditions he is entitled to a remuneration at the same rate as he would receive on shore. Obviously it would be as unfair to expect that his services to passengers should be rendered *gratis*, as it would be for any visitor in a hotel or traveler on the railway to expect to have medical attendance free in any illness for which the hotel or railway authorities could not be held responsible."

The writer to the *Lancet* says that the case of the ship's surgeon is stated with accuracy in the above sentences, and adds that ship's surgeons are of two kinds: (1) those who after they have qualified take such a position either for health or for pleasure, and (2) those who elect to make sea life a permanency.

The pay of the ship's doctor varies from $30 to $5c per month. This is for duties to officers and crew As regards passengers in relation to the surgeon, the following groups will include all: (1) The passenger who takes the initiative by remunerating the surgeon, perhaps handsomely, for any services rendered; (2) the passenger who asks for his bill and pays it if reasonable; (3) the passenger who traveling for the first time does not know whether to ask for his bill or to wait for it to be delivered, but is pleased to be enlightened on the matter; (4) the passenger who clings to the old-time notion that the surgeon is there solely for the benefit of passengers, and (5) the passenger who never intends to pay the surgeon.

Americans, perhaps, are the greatest travelers in search of change and amusement in the world. Consequently the question of the ship's surgeon's fees should be particularly interesting on this side of the water. It is distinctly obvious that if the ship's doctor had to depend solely on his emoluments as such, his lot would be but a sorry one. A condition of affairs of this character would recoil on the heads of the passengers, for no able man would be found to fill the position. It is therefore manifestly right and just that the ship's doctor should be paid for his services to passengers on board ship in the same manner and at similar rates of remuneration as he would expect to receive on shore. The question of collecting the bills is another difficult one. It has been suggested that the bill should not be sent in the surgeon's name, but in the company's name. One thing, however, is plain, that the ship's doctor should be paid by the passengers, and those who either ignorantly or wilfully evade so doing should be informed of the true facts of the case.

The Foreigners Who Become Citizens and the Desirable Immigrant.

The *New York Times* of December 18 has an interesting annotation on the above subject. It is a matter of widespread belief that the British as a rule are very averse to becoming citizens of any country. Members of this race are scattered throughout the globe, and it is laid to their charge, that while willing enough to "spoil the Egyptians" they are by no means desirous of relinquishing their rights and privileges as British citizens. This characteristic of the Anglo-Saxon race from the other side of the water, and which is thought to be largely evidenced in its members who live in the United States, has frequently given rise to heart-burnings and gentle recriminations on the part of the inhabitants of this country. However, figures compiled by the Massachusetts Bureau of Labor Statistics would seem to belie the truth of the statement that Englishmen but seldom take out their naturalization papers in the United States. At least such is not the case so far as the State of Massachusetts is concerned, and probably is not so throughout the country. In regard to other foreigners who become naturalized in the aforementioned New England State, the Irish stand first in the table of eligible and naturalized percentages, 79 out of every 100 with the necessary qualifications, for swearing the land of their birth for the land of their adoption. The Germans take second place, with 74 out of 100, while the maligned British are third with 67 out of 100. Then come Swedes with 53, Canadian French with 46, Russians with 44, Poles with 41, and lastly, quite at the end of the line, come the Italians with 37 out of every 100. Much has been said and written of late in regard to the desirable and undesirable immigrant. The ideal desirable immigrant is the healthy individual able to read and write English, knowing a trade, having some money and intending to become a citizen. Next in importance comes the healthy individual unable to read or write English, knowing a trade, having some money and intending to become a citizen. Next in order comes the healthy individual whose only stock in trade is his health and strength and a little money,

and intending to become a citizen. At one time such persons as these flocked into this country in large numbers, but now all has changed in this respect. A large portion of the immigrants who crowd into the United States in vast numbers at the present time are, from most points of view, eminently undesirable. Ignorant, dirty, and unhealthy, they mass into the cities and towns, accentuating the already insanitary conditions existing there. Furthermore, with all the precautions taken, they ofttimes introduce and spread diseases of many kinds. It is a question whether the limitations placed upon the admittance into the country of such as these are sufficiently stringent.

News of the Week.

The Unauthorized Use of a Name.—In the current issue of one of the monthly magazines appears a paper on the so-called "nature cure" to which is appended a note by one of the editorial staff of the MEDICAL RECORD. The note was written at the request of the editor of the magazine for an editorial comment on the subject of the paper, and it was given under the implied understanding that, as an editorial note, it was anonymous. The addition of the signature, incorrectly written, and of the title, incorrectly stated, was made without the writer's knowledge or consent.

Examination for Physician in the Philippine Service.—The United States Civil Service Commission announces that on January 27–28, 1904, an examination will be held at various places in the country, to secure eligibles from which to make certification to fill vacancies in the position of physician in the Philippine Service, at salaries ranging from $1,200 to $1,800 per annum, and other similar vacancies as they may occur in that service. The examination will consist of the following subjects, which will be weighted as indicated: letter-writing (5), anatomy and physiology (10), chemistry and materia medica (10), surgery and surgical pathology (20), practice and special pathology (20), bacteriology and hygiene (15), obstetrics and gynecology (10), experience (rated on application) (10). Questions on practice will be principally upon tropical diseases. The principles of bacteriology and hygiene as applied to the study of and prophylaxis in diseases incident to the tropics will be especially considered. At least one year's experience in hospital work, or in the Philippine Islands as assistant surgeon in the United States Army, is prerequisite. Each applicant will be required to submit to the examiner, on the day he is examined, a recent photograph, not more than three years old, of himself, which will be filed with his examination papers, as a means of identification in case he receives appointment. An unmounted photograph is preferred. The date, place, and kind of examination, the examination number, and the year in which the photograph was taken should be indicated on the photograph. The age limit is twenty to forty years. This examination is open to all citizens of the United States who comply with the requirements. Appointees are expected to pay their traveling expenses from their places of residence to Manila, but if it is found necessary for the Philippine Government to bear any part of such traveling expenses 10 per cent. of the monthly salary of the employee will be retained until the amount retained is equal to the amount borne by the Government. At the expiration of two years' satisfactory service the actual and necessary traveling expenses borne by an employee in proceeding to Manila will be refunded to him. He will be allowed half salary from the date of embarkation and full salary from the date of his arrival in the islands, provided that he proceeds directly to the islands; otherwise, he will be allowed half salary for such time only as is ordinarily required to perform the journey by the route directed. The half salary allowed him from the date of embarkation until his arrival in the islands will not be paid until after two years of satisfactory service. Each employee will be required to sign an agreement to serve at least two years in the Philippines unless sooner released by the civil governor or proper head of Department. A person who has been employed continuously in the Philippine Service for three years or more is, upon his request when retiring from that service, furnished transportation from Manila to San Francisco, and is allowed half salary for thirty days in addition to full salary for the period which he may be granted as leave of absence. Competitors will be rated without regard to any consideration other than the qualifications shown in their examination papers. Persons who desire to compete should at once apply to the United States Civil Service Commission, Washington, D. C., for application Forms 2 and 375, which should be properly executed and filed with the Commission at Washington. Persons who are unable to file their formal applications and who notify the Commission of this fact, either by letter or telegram, with the request that they be permitted to take the examination, will be examined, provided their requests are received at the Commission in sufficient time to ship examination papers.

The Pathological Society of Philadelphia.—The Annual Exhibition Meeting of the Philadelphia Pathological Society will be held on Thursday evening, January 14, 1904, at 8 P.M., at the Mutter Museum of the College of Physicians. This exhibition includes extensive gross and microscopic exhibits embracing every department of human and animal pathology. Members of the medical profession are invited to attend.

A Museum of Security.—The Institute of Social Science purposes to establish a museum in which shall be exhibited all inventions designed as safeguards against accidents. There are several such museums in Europe, the influence of which has tended to diminish markedly the number of accidents of various kinds in the countries where they are located. The proposed museum is to contain working models of safety devices for use on railways, in mines, on sailing vessels and steamships, in city streets, in elevators, in factories, in buildings in course of construction, etc.

Increase in Pneumonia.—According to the figures of the Department of Health pneumonia patients in this city to an unprecedented extent. The number of deaths has steadily increased from week to week since the second week in November, when 154 deaths were recorded. The next week 208 deaths occurred, and during the subsequent seven days there were 231 deaths from pneumonia. The succeeding weeks show 241, 245, 261, and 269 deaths. The Board of Health is, it is said, considering the advisability of a change in the sanitary code, placing pneumonia among the infectious and therefore notifiable diseases.

Tuberculosis in the Fire and Police Departments.—It is said that the Board of Health has decided that no policeman or fireman suffering from tuberculosis shall be retained for active duty. Since the disease is infectious, it is asserted that it would endanger the general health of the city to allow officers suffering from tuberculosis to room with well men, as is necessary in the dormitories while on reserve duty.

A few men will be affected by the order, and will be retired. Those in whom the disease is not far advanced will be assigned to work that will permit them to sleep at home. Seventeen policemen have been reported as suffering with tuberculosis.

Three Generations of Physicians in One Appointment.—Dr. Arthur J. O'Leary, Register of the Bureau of Vital Statistics of the Borough of the Bronx, has been appointed visiting physician to Manhattan College, to succeed his father, Dr. C. N. O'Leary, who was killed in a railroad accident recently. Dr. A. J. O'Leary's grandfather was appointed to the position at the organization of the college, and was succeeded by his son, Dr. C. N. O'Leary.

Discovery of the Smallpox Germ.—The newspapers of recent date published depatches from Cleveland announcing that Dr. W. T. Howard, Jr., of that city had discovered the germ of smallpox, and that the particulars of his find would be made known very soon. In reply to an inquiry regarding this, Dr. Howard writes that he has never stated directly or indirectly that he had discovered a microorganism which was the cause of smallpox, nor has he authorized anyone to make such a statement. He writes: "In the discussion of Councilman's paper at the meeting of the American Association of Pathologists and Bacteriologists in May last, I stated that, through Dr. Councilman's courtesy in giving me his methods, I had been able to *confirm* many of the statements he made in regard to the bodies he described in smallpox, and that I agreed with him that these bodies are parasites and the cause of the disease. I am still of the opinion—indeed, I am more convinced than before—that these bodies described and discovered by Councilman and his pupils are parasitic in nature and the cause of the disease. But I disclaim and repudiate entirely the recent newspaper statements that I have discovered the cause of smallpox."

Typhoid Fever Spreading from Butler.—The epidemic of typhoid fever at Butler, Pa., has nearly burned itself out for lack of fresh fuel, but the poison elaborated there is now working destruction at other places. In Pittsburg the disease is increasing rapidly and has already assumed the proportions of an epidemic. During the first twenty-three days of December there were 499 cases reported to the health authorities, the daily average increasing progressively until on December 23, there were 49 new cases. The drainage of Butler itself reaches the Ohio River at some distance below Pittsburg, but the Allegheny River above the city drains much of the country adjoining Butler, and it is probably through infection of this stream that the outbreak in Pittsburg has occurred.

Dr. Maximilian Herzog, who for more than seven years has been professor of pathology and bacteriology in the Chicago Polyclinic, has been appointed pathologist in the bureau of government laboratories at Manila.

An Incident of Medical Practice.—A correspondent of the *New York Times* in Duluth relates a recent experience of Dr. William Goldsworthy of Two-Harbors, which was exceptionally trying even for country practice in the cold north. An employee of the Duluth and Iron Range Road fell seriously sick while looking at some land forty miles in the interior of Lake County. He was accompanied by two other men, one of whom went thirteen miles to a telephone in a logging camp, and called up Dr. Goldsworthy at Two-Harbors. The doctor said he would go. It was necessary for him to drive twenty-two miles over a rough road, and the other eighteen miles must be covered on snow-shoes. He drove all night to have daylight for the snowshoe trip. The patient was in a deserted logging camp and very low. The doctor and the other men made a stretcher of boughs and carried the patient over the eighteen miles to the team, and he was then taken to the hospital at Two Harbors.

The Eastern Medical Society of New York has engaged permanent quarters at Clinton Hall, 151-153 Clinton street, New York. Possession will be taken on or about January 1. The building will offer every facility of the modern clubhouse, all of which will be open to the members. A reference library is one of the projected features of the society. At the annual election, held recently, the following officers were elected: *President*, Dr. Louis J. Ladinski; *Vice-Presidents*, Drs. David Robinsohn and Tobias Berger; *Treasurer*, Dr. Joseph Barsky; *Corresponding Secretary*, Dr. Abr. L. Wolbarst; *Recording Secretary*, Dr. A. J. Ronginsky. Dr. Wolf Freudenthal was elected trustee for three years. The chairmen of the new committees are: Committee on Ethics, Dr. A. A. Himowich; Committee on House, Dr. E. K. Browd; Committee on Admission, Dr. John A. Price; Committee on Library, Dr. Charles Rayevsky.

Philadelphia Neurological Society.—At a stated meeting, held December 22, Dr. Jas. Hendrie Lloyd exhibited a patient with paralysis of the ulnar nerve following a severe attack of typhoid fever. After pointing out the rarity of isolated paralysis of the ulnar nerve he related the case of a man, in whom symptoms of such a condition developed in the sequence of an attack of typhoid fever, treated with cold baths and other measures. Owing to the unlikelihood of any constitutional disturbance, infective or toxic or febrile, or even the bathing, causing the disorder, it was believed that in view of its local character it was possibly due to traumatism accidentally inflicted in the course of the necessary therapeutic manipulations. Dr. John H. W. Rhein exhibited a case of syringomyelia, occurring in a woman fifty-five years old in whom the first symptom noted had been impairment of vision, with the presence of leucin-bodies in the eye. Later, symptoms of spastic paralysis made their appearance, and apoplectiform attacks, followed by hemiplegia, and the development of characteristic impairment of thermal and tactile sensibility. Dr. Joseph Sailer read a paper entitled "Tetany as a Complication of Gastric Disease," reporting a case occurring in a woman with symptoms suggestive of pyloric obstruction and gastrectasia, the acidity of the gastric juice being notably increased during the attack. Dr. Wm. R. Dunton read by invitation a paper entitled "The Pathology of Dementia Præcox." Drs. Wm. G. Spiller and C. D. Camp presented a communication entitled "Two cases of Multiple Sclerosis, with Necropsy."

Stony Wolde Sanatorium.—The Board of Directors of this sanatorium announces that the institution is now open for the reception of patients. A resident physician, Dr. H. L. Barnes, is in charge. There are at the present time between twenty and twenty-five patients, the present capacity of the sanatorium being sixty. A fixed charge is made of seven dollars per week, which covers all expense to the patient excepting that of laundry, which is twenty-five cents per week extra. It is requested that applicants who are passed be referred to the president, who will give them all necessary detailed information. It is also requested that the Medical Board should bear in mind the fact that the institution is for incipient cases of tuberculosis occurring among women and children. No boys

over twelve years of age are admitted. Any further information may be obtained by addressing the president of the sanatorium, Mrs. James E. Newcomb, 118 West Sixty-ninth street, New York.

Antitoxin in Diphtheria.—The Chicago Health Department, in its latest Bulletin, makes the following comment on the value of antitoxin in cases of diphtheria: "Since the introduction of antitoxin in the treatment and prevention of diphtheria its mortality rate has been reduced by nearly one-half —that is, from an annual average of 6.25 deaths in every 10,000 of the population in the seven years 1889-1895 to an annual average of 3.24 in the seven years 1896-1902 of antitoxin treatment. But this is not enough. The seven years' experience clearly proves that no child should—that no child ever did—die of diphtheria when treated early enough with a sufficient quantity of good antitoxin. The pre-antitoxin mortality of diphtheria in Chicago was about thirty-five deaths in every one hundred cases of the disease. In the many thousands of cases among the poor and destitute treated by the Department inspectors under the most adverse conditions the rate for the whole number has been less than seven deaths in the one hundred cases. And there are many physicians in Chicago and elsewhere who have records of hundreds of cases with a rate of less than two deaths per hundred.

The Tuberculosis Congress Muddle.—Some weeks ago the officers of one of the so-called American congresses on tuberculosis officially requested the President of the Indiana State Medical Association to appoint delegates to the Congress which it is reported will convene in St. Louis early in 1904. The matter was referred to the Council of the Association, which, after deliberation, passed a resolution to the effect that "The Council of the Indiana State Medical Association, representing the medical profession of Indiana, believing that the so-called American Congress on Tuberculosis, organized by Clark Bell, Esq., of New York, is not a body which is representative of the medical profession or of the best scientific thought of this country, deems it inadvisable and inexpedient for the Indiana State Medical Association to be represented in said Congress."

"Weltmerism" has received another set-back by a recent decision of the United States Supreme Court. Weltmer and a number of assistants advertised extensively in the lay press claiming to work many cures by "magnetic healing." Their offices were in Nevada, Mo., and their business grew to such proportions that the postmaster in Nevada was compelled to hire additional help to handle the mail. After an investigation by the Post-office Department, the business was declared fraudulent and they were prohibited from using the mails. C. M. Bishop published an open attack on the methods of Weltmer, who sued Bishop for libel. The Supreme Court of Missouri refused to find the article libelous, on the ground that Weltmer had failed to show that the business was entitled to the protection of the law. The United States Supreme Court dismissed the case for want of jurisdiction, thus in effect affirming the decision of the Supreme Court of Missouri.

Dr. L. Pierce Clark has been appointed visiting neurologist to the New York Children's Hospitals and Schools, Randall's Island.

"La Gazzetta Medica" is the title of a new medical journal published in Italian in this city. It is to appear monthly under the editorship of Dr. Giuseppe Lapenta.

The International Congress of School Hygiene.—This congress, which will be held in Nuremberg, April 4–9, 1904, promises to be of considerable importance. The following are the titles of addresses to be delivered during the general sessions: (1) Professor Cohn of Breslau, "What Has Ophthalmology Done for School-hygiene and What Has It Still To Do?" (2) Prof. Axel Johannesen of Christiania, "On the State of School-hygiene in Norway." (3) Dr. Le Gendre of Paris, "On the Hygiene and the Personal Diseases of Teachers with Regard to Their Relations to the Pupils." (4) Dr. Sickinger of Mannheim, "Organization of Elementary Schools Based upon the Natural Capacity of the Children." (5) Professor Liebermann of Buda-Pesth, "On the Tasks and the Instruction of School Physicians." (6) Professor Hueppe of Prague, "Prophylaxis of Infectious Diseases in the School." (7) Professor Eulenburg of Berlin, "On Suicides of Scholars."

Unfavorable Report of Schmidt's Cancer Serum.—It is stated in the *British Medical Journal* that six cases of cancer are at present under treatment with Dr. Otto Schmidt's serum in the Middlesex Hospital. The treatment is being carried out by Dr. Jossé Johnson with the permission of the surgeons of the hospital. The cases were examined by Dr. Schmidt, who pronounced them to be suitable for the purpose. Although at the time the note was written they had been under treatment for more than a fortnight, no reaction had been set up and no appreciable effect of any kind had been produced on the growths.

Dr. Charles W. Dabny, President of the University of Tennessee, who has been asked to take the Presidency of the University of Cincinnati, was given a banquet by the Faculties of the Medical and Law Departments in Cincinnati. The dinner took place at the Phœnix Club on December 23. Among those present were Dr. P. S. Conner, dean of the faculty, and Drs. Reamy, Palmer, Forchheimer, Ransohoff, Hyndman, Rachford, Zinke, Ravogli, Ayres, Phelps, Bonifield, Whitacre, Crane, and Freiberg. Professor Dabny has not yet consented to accept the position, but will give his answer about the first of the new year.

Hospital for Children in Chicago.—A children's department has been established by the Provident Hospital in Chicago. The little patients will be cared for by the colored nurses, which that institution is training. In connection with this department a clinic has been instituted on Tuesdays and Fridays, from two to four P.M.

Additional Buildings for Dunning.—The County Board of Commissioners has decided to erect at Dunning, Ill., a cottage for working patients, and a new morgue and pathological laboratory. At the Cook County Hospital, Chicago, a children's building will be erected.

Medical Appointments in Chicago.—The Board of County Commissioners of Cook County has approved the appointment of Dr. Charles Whalen to the County Hospital. Dr. V. H. Podstata has been reappointed as superintendent of the Cook County Institutions, at Dunning, and Dr. Warren H. Hunter has been reappointed as County Physician.

Directory by the Chicago Medical Society.—It has been announced that this society will issue a directory of the medical men of Chicago, in which will be given office hours, telephone numbers, specialties, etc.

Preliminary Training for Students of Nursing.—At a meeting of hospital superintendents recently held at Mercy Hospital, Chicago, it became apparent to the hospital authorities that they are overrun with applications for positions as nurses by those without the necessary qualifications or training. In order that this condition of affairs may be corrected,

a board, which is to be appointed by the Illinois Association of Graduate Nurses, is to be given control of all applicants for three months, during which time they shall be trained in cooking and adaptability, and, if found satisfactory, shall then be given certificates admitting them to real hospital work.

Obituary Notes.—Dr. WM. H. WEBB died in Philadelphia on December 22 at the age of fifty-eight years. He was graduated from Jefferson Medical College in 1866 and from the Philadelphia College of Pharmacy in 1868. He served as surgeon in the United States Army during the Civil War.

Dr. DANIEL EMBURG KISSAM died at his home in Huntington Harbor, L. I., on December 23. Dr. Kissam from 1848 to 1888 practised his profession in Brooklyn. He was a native of New York City, and was born October 3, 1817. He was for many years visiting surgeon to the Brooklyn Hospital. During the Civil War he served as a surgeon in the Union Army.

Dr. CHARLES H. BUSHONG died at his home in this city on December 20, at the age of forty-seven years. He was born in Lancaster County, Pa., and was graduated from the College of Physicians and Surgeons in this city in the class of 1885.

Dr. HORACE CLIFTON TAYLOR, ninety years old, died at Brocton, N. Y., on December 21. He was a graduate of the Eclectic Medical Institute, Cincinnati, in 1849. He was well known as an author of works on the care of the indigent. He served eleven years as County Superintendent of the Poor.

Dr. HUGH M. WALLIS of Houma, Terrebonne Parish, died at Covington, La., on December 26. He was sixty-nine years old, and a native of Kent County, Maryland, but a resident of Terrebonne Parish, Louisiana, for forty-one years. He was a graduate of the Jefferson Medical College, Philadelphia, in the class of 1860. He was Mayor of Houma for several terms, Coroner of Terrebonne Parish, and owner and editor of the Houma *Times*.

Obituary.

AIMÉE RAYMOND SCHROEDER, M.D.,

NEW YORK.

DR. AIMÉE RAYMOND SCHROEDER, who died in this city on Christmas Day after a brief illness, was the youngest daughter of the late Henry J. Raymond, founder and editor until his death of the *New York Times*. She was born in 1857, and much of her early life was passed in Europe where, in France and Italy, she received the education upon which were based her rare literary and artistic accomplishments. She was graduated from the Woman's Medical College of the New York Infirmary in 1889, and at once entered upon the duties of her profession, but retired from active practice upon her marriage to Dr. Henry Harmon Schroeder in 1893. She always, however, remained an earnest student of medicine, and was for many years, up to the time of her death, a faithful and most valued member of the editorial staff of the MEDICAL RECORD.

Aimée Schroeder was a woman of unusual mental attainments, an accomplished linguist, a pianiste, and a writer of pure English—but it was by her exceptional qualities of heart that she bound to herself the wide circle of devoted friends whose privilege and joy it was to know her and to whom her memory will always be an uplift and a precious possession. She was most happily named, for never was there woman more beloved by all who were brought within the influence of her gentle presence than was this bright spirit.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

BRADSHAW LECTURE ON CANCER—TROPICAL SCHOOL—SLEEPING-SICKNESS—TYPHOID IN WATERCRESS—SMALL-POX—DUBLIN HOSPITALS—SIR B. MAPLE'S WILL—BART'S—THE LATE SURGEON-GENERAL SYLVESTER.

LONDON, December 11, 1903.

THE Bradshaw lecture at the Royal College of Surgeons was delivered on Wednesday afternoon by Mr. Henry Morris. The president took the chair and there was a good attendance of Fellows and members. The president of the Royal College of Physicians (Sir W. Church) was also present, which seems natural, as the lecture was on cancer and its origin, and the two colleges are now jointly engaged in the research on this subject.

Mr. Morris reviewed some of the theories that have been put forward in the last thirty years and dismissed them as unsatisfactory, inasmuch as they have not been shown to have a causal relation to cancerous disease. In fact, our knowledge at the present day is so little that the researches undertaken by the two colleges, though promising much for the future, start from a basis of past observation. To speak of cancer as an infectious or contagious disease was calculated to raise needless alarm in the public mind. Cancer was not parasitic in the sense of being caused by a microbe. Nor was it contagious in the sense of being transmissible from one person to another through the ordinary channels. But it was parasitic and infectious in the way in which it spread in, and lived independently of, the tissues which it involved. Moreover, it was contagious in the sense of being autoinoculable. No doubt the carious tooth and the clay-pipe might play a pernicious part by exciting tumor formations into activity, but they could not *per se* be the causes of malignant disease. In the lecturer's view we must look to a tumor germ for the explanation of the causes of growths, both benign and malignant, congenital and postnatal, for there was no lack of evidence that tumors arose from matrices of postnatal origin. The germ theory had been proved to account for a variety of benign tumors, and he believed it would be found to be the true explanation of malignant disease. Up to the present time the microbic theory had not advanced our knowledge of cancer one iota, in spite of the great talent and skill devoted to it, whereas year after year evidence had been forthcoming in support of the germ theory—some of it even without being sought for. This theory was convincing as to the local origin of cancer and as to its curability—if the growth was removed early and completely. But of course that offered no guarantee against the development of a new malignant growth at a future time any more than the union of a fractured bone afforded a guarantee against another accident of the kind. Mr. Morris advocated the earlier and more frequent removal of even non-malignant tumors. He cherished the expectation that the exhaustive researches undertaken by the two colleges would yield valuable results.

The London School of Tropical Medicine—"What It Has Done, Is Doing, and Hopes to Do," was the subject of an address by Sir Patrick Manson on Monday. He began with a warm tribute to the late Colonial Secretary, whom he described as the mainspring in the movement for education in tropical medicine, without whom the world would have been poorer to-day in respect to many important facts which the schools he called into existence have accumulated; in this matter, he said, Mr. Chamberlain deserves a more honorable title than imperialist—he was a humanitarian. As to the results already achieved by the men connected with the school, Sir P. Manson mentioned that it was the present superintendent, Dr. Low, whose observations showed how filaria gained access to the body—thus indicated the way in which it must be avoided. Again Dr. Sambon and Dr. Low sent by the school demonstrated by experiments which might very well have proved serious to themselves that man could live in the midst of malaria, if he would but employ simple and practical measures against mosquito bites. The school imported infected mosquitos from the Roman Campagna and with them infected healthy persons, thus giving the final proof that malaria was conveyed by mosquitos. Dr. Forde was another alumnus of the school, and he discovered in the blood of a man a new parasite, afterward recognized by Dr. Dutton of the Liverpool school as the cause of grave disease in the lower animals. Only last year another alumnus, Dr. Castellani, demonstrated the association of this parasite—a trypanosoma—with sleeping-sickness. Subsequent research by Colonel Bruce and others had corroborated Dr. Castellani's discovery. Until a

fortnight ago it could not be declared as absolutely certain that this trypanosoma was the cause of sleeping-sickness. The presumption was very strong, but there was a possibility that its presence in the disease might be only a frequent concurrent circumstance. That possibility may now be considered disposed of, for last year a woman was admitted to their hospital who was suspected to have trypanosomes in the blood. Dr. Daniels, by long research, showed the conjecture to be well founded, for he succeeded in detecting the parasite in the patient's blood. Efforts at treatment proved futile, and the patient left last March, but specimens of her blood were sent to the laboratory from time to time. Two months ago she began to show symptoms of sleeping-sickness and died of the disease on the 26th ult., two years and three months after being bitten by the tsetse fly on the Upper Congo, where she lived.

Sir Patrick closed his address with an appeal for money. They wanted, he said, £100,000, or as much of that sum as they could get. They had given full value for more—for ten times more. Apart from education, anyone of the discoveries he had mentioned was worth more—more, indeed, than they would ever receive. So he had no hesitation in asking for something more on account.

Sir W. Church proposed and Sir F. Young seconded a vote of thanks for the address and congratulation on what the school had already done—a vote which was heartily carried.

The London County Council has generally been alive to sanitary matters. This week the danger of typhoid being spread by watercress was brought forward, and it was proposed to seek powers to control all the beds where it is grown within the county. Yesterday the same matter was brought before the City Corporation and referred to its sanitary committee. The present excitement which gives point to these proceedings arose in a report of Dr. Warry, M.O.H. for Hackney, to the health committee of that borough. In an outbreak of typhoid fever, Dr. Warry found a large percentage of the patients had eaten watercress, and he could not trace the epidemic to other sources, such as milk, shell-fish, etc. He, therefore, took samples of the cress from the suspected places and found sewage organisms. The water from the beds was also found to abound in bacilli coli. It is expected that means will now be adopted to prevent the growth of the salad in sewage-polluted streams.

There is an outbreak of smallpox at North Shields which has rapidly increased for the last few days. Six cases in the last two days were reported, three in one house and one near the isolation hospital. There have also been two in one street in the adjacent village of Preston. The patients have been removed to the hospital three miles from the town, where twenty are under treatment. The Tynemouth guardians, under pressure from the Local Government Board, have agreed to placard the district, recommending vaccination and revaccination.

The Nobel Prize for Medicine has been awarded to Professor Finsen. I hear he was too ill to attend the public distribution of the prizes yesterday at Stockholm. At the meeting of the Phototherapeutic Institute a Copenhagen dispatch says it was announced that the professor would give 50,000 kroner to the institute and two other governors would each give the same amount.

Lord Iveagh's gift to the Dublin hospitals has been apportioned. The donation, £50,000, is not to be used to add to the number of beds. No other condition is attached.

Sir Blundell Maple's will not only provides for the completion of University College Hospital, but directs £3,000 a year for several years to be subscribed to charities.

The opposition to the scheme proposed for North Bartholomew's is growing, and the press is evidently passing round to the advocacy of a larger one.

Surgeon-General J. H. Sylvester, I.M.S., died on the 29th ult., aged seventy-four years. He saw much service in India from 1854 to 1875. Part of the time he was professor in the Grant College and physician to the Jamsetjee Jeejeebhoy Hospital. After his retirement he devoted much time to painting.

Brain-weight of Japanese.—The brain of the Japanese grows more slowly during infancy and early youth than it does in the European. In the adult the brain-weight compares favorably with that of Europeans of similar stature, and it may be shown to be superior in this respect to other races of the same general stature. These facts are of not a little significance in relation to the learning, industry, and aptitudes of this progressive race.—E. A. Spitzka in *Science*.

LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

CURIOUS BELIEFS AND CUSTOMS OF THE PHILIPPINE-ISLANDERS AFFECTING THE PRACTICE OF MEDICINE.

Manila, November 9, 1903.

In the mountains of central Luzon live several hundred thousand Igorrotes, wild tribes of head hunting-savages, who have successfully withstood all efforts of the Spanish priests for their conversion and civilization. The Spaniards interfered with them but little, and although the Americans have stopped the head-hunting expeditions, the Igorrotes still live in primitive savagery. Of late, the Episcopal church has opened a mission among them, and the insular government has sent several physicians to them as provincial health officers. Medical practice among them is, however, attended with great difficulties, due to their superstitions and religious beliefs. To the Igorrotes, the world is peopled with the unseen ghosts of the departed, called "Anitos," who have the power for good or evil, and usually prefer to exercise the latter. All diseases, injuries, and deaths are believed to be directly caused by anitos. If smallpox kills half a dozen persons in a village, the fell work is that of a malignant anito; if a man receives a stone bruise on the trail, an anito has entered into the foot and must be removed before recovery is possible. If a person slips or falls, an anito pushed him. When several years ago two Bontoc Igorrote men died of poison administered by men of another town, the verdict was that the administering hands were directed by a diabolical anito. One knows that in walking in the forest one is surrounded with anitos, ever anxious to push one over a cliff or visit disease upon one. For this reason it is necessary to carry a special kind of barbed spear, of which alone the anitos are afraid. The anitos, who are the departed spirits of a certain family or tribe, are supposed to protect their descendants, and thus in time of epidemic disease the first duty of the Igorrote is to hold a feast to propitiate his ancestral anitos and secure their protection. To this feast come all the clan, and thus any existing infection is given every opportunity to spread widely among them. Obviously, preventive medicine and hygiene cannot be understood and appreciated while such beliefs are entertained.

Since the "anito" is the cause of all bodily affliction, the function of the person who battles for the health of the afflicted is that of an anito exorcist. Many old men and women, known as "insupok," are credited with considerable success in urging the offending anitos to leave the sick. The formula is simple: the "insupok" place themselves near the affected part, usually with the hand stroking or touching it, and say, "Anito, who makes this person sick, go away." This they repeat over and over again, muttering to themselves, and frequently exhaling the breath to assist in the departure of the anito, just as one blows away the dust. Occasionally the injured part is moistened with saliva. As compared with the "physician" of other primitive people, the "insupok" is a beneficial force to the sick. The methods are all quiet and gentle. There is none of the rattle-shaking, drum-beating, and medicine-dancing seen among the Indians of the United States, or the pounding of tom-toms or clashing of metal found among Asiatics or Africans. Under the "insupok" treatment the body is not exhausted, nor is the mind distracted, or the nerves racked. In a positive way the sufferer's mind is often relieved, and in many cases physical relief results from the stroking and rubbing. The fee of an "insupok" is fixed by custom at an allowance of rice equal to two-fifths of a laborer's daily wage. "Insupok" are not appointed by the people, but are informed in a dream that they are to be "insupok" and have influence over the anitos. Besides the "insupok" any member of a household has power to act as mediator between a sick relative and the offending anito, or the soul of the sick about to depart. There are several household ceremonies based upon this idea. If one is taken sick or is injured, the person acting as mediator goes from the house to the mountains or a river, having a live chicken in a basket, a little basi, or native fermented drink, and some rice. On arriving at the proper place, this person points a stick in various directions, saying, "Come, soul of——, come with us to the house to feast." If this is not done, the soul of the sick person may be enticed from the body by an anito and will not return. Usually a woman performs this ceremony. After the latter has been properly performed, the mediator returns to the dwelling, kills and cooks the chicken, and with other members of the family, eats it. If the gall of the chicken is found to be dark colored, the prognosis in regard to the sick person is favorable, but if it is light colored one is wise to expect only the worst.

After death has occurred the body of the deceased is kept for days in the house, sometimes for as long as a month. The body is laid on a frame and braziers of glow-

ing charcoal kept beneath it. The heat is constantly maintained, and the fire frequently fed with the dried flesh of cattle belonging to the deceased. This procedure is kept up until all the herd of cattle is exhausted, all being slaughtered and disposed of in this way and none being left for the heirs. The fumes of the meat pass into the body of the departed and nourish its spirit in the hereafter, making it kindly disposed toward those who have thus provided it with food and inclined to protect them against the machinations of the evilly-disposed anitos.

Among the Mohammedan Moros, the practice of medicine and healing of the sick lies with the priests or "hadjis." A few simple remedies are used, but prayer to Allah is the only really efficacious measure. However, if Allah has made up his mind in the matter, prayers are useless, and thus are only valuable when the deity is as yet undecided. When Allah decides that the time has come for a man to die, nothing can save him, but on the other hand, it is unnecessary to take any special hygienic precautions, because until their alloted days have come to an end Allah preserves all true believers. Clearly the sanitary ideas of the pig-eating Americans are of no avail in staying the hand of the Omnipotent, and being both useless and troublesome, there is no use in observing them. Man has no hand in the preservation of life, but Allah settles all things. A fatal case of cholera was foreordained—Allah had long ago decided when and how the man should die, and has now decided when and how his relatives and friends will depart. It is futile, therefore, to disinfect or quarantine.

"Running amuck," as practised by the Moros, is the result of religious erotism. Every true believer is provided by Allah with numerous wives in Paradise, but for every non-believer slain by him, the number of the houris is increased and their beauty magnified. When, therefore, Allah puts it into one's mind to die, it is well, if possible, to first lay in as large a stock of houris as can be secured. To the melancholic and the sexual psychopath "running amuck" therefore affords a desirable method of terminating life. The head and eyebrows of the fanatic are shaved by the hadjis, the genitalia are manipulated until erection has occurred, and then constricted around the base by means of a cord, and the whole bound against the lower part of the abdomen. Under sexual excitement, religious fervor, and possibly a dose of hashish, the "juramentado" now is ready to start in to kill all unbelievers—men, women, and children—until such time as his own life is terminated.

When a child is born to a Moro family it is put to one side and disregarded, while popular interest is directed toward the expulsion of the placenta. When this appears, it is carefully examined, and then repeatedly washed to the accompaniment of certain religious rites. It is then taken outside the dwelling and buried with much ceremony, and only after all the Mohammedan proprieties with regard to the placenta have been observed can the child receive attention. If it bleeds to death from the cord or succumbs as the result of exposure, it is evident that Allah willed that the child should not survive.

All true Moros should pass their alvine dejections into running water, as required by the Koran. Even if this is inconvenient of accomplishment, it must be done where possible, and ordinarily the house should be so situated as to permit this to be readily accomplished. If the only water course is the source of the domestic or village supply that need make no difference—for much should be done for the sake of winning the favor of Allah. Disease comes from Allah, not from microbes.

Among the Visayans, there is a strong belief in the, efficiency of "anting-anting" in the prevention and cure of disease and injury. "Anting-antings" of different kinds have different powers and uses. The "anting-anting" is a fetish or amulet which has no fixed form or type. It may be a piece of paper marked with cabalistic signs or a few meaningless words, or a piece of bone or horn, colored rags, bits of wood, or, in fact, anything. One never makes "anting-anting" for one's self, but secures them by present or purchase, usually the latter, from those who vouch for their efficiency. One "anting-anting" will afford immunity from cholera,another from smallpox, and a third from gunshot or other wound. Many of the late insurrectos wore anting-anting shirts of cotton, in appearance much like the Indian ghost-dance shirts, which afford absolute protection against rifle balls. The "anting-anting" must, however, be supported by faith, since without this it has no merit in averting disease, injury, and death. If one gets cholera and dies, or if a bullet finds its way through one, the fault was not at all with the "anting-anting," but because of insufficient faith. The same "anting-anting," with the support of proper faith, would have been an infallible protection, and the doubting Thomas who wore it is responsible for his own misfortune. Since "anting-anting" is a means of perfect protection against disease and death, it follows that there is no necessity whatever for doctors, medicines, and rules of hygiene. If one can buy guaranteed "anting-anting" from the man who lives in the next town for a Mexican dollar, why go to the foolish expense of paying several such dollars for a visit by a physician? Besides, "anting-anting" is a protection day and night, while at best a doctor is with one for but a short time only. Having possession of "anting-anting," which is an absolute protection against cholera, it is obvious that there is no necessity whatever for boiling water and carrying out other absurd and annoying sanitary regulations. All one needs is proper faith, and "anting-anting" will keep away all harm.

Among the more civilized Christian tribes of the country districts the belief in amulets and charms is strong, but these take the form of printed prayers, symbols, and pictures of saints. Disease is a retribution from God for sin, and medicines are less efficacious than prayer. In cholera time it is better to have processionals than to boil the drinking water, cook the food, and keep the person and surroundings clean. Prayer may induce the Deity to abate his wrath, but it is doubtful if attempts to stay the disease by human agencies is not impious as well as of little or no avail. Heaven having decided who is to die, there is obviously little use of disinfection and isolation in a community condemned to be scourged. Disease exists everywhere around one, but only those will sicken who are forsaken of heaven. A sacred emblem over the doorway is known to be potent in keeping disease from entering the house. Heaven may be propitiated by the prayers of multitudes, and hence when a community is attacked, all should flock to the places of worship. If the disease is very severe, the place is plainly accursed, and all who can should flee therefrom to other communities.

To the Negritos, disease is due to possession by evil spirits. The person so affected is, however, a source of danger to others, since the evil spirits in possession of his body and surroundings may also enter into the bodies of those in the immediate vicinity. This danger is especially great if the disease is liable to result fatally. It is a matter of safety, therefore, to desert the moribund. The dead body may be buried, but it is frequently advisable for the survivors to desert the habitation, conceal the approaches thereto, and build a dwelling elsewhere. Certain medicines may be of value, since it is known that they are so repugnant to the evil spirits that the latter may prefer to take their departure.

These various beliefs obviously have a powerful effect upon the practice of medicine and surgery, and the carrying out of sanitary reforms among the wholly diverse tribes of the Philippine Islands. Everywhere outside of the larger towns, modern medicine is opposed by incredulity, superstition, and fatalism. The latter is particularly hard to overcome, and the ideas and customs handed down for generations cannot be overcome in a day. Religious beliefs and those regarding the cause and treatment of disease seem to be almost inextricably associated with each other, from the fairly intelligent Christian native to the primitive pagan savage roaming the forests. There is no such thing as a Filipino nation, and probably a more heterogeneous group of peoples in the same area, entirely distinct in appearance, race, customs, and ideas, can not be found outside these islands. In the larger towns will be found many educated Filipinos, but the number of such, in proportion to the total population, is insignificant, and they are too few to leaven the whole. The thing to do is not to expect too much from the present, but to build for the future. Education is the only thing that will raise the natives to a higher level, wean them from superstition, and place the practice of medicine and sanitation on a satisfactory basis. The hope of the islands, in a medical way, lies with the children, and the American Government is well performing the herculean task of their education. As a whole, the Filipino peoples desire to learn, and the thousands of school children carry back into their homes much more than the knowledge gained from books. The mode of life of the American teachers and officials is noted, their advice asked in many things not in the lessons, and gradually a change for the better is taking place. As time goes on, customs are being modified and ideas are changing, and with the growing up of the present children tremendous sanitary improvement will be made through the islands as a whole. The United States has some tremendous problems to solve in the Philippines, and of these the sanitary questions are by no means of least importance. Education by precept and example is the only way by which this can be accomplished, and the government is doing magnificent work to this end. No peoples can be relied upon for support in matters which they do not understand, and the practice of medicine and sanitation will not be appreciated until these peoples have been instructed in their value. The due appreciation of rational medicine also depends upon the Christianization of the pagan tribes, and the education of the others that epidemic disease is not

a punishment from God, and as such unpreventable. That the latter can be done without destroying religious faith is shown in the United States, where there is no conflict between rational medicine and Catholicism. For this reason the establishment of American bishops and the introduction of American priests, who can be counted on to throw their influence in favor of modern medicine and sanitation, is bound to be a factor of the first importance in the sanitary regeneration of the Philippine peoples.

OUR LETTER FROM NEW ZEALAND.

(From Our Special Correspondent.)

ANTHRAX—SMALLPOX—ANGLO-SAXON "CONSERVATISM"—CURABILITY OF LEPROSY

AUKLAND, N. Z., November 12, 1903.

SINCE I last wrote anthrax has made its appearance in New Zealand. Several cases have occurred in the rural districts, one of which has been brought up to the Auckland Hospital. I had, through the courtesy of Superintending Medical Officer Dr. J. C. Collins, the opportunity of seeing a number of beautiful preparations of the anthrax bacillus obtained originally from the patient, from cultures of the bacillus, and from the blood, liver, and kidneys of mice poisoned by inoculations from the pure cultures. Dr. Collins is an enthusiastic bacteriologist. It is believed that the disease originates from bone-dust imported from India, which is brought here in large quantities. It was supposed to have been properly sterilized before export, but evidently some carelessness has been shown in the process. Very energetic measures have been taken by the Agricultural and Health Departments to stamp out the disease, and sterilizing stations are being erected by the Government at the chief importing ports.

The smallpox scare has passed away. This disease, which really seemed to have obtained a firm footing in Tasmania, has now entirely disappeared. It must be from some quality in the air, unfavorable to the spread of the disease, for it certainly is not from vaccination, which is most imperfectly performed all over Australasia. It is curious how long the prejudice against vaccination lingers. The diseases which, in rare instances, were propagated by inoculation from diseased vaccinifers, cannot be produced now that calf-lymph is used, and human vaccine, absolutely prohibited. Yet we find the antivaccinators as furious as ever. *Quare fremuerunt gentes?*

We are expecting a visit from Dowie very shortly. We know him of old. He was here some eighteen years ago. He is certainly a very powerful hypnotizer, and it is by hypnotic suggestion that he effects his cures. I was employed by one of the principal New Zealand dailies to investigate his cures. I found none that could not be explained by hypnotism. But then hypnotism has a much wider range than most of our English-speaking physicians dream of. It is much to be regretted that so few—so very few—ever study the action of hypnotism as the French and Germans do. However, this is one of those subjects about which it is useless to write and equally useless to speak. The typical "Anglo-Saxon," as he delights to call himself, whether he dwells in America or in England, is the stupidest human animal to be found in the world. I have had considerable practical experience of negroes, natives of the East Indies, both Mahometans and Hindoos, natives of Polynesia, of China, and of all the countries of Europe, but none of them even approached the "Anglo-Saxon" in downright impenetrability to new ideas.

Take, for example, the curability of leprosy or cancer. I was sent more than thirty-five years ago to investigate a certain reputed cure of leprosy said to have been discovered by a Dr. Beauperthuy of Cumana in Venesuela. I was then occupying an official position, and was sent officially by the then Governor of Trinidad and by the Secretary of State for the Colonies. I reported a number of cases which I had examined, some unfavorably and some favorably. Some were unquestionably cures, if they had originally been suffering from leprosy. I was sent a second time, a year after. I tried the treatment myself and was perfectly successful in one rather advanced case and easily cured some commencing ones. My reports were presented to the British Parliament by command of Her Majesty. Hardly any professional paper noticed them. No proper trials are made of the system, and leprosy is still looked upon as incurable. I, personally, having been physician to a leper asylum, and examined and made notes of hundred of cases, am as convinced that leprosy can be cured as I am that pulmonary consumption can be cured. But it is of no use writing or talking. It is the same with cancer. If you cure a case which was admitted by everyone to be cancer, then it was *not* cancer, because if it had been cancer, it could never have been cured! Same with lupus exedeus. Instead of worrying patients with the Röntgen rays for months, lupus of the very worst kind is invariably cured in four or five weeks by the use of a drug which is in every pharmacopœia in the world. It is of no use to publish cases; no one believes them. A long life's experience has taught me that (with the rarest exceptions) unless a man has plenty of money to back him up, unbounded effrontery, and untiring perseverance and energy, he can never succeed in getting any mode of treatment adopted which shocks the prejudices or is contrary to the traditions of the profession.

Progress of Medical Science.

The Boston Medical and Surgical Journal, Dec. 24, 1903.

Diffuse (Combined) Degeneration of the Spinal Cord.—E. W. Taylor and G. A. Waterman report two cases of this nature. In the first case, the most striking accompanying condition was general arteriosclerosis; in the second case, a fatal anæmia of the pernicious type. The lesions in the first case, though in general similar, were much more diffuse in character than those in the second, and more widespread, though less compact. Some authorities have thought that the converse is apt to be the case. The writers are, in general, strongly inclined to the view that anæmia, arteriosclerosis, and the various other concomitant conditions associated with this now well-deprived type of nerve degeneration are not etiologically significant. They think that a common but as yet unknown cause lies behind, which may be called a toxæmia They believe that these combined lesions may be regarded as either systemic or non-systemic, rather than as a mixture of the two.

Journal of the American Medical Association, Dec. 26, 1903.

Simple Method of Treatment of Hæmangioma.—Carl Beck of Chicago describes a method of treatment of nævus which he has employed a number of times with success. The method consists in the general principle of transforming the masses of vessels gradually into connective tissue. Gradually means in several sittings. This is done by a subcutaneous suture. A thread of catgut is passed in a zigzag manner, first below the skin, then underneath the base of the tumor; then, again, underneath the skin, underneath the tumor, etc., until the tumor mass is included in this continuous suture. This suture is drawn tight and closed at the point of the entrance of the needle. In this manner the circulation is shut off within the tumor, but no gangrene follows, inasmuch as some blood can yet reach the parts not included in the suture. After about a week the mass of the tumor seems much smaller. The normal epidermis, however, outside of it, which had been stretched, sometimes to considerable tension, becomes soft and elastic again and grows. This procedure is repeated until the tumor has been diminished to the smallest possible nodule of connective tissue, and the healthy skin enlarged to the utmost. Then the hard connective masses are excised and the borders united. If the tumor is growing in patches, the islands of normal skin will often be seen to enlarge within a few weeks to twice and three times their former size.

Medical News, December 26, 1903.

The Treatment of Some Diseases of the Eye by Warm Medicated Sprays.—David T. Marshall states that spraying with warm medicated sprays is indicated in almost all diseases of the conjunctiva, as acute catarrhal, chronic, epidemic, gonorrhœal, trachomatous, and phlyctenular conjunctivitis; in diseases of the cornea, as ulcer, infiltration and interstitial keratitis, and in iritis. The method used is as follows: A steam atomizer, such as is commonly used in spraying the throat, is filled with water, the alcohol lamp is lighted and a solution of the remedy indicated is put into the cup. The patient is seated close up to the atomizer. When the spray is well started, the lower eye-lid is pulled down, the eye held wide open and the spray is directed first into one eye and then into the other. The treatment lasts from five to ten minutes. After spraying, the eye may be touched with bluestone or alum stick, or applications of drops or ointment may be made as is indicated. These agents seem to act more effectively after the warm spray.

On the Reflex Eruptions of the Skin from Morbid Alterations in the Male Urethra.—A. Ravogli declares that the affections of the skin which originated from chronic disturbances of the urethra, are of a reflex nature and can be reduced to herpes and pruritus. In cases of herpes progenialis the writer makes a thorough examination of the urethra, and he has always found a condition of chronic posterior urethritis with all its complications. In cases of relapsing herpes he states that it is necessary to pay attention to the condition of the urethra and its glands, for they are quite often the cause of the persistence of

the herpes. The local treatment of the herpes is simple. Generally, washing with soap and water, and when dry, the application of absorbent powders, talcum, rice, oxide of zinc, bismuth, etc., give good results. When there is some necrotic condition of the epithelial cells at the bottom of the excoriation, the writer touches up the surface two or three times with a solution of nitrate of silver—from 3 to 5 per cent. He does not approve of the application of salves. Pruritus may affect the anus, perineum, and scrotum. In most cases these regions are affected with eczema, excoriations, and rhagades. It is often doubtful as to which affection has the precedence. The writer believes that pruritus is the first. His observations have led him to think that the cause of pruritus is to be found in the condition of the prostatic urethra. In treating this affection, massage of the prostate, or stripping of this gland is of great benefit. It removes the secretion from the body of the glands, thus diminishing the distention locally, the use of ichthyol gives relief from the itching. It also heals up the excoriations. In case of infiltration, the introduction of a sound covered with salve composed of 25 per cent. ichthyol in vaselin has often given good results. This treatment cannot be used more than once a week, and then with caution. After the excoriations are healed and the itching has diminished, application of the following ointment is advised: Benzoin, 5; vaselin, 70; zinc oxide, 25. When the skin has become normal, the treatment is finished by bathing the perineum and scrotum with a carbolic-acid lotion. When dry the skin is covered with rice powder or amylum.

New York Medical Journal, December 26, 1903.

Treatment of Typhoid Fever with Castor Oil—According to C. C. Bass, antiseptics in typhoid are too inert to be of any practical value. He believes in purgation. The diarrhœa of the disease is an effort on the part of nature to remove toxic products from the system. If cases are taken early enough before the diarrhœa sets in and the bowels are cleared out often enough with castor oil, there will be no diarrhœa, This clearing out removes toxic products and thus prevents absorption with its fever, etc. The oil is superior to salines which are absorbed into a system already overloaded with abnormal bodies, and by the elimination of the salines, additional work is already put on the skin, liver, and kidneys. The author's experience is based on seventy-nine cases, all of which recovered. Relapses occurred in four. In the majority of instances no medicine whatever was given except the oil. Abundance of pure water was allowed. Fluid diet was persisted in. Hemorrhages occurred three times. Bass advises the use of pure oil every twelve hours, regardless of the stage of the disease. The dose should be so regulated as to cause one or two movements, and will vary from one to eight drachms, depending upon the patient, the stage of the disease, and the condition of the bowels. This should be continued through all stages of the disease.

Laryngeal Complications in Typhoid Fever; Report of Case; Tracheotomy; Recovery.—H. Dupuy gives a summary of the literature of this subject and narrates his own case, that of a woman of twenty years. At about the end of the fourth week, signs of laryngeal stenosis appeared. Laryngoscopical examination showed the cords fixed in the median line with only the slightest separation along their posterior borders during inspiration. This was referred to ankylosis of the cricoarytenoid articulations. A high tracheotomy was done and relief ensued. Four hours later the trachea filled with blood-clots from a source that could not be determined. A later attack of heart failure was also controlled and the patient recovered. Ten days after operation the cords began to move, and three days later the larynx was able to carry on both its respiratory and phonatory functions. The author's general conclusions are as follows: Twenty-five cases collected from a period of fifty-eight years give evidence, bacteriological and clinical, strongly supporting the view adopted by the majority of observers, that the laryngeal involvement in most instances is a direct typhoid infection. A high death rate, as shown by statistics, when this complication exists, teaches the salutary lesson of always examining the larynx when the danger signals of hoarseness, dyspnœa, or dysphagia set in. The favorable results which follow operative intervention offer such a contrast to the high mortality without operation that there can be but unanimity of opinion as to its propriety. Tracheotomy is the most approved, because in most cases the only possible surgical procedure which can save life.

Fat Necrosis and Report of a Case.—The patient of V. B. Jackson was a man of fifty-six years. After unusual fatigue from a long walk and irregularities in diet. On the second day thereafter he was attacked with chill, intense nausea, vomiting, severe pain in the epigastrium, constipation, and slight fever. These symptoms continued with varying severity for some days and the patient then became jaundiced. Abdominal examination showed a distinct tumor midway between the ensiform cartilage and the umbilicus. It was about the size of the fetal head, somewhat movable and very tender on slight pressure. The patient's condition justified an exploratory incision. The subcutaneous and subperitoneal fat was found to be unusually thick. The latter was so great and contained arteries and veins of such size that we believed, for a moment, it must be omentum. This proved not to be the case, however, and upon incising the peritoneum, the large mass at once presented itself, which was no smaller than the previous palpation and percussion seemed to show. There seemed to be no disease of the abdominal wall fat, in spite of the extensive disease on the inside which involved a considerable portion of the small and large bowel with their omentum and mesentery. The transverse colon lay in a sulcus at its upper part, the duodenum and ileum being intimately attached below and the excessive fat of their omentum and mesentery, which was diseased and lumped together, apparently made the bulk of the mass. The thickened gastrocolic omentum was broken through at the left side of the tumor, to reach the pancreas, which was found to be somewhat enlarged and distinctly attached to the tumor mass by a thick pedicle. Gall-bladder, liver, and spleen normal. The prevailing opinion among the pathologists who examined a piece of the mass was in favor of fat necrosis. The removal of the entire tumor was deemed impracticable and the abdomen was closed. The patient made a good recovery, and one year later was reported as being well. The tumor seemed to disappear. It was considered to be due to a subacute pancreatitis and the initial acute symptoms were referred to a gastroduodenitis.

American Medicine, December 26, 1903.

The Islands of Langerhans in Congenital Syphilitic Pancreatitis.—Richard M. Pearce states that the histologic picture of the lesions of congenital syphilitic pancreatitis shows a peculiar relation between the islands of Langerhans and the newly formed tissue. This condition has not been generally recognized. It offers evidences in confirmation of our newer ideas concerning the anatomical and physiological independence of these structures. In all of the ten specimens which the writer reports, the lesion is of the advanced sclerotic type, with almost complete disappearance of the glandular elements. The early stages with infiltration of plasma and lymphoid cells is not seen. The most striking feature is the persistence of the islands of Langerhans, despite the general destruction of the glandular acini. The islands stand out prominently throughout the dense fibrous tissue. They are often surrounded by denser whorls of investing stroma, but are apparently uninjured. Here and there are fragments of gland tissue. In the pancreas of the third month, the islands are still connected with the acini by solid processes of cells. The proportion of connective tissue at this time is very great. Rapid glandular growth does not occur until the fifth and sixth months. Any disease of the pancreas occurring at this time would influence the development of the organ. Evidence of this faulty development would be present at any later stage of the lesion. This appears to be the case in the lesion under consideration. The general microscopical picture of the normal pancreas at the end of the third month is very similar to the syphilitic organ at the sixth or seventh month, except that the latter has a larger proportion of connective tissue. It seems justifiable, says the author, to conclude that the syphilitic infection occurs at the period (third to fourth month) when the islands are still connected with the gland tubules, and that the newly formed tissue causes atrophy of the gland acini, but spares the more resistant islands. The ultimate factor in this resistance of the islands is their abundant blood supply. This supply, the author has demonstrated, is not altered in syphilitic pancreatitis.

Sarcoma of the Abdominal Wall, and Probably of the Pelvic Viscera, Which Has Disappeared under the Use of the Röntgen Rays.—George Erety Shoemaker reports this interesting case: The patient when first seen by the writer was aged thirty-six, had been married twenty years and had had three children. There was no specific history and no enlargement of the glands in the groin or occiput. She was referred to the writer in November, 1902, on account of a growth in the lower abdomen. There was a history of irregular hemorrhage from June to August, 1902, followed by enlargement of the abdomen and an inflammatory attack which began August 7, with a chill followed by temperature of 104° and perspiration. There was no vomiting and on diarrhœa. The soreness, which had continued ever since, was worse in the left ovarian region. Examination showed a swelling

in the median line just above the pubic bone, and apparent ly continuous with it. This swelling had appeared during the illness already described three months before. It had been so sensitive that a large amount of opium was necessary for its relief. This mass was about two and a half inches in diameter, dark red, smooth, rounded, and immovable. It appeared to infiltrate the tissues at the insertion of the recti muscles into the pubic bone. There was some tenderness. The skin was not broken. The patient suffered from almost constant severe pain in the lower abdomen, bearing down in the bladder, and frequent urination with pain at the end of the act. As a pelvic mass was detected to the left of the uterus abdominal section was performed above the limits of the superficial tumor but below the umbilicus. The rectum, uterus, and the left tube and ovary were massed together by an apparent infiltration, but had a certain range of motion. The tumor in the lower abdominal wall was united to this mass by a process of thickened tissue a little to the left of the median line. The whole appearance suggested a new growth, which it was thought unwise to remove. The incision was closed and a cut made directly into the suprapubic growth. Examination of the piece removed for that purpose showed that the mass was sarcoma. Treatment by the Röntgen ray was begun after the healing of the upper wound. This treatment continued for about nine months in all. The total number of exposures was forty-nine. The improvement was remarkable. The pelvic enlargement rapidly disappeared. A year after coming under observation the infiltration of the abdominal wall was entirely gone. There was no pain or soreness. The uterus was in normal position and was freely movable. The patient had increased in weight—sixteen pounds during the past five months. She was sleeping and eating well. She stated that she was feeling better than she had for the last five years. The question arises in consideration of this case as to whether the pelvic mass and the tumor in the abdominal wall were of the same character. This mass, if not sarcomatous, could only have been inflammatory. The writer does not believe that the condition was the result of inflammation. The result in this case is so far more favorable than those usually reported.

The Lancet, December 12, 1903.

Inoculations with Haffkine's Plague Prophylactic.—C. E. P. Forsythe reviews the results in 30,609 cases. Of this number of patients but 329 were attacked by the plague, and of these 50 died, a mortality rate of a little over 15 per cent. Some of the patients attacked were inoculated in the incubation period of the disease. The only outward consequence of the inoculation was the development of abscesses at the site of inoculation in sixteen patients. All but one of these were traced to a particular bottle of the remedy, which in some unknown way had become contaminated.

Some Observations on Over 6000 Inoculations against Plague.—This paper records the experience of J. W. Miller in the Punjab. Inoculations were generally made in the left arm. Strict asepsis was observed. The author thus describes symptoms following the operation. Aching begins at the site of inoculation a short time after the operation and gradually increases so that as early as one hour after inoculation some pain is felt on movement and in addition some stiffness and a feeling of heat in the arm. These symptoms gradually become more marked, and usually the local symptoms are most pronounced the first evening after inoculation, assuming that the person has been inoculated in the morning. A rise of temperature is perceptible a few hours after inoculation. One abscess resulted out of the entire number of inoculations. It is not stated whether or no the inoculations were universally successful in averting the plague.

Symptomatic Parotitis Following Strangulated Hernia.—The patient of F. B. Jeffcriss was a woman of sixty-eight years with strangulation of an umbilical hernia of some years' duration. Operation was without incident. On the fourth day after, the patient who had been doing well, had a fever, dyspnœa, and dysphagia. The right parotid was considerably swollen, and later the swelling extended to the right submaxillary. She had been a sufferer from chronic bronchitis, which seemed to take a fresh start. Respirations were forty per minute and her general condition very bad. She died on the fifth day after the operation, twenty-four hours after the onset of the parotitis to which the fatal result is ascribed by the author.

Deformity of the Heart in the Mongolian Imbecile.—Three cases are described by C. H. Fennell, as follows: Case 1. Male, aged twenty-seven years, a low-grade imbecile, in good health, and not at all anæmic. The area of cardiac dulness extended one and a half fingers' breadth to the right of the sternum; on the left side it reached the nipple line. A to-and-fro murmur was heard in the upper three intercostal spaces on each side of the sternum, but best in the second left space and better along the left sternal border than the right. There was no cyanosis or clubbing, and the patient has had no syncopal attacks and his heart worked adequately. Case 2. Female, aged nine years, a low-grade imbecile of well-marked Mongolian type, in fair health but subject to catarrh. The area of cardiac dulness extended one and a half fingers' breadth to the right of the sternum; its left limit was half a finger's breadth inside the nipple line. There was a diastolic bruit at the left base, replacing the pulmonary second sound and best heard in the second left intercostal space. No systolic bruit was audible. The child showed no cyanosis or clubbing, but the circulation in her extremities was poor. She was rather torpid and inactive and showed no signs of cardiac failure. Case 3. Male, aged thirteen years, a medium-grade imbecile in good health. The area of cardiac dulness was not increased toward the right; on the left it extended beyond the nipple line by a finger's breadth. A double murmur was present at the base and was heard better on the left side. There was a loud apical systolic murmur heard also all over the left chest and to a less extent over the right chest also. A systolic thrill was felt at the apex. There was no cyanosis or clubbing and the heart acted well.

The Lancet, December 19, 1903.

Persistent Superficial Nasal Hyperæmia Cured by the Removal of Adenoids.—The patient of Wyatt Wingrave was a man aged twenty-one years who, for two years, had complained of intense and persistent redness of the nose. The latter was not obstructed, but there was a large crop of adenoids. The supranasal vein was quite prominent. The adenoids were removed as was also the nasal abnormality. The relation of adenoids to an enlarged supranasal vein is of interest and admits of several interpretations: First there is the mechanical, in so far that the adenoids themselves directly interfere with venous return, thereby producing the prominent supranasal venous arch in infants, so often the subject of superstitious dread. Further, again, their interference with breathing leads to a general increase of venous pressure which the vessels in question specially show. A second view is that the adenoids are responsible indirectly by causing a reflex inhibition of a local vasomotor influence. This may be the interpretation in the present instance, while the first view will be more applicable to children.

After History of a Case of Extragenital Chancre.—The patient of S. Snell, a young woman of twenty-one years, was first seen in 1882. There was a chancre at the inner canthus, caused by infection from a syphilitic child for which she cared. Marriage was contemplated and was consummated (against advice) about nine months later. She was seen again by the author some ten years after. She had had five miscarriages, finally giving birth to a full-term child, which remained healthy until it was ten months old, when it had convulsions and became paralyzed on the left side. The mother had remained in surprisingly good health. Later the child had an interstitial keratitis and other stigmata of syphilis. Finally in March, 1903, the mother came under treatment for interstitial keratitis. The author regards the case as of great interest for many reasons, among which are the following: (1) the situation of the chancre; (2) the characteristic history of the patient's children; (3) the fact that one of the children came under treatment for typical interstitial keratitis: and (4) the circumstance that the patient herself suffered from interstitial keratitis, which is only rarely met with in instances of acquired syphilis, and which is additionally interesting in this case from the complete history that can be recorded and from the late appearance of the keratitis.

A Case of Arterial Thrombosis of Gonorrhœal Origin.—The case is reported by F. C. Moore, his patient being a young man of twenty years, suffering from early dry gangrene of the leg. He had had a chill four days before being seen, his left leg had become cold and painful, getting progressively worse, and he had taken to bed. A purulent discharge escaped from the urethra. The leg soon presented a discoloration, the right leg soon began to become affected as the left had been. His general condition grew progressively worse and he died on the eighth day after his initial chill. Autopsy showed the aorta free as far down as the renal branches, but below that situation it was completely occluded by firm, reddish-gray, adherent thrombus. The upper end of the thrombus was inclined obliquely from the orifice of the left renal artery above down to the wall of the aorta below the orifice of the right renal artery. The left renal artery itself was also occupied by similar but rather softer thrombus extend-

ing into its several subdivisions in the hilum. The right renal artery was free from thrombus and appeared to be quite healthy. Below, the thrombus continued in its completely obstructing form into the common iliac arteries and along these into the external and internal iliac arteries on both sides. In the external iliac arteries it extended on the left side into the common femoral artery, and on the right side to within half an inch of the pelvic brim. The internal iliac arteries and their secondary branches were similarly occupied by thrombus. The author advances two theories (inclining toward the second) of the mode of infection: (1) infection of small branches, possibly prostatic, of the internal iliac arteries and the development of an ascending gonorrhœal thrombo-arteritis; or (2) infection of the intima of the common iliac arteries by organisms present in the general circulation.

British Medical Journal, December 12, 1903.

The Behavior of Cancer within Nerve and Trophic Areas.—G. Lenthal Cheatle shows that the spread and limitation of cancer in the skin and muscles bear a marked relationship to the presence of nerves, and the absence of nerves where normally they previously existed bears a marked relation to the limitation of cancer. The writer cannot say whether cancer can genetically arise in a completely denervated area. This disease can exist for a considerable time in a completely denervated area, although it does not spread in that area. It is not alone rodent ulcer that follows definite areas. Benign, but diffuse, papillomata of the tongue show remarkable middle line limitations. Squamous epithelioma, beginning on the lip or elsewhere on the nasolabial region with remarkable regularity, covers the whole area, and apparently rather than leave that area it fungates.

On the Treatment of Cancer.—Lovell Drage concludes that: The condition which the treatment of cancer is designed to produce is first a leucocytosis; and secondly, a fibrosis in the tissue affected by cancer. In the case of pulmonary tuberculosis there is no difficulty in producing these conditions; in that of cancer much greater difficulty is experienced in advanced cases than in the case of tuberculosis. However, it is claimed that the treatment is soundly based, and that although it is quite likely that the best possible means of initiating the changes desired has not yet been found, it is only a matter of time for improvement in the details of treatment to be effected. Success in the treatment of cancer must depend to a great extent upon the physical condition of the patient, and to some extent upon the part of the body attacked.

Nature and Physiological Action of Radium Emanations and Rays, with Observations on Other Rays.—Dawson Turner states that the distinguishing radioactive properties of radium are that it gives off a radio-active emanation and three kinds of rays—*x*-rays, *b*-rays, and *y*-rays. It maintains itself constantly at a higher temperature than its surroundings, and it continually emits heat at an estimated rate of about one hundred calories per gram per hour. The emanation is of the nature of a luminous gas, which can be condensed by intense cold, and which imparts radioactivity to objects in its path. Though the microorganisms of certain diseases are not very susceptible to radium rays, the human tissues are. It is unsafe to carry radium about in the pocket. The chief physiological effects of radium, so far known, are: Effects on the skin, producing inflammations and ulcers. Effects on the nervous system, producing paralysis and death. Luminous effects produced in the partly blind. The radiations of radium have been tried in various diseases, and have been found in many cases to have distinctly beneficial effects.

The Parasitic Theory of Cancer.—H. G. Plimmer presents various reasons why he thinks we dare not at present give up the parasitic theory of cancer. During the last few years there has been an increase in the number of cases of cancer which is out of all proportion to any known general cause, except a parasite. There are also recorded many instances of relative increase in the frequency of cancer which may be called epidemics of cancer. These epidemics are easily explainable from the parasitic point of view. In many districts the death rate from cancer is abnormally high, and it varies greatly in the same district at different times. This seems to be explained only by the presence of a parasite, which in certain places and times finds better conditions of existence for itself. The disease has a predilection for low-lying damp districts, and especially for those which have both wood and water. Lately a number of facts have been brought forward showing its incidence in certain houses Certain authorities believe that the probable source of infection is often uncooked vegetables. There are certain definite bodies which are found in cancer. They are round and contain a very small, more or less central body, surrounded by a very delicate substance. These bodies have very definite reactions to certain stains. The living cells of the cancer should be examined in their own juices, or in serum, on the warm stage. The bodies previously referred to, are not to be found in other structures aside from cancer. It has been known for centuries that cancer is locally contagious—for example, between the upper and lower lips. The inoculation of cancer from animal to animal of the same species has been often successfully done. The writer then calls attention to the clinical course of the disease, its beginning in one spot, its extension to distant parts by lymphatic or blood ways, the cachexia out of all proportion to the extent of the disease, the spread by contagion, the occurrence in certain parts of the body, and its return after years of quiescence—all of these facts being explainable by the parasitic theory.

British Medical Journal, December 19, 1903.

Ovariotomy on a Patient Aged Seventy-nine Years.—Thomas North presents the history of this case. The patient was a widow aged seventy-nine years. She had had six children. She had had no illness of any kind till five or six years ago, when she noticed a swelling on the right side of the abdomen. This continued to increase. Recently, she had suffered much from a feeling of distention and shortness of breath. Operation was performed, and an ovarian cyst containing twelve pints of clear fluid was removed. The patient made an uneventful recovery, and now, four months later, is in good health, and going about daily.

Carboluria Due to Salol.—John Wm. Taylor reports this case. He prescribed salol in five-grain tablets for a woman of forty-three years suffering from flatulent dyspepsia. He ordered one tablet three times a day after food. After the administration of six tablets, the urine became olive green in color and gave a purple reaction with dilute liquor ferri perchloridi. The salol was discontinued, and thirty-six hours later all trace of carboluria had disappeared. There were no other symptoms. The symptoms of carboluria in this case, the author believes to have come on exceptionally soon.

The Etiology of Beriberi.—William Hartigan declares that his experience in Hongkong proves beriberi to be a place infection. He gives various instances to prove this fact: a batch of healthy Chinese carpenters were shipped from Hongkong to Aden for shore work. Within a month all suffered from beriberi, the rice consumed on the voyage and afterward, being the same as that eaten by other natives who were not attacked. Three successive batches occupying the same quarters were also stricken. The quarters were then thoroughly disinfected and a fifth lot lived in them with impunity. The writer relates other incidents which tend to prove the point which he emphasizes that rice eating is not the cause of beriberi.

Deutsche medicinische Wochenschrift, December 10, 1903.

Experimental Syphilis.—Metschnikoff and Roux inoculated a female chimpanzee with syphilitic virus and produced a characteristic hard chancre which appeared at the end of twenty-five days. A month later fifteen squamous pustules appeared on the body of the animal which also were typical in nature and persisted unchanged for a month. The animal died at about this time of pneumonia. Some of the virus had been inoculated on the penis and thigh of a male animal on the forty-fifth day of the female's disease, and on the thirty-fifth day the male displayed analogous local lesions. The animal died on the forty-fifth day without having presented any secondary syphilitic lesions, but the results in these two cases are sufficiently marked to allow the conclusion that much is to be learned concerning syphilis by experimentation on the anthropoid apes.

Can the Virus of Rabies Be Filtered?—Celli and Blasi made a solution from the brains and spinal cords of experiment animals by mincing the organs, mixing them with sand and expressing in a Buchner's press under a pressure of 300 atmospheres. The juice so obtained was diluted when necessary with distilled sterile water and infected with several loops of fresh virus. It was then filtered through the ordinary small Berkefeld's filters by the aid of a filter pump. Experiments were made both with street virus and with fixed virus. Nearly all the animals inoculated with this product died, only three out of twenty-three rabbits survived, and every one of four dogs died. A large proportion of the animals, however, did not display the usual symptoms of rabies, and after death no discoverable lesion could be found. The bodies considered by Negri as the parasites of rabies were found in the brains of one rabbit and one dog. The authors conclude that the virus is, under certain circumstances, susceptible of filtration.

Immunization against the Tubercle bacillus.—Friedmann has found that a certain tubercle bacillus which is

invariably fatal for turtles is without effect on guinea-pigs, and, furthermore, confers on them complete immunity against the human tubercle bacillus. Animals injected with the usual dose of virulent bacilli after a preliminary treatment with turtle tubercle bacilli not only did not die, but on autopsy the only lesion was an occasional small round-cell accumulation. The fact that guinea-pigs, the most susceptible mammals, can thus be treated with a variety of tubercle bacilli pathogenic for a poikilotherm, and rendered immune, leads to the belief that similar treatment can be carried out on all other warm-blooded animals with equally satisfactory results.

Berliner klinische Wochenschrift, December 7, 1903.

The Treatment of Articular Rheumatism with Menzer's Antistreptococcus Serum.—Schmidt treated fifteen cases of rheumatism that had resisted all other measures, with Menzer's serum. Regarding the results from the most objective standpoint, six cases showed distinct improvement, in four the results were doubtful, and in five there was no change. The author's conclusion is that the serum is not a specific one in the same sense as that of diphtheria is, but that it is impossible to deny that in certain cases it does produce favorable results. This is especially true of subacute and subchronic cases, while in the acute and chronic stages it is without effect. In practice the serum should be employed after the usual forms of treatment have been found ineffectual.

The Application of the Lowering of the Freezing Point of the Urine in the Estimation of Renal Function.—Zangemeister says that the value of direct observations of the lowering of the freezing point of the urine in determining the efficiency of the kidney is open to several sources of error. The recently discovered fact that in parenchymatous nephritis the kidney may be unable to excrete an excess of water introduced into the body may cause a urine to be passed the molecular concentration of which is greater than that of a normal urine. The degree of molecular dilution which can be produced by the administration of large amounts of water forms a useful guide in judging of the state of the kidney. The variations in the dissociation index of different specimens of the same urine is another source of error, for on diluting urine the molecular concentration calculated from the freezing point does not sink proportionately, owing to the fact that dilution causes the saline molecules to break up into ions which functionate as separate molecules and so simulate a greater degree of concentration than exists. This objection applies even to twenty-four-hour specimens. Urates may also be precipitated from the urine in cooling, so as to cause the freezing point to rise, and in concentrated urines the water tends in part to freeze first and to cause the freezing point obtained to be that of the unduly concentrated residue. These objections may be met by greatly diluting the urine till the "ideal" freezing point is reached which is not affected by any of these factors. In practice the author finds that according to the concentration of the urine examined a dilution of five to fifteen times permits the "ideal" freezing point to be obtained without any loss of accuracy through excessive attenuation of molecular composition.

Münchener medicinische Wochenschrift, December 8, 1903.

A New Method of Quantitative Pepsin Estimation.—Volhard says that the methods of determining the pepsin content of the gastric juice have heretofore been based largely on animal experiment, and have also assumed that the digestive power of peptic solutions is directly proportional to the amount of pepsin present. Schütz has shown that this is not so, but peptic digestion follows the law that x units of pepsin digest only $\sqrt{x}$ times as much as a single unit. Observations with Metts's capillary tubes have shown the various digestive products inhibit digestion to such a degree that constant results are obtainable only in dilutions of one to sixteen of the gastric juice. This dilution is so great as to make clinical application of the otherwise convenient Metts' method impracticable. The author's method, which is not given in detail, is based on the fact that when casein dissolved in gastric juice is precipitated by the addition of sodium sulphate, the acidity of the filtrate bears a constant relation to the amount of pepsin present and the time of digestion.

An Enriching Method for Typhoid and Paratyphoid Bacilli.—Lentz and Tietz have devised the following for typhoid and paratyphoid bacilli as an analogue to Koch's method of enriching cholera stools. The stool is mixed with double the amount of physiological salt solution. One to two-tenths of a cubic centimeter of the mixture are sown on an agar plate to which malachite green has been added in a proportion of about 1-6000, and on two litmus-lactose agar plates, as in the method of Drigalski-Conradi. After twenty hours in the incubator, if no typhoid colonies are found on the blue plates, suspicious colonies on the green plate are tested for agglutination. If the result is again negative the plate is flooded with 2 cm. of broth or salt solution, and one loop of this mixture sown on two large litmus-agar plates, after sixteen to twenty hours in the incubator these plates are searched for typhoid colonies. The method is equally applicable to the examination of urine. The property possessed by malachite green of inhibiting the growth of nearly all organisms except the typhoid and paratyphoid bacilli is very marked, the members of the colon group being especially susceptible to its presence, but as different specimens of the dye vary somewhat in nature, central tests on known cultures are first necessary to determine the proper concentration of the solution to be added to the agar plates.

Detection and Significance of Minute Quantities of Blood in the Stomach Contents and Fæces.—Schmilinsky says that the detection of macroscopically undiscoverable quantities of blood in the contents of stomach or intestine is receiving greater attention, and that distinct value attaches to it. Occult bleeding is frequent in ulcer and almost constant in carcinoma. Severe disturbances of motility also can produce such hemorrhages, but in other conditions they are rarely seen. The presence of blood alone is, however, not sufficient to establish the diagnosis, and the other symptoms must be given due weight. It is a sign of particular value in early carcinoma, while the disappearance of the blood after bland diet and lavage makes malignant disease unlikely. Negative results have less value than positive ones. The author has found a modification of the guaiac reaction the most satisfactory. The usual spectroscopic test for acid hæmatin may be improved upon by transforming the hæmoglobin into hæmatoporphyrin by the addition of an excess of concentrated sulphuric acid. The spectrum produced is sharp and easily recognizable, but the test is inferior to the guaiac reaction. The hæmin test is particularly unreliable. Owing to the danger of contaminating stomach contents with minute quantities of blood through abrasions produced by the tube, it is preferable, after two days of gentle purgation and diet free from meat or chlorophyl, to examine the fæces. The stool is made uniform in composition by trituration in a mortar, and a small portion (the size of a hazel nut) treated with one-third its volume of glacial acetic acid. It is then extracted with 10 c.c. of ether, and the separation, if necessary, facilitated by the addition of a few drops of absolute alcohol, or a little more ether. The ethereal solution is filtered and five drops of guaiac solution, and ten drops of ozonized oil of turpentine added. Large and moderate amounts of blood give the classical blue color, but this appears only after a succession of other shades has first been run through. Traces of blood may not suffice to carry on the changes to the final blue stage, and hence the formation of a deep green or brownish red is very suspicious, and should always be regarded as an indication for repetitions of the test with more concentrated material, or other stools, etc.

Lactic Acid Fermentation in the Stomach with Especial Reference to the "Long Bacilli."—Sandberg calls long bacilli those usually referred to as Boas Oppler bacilli, or the bacillus geniculatus. Various degrees of significance have been ascribed to these organisms which habitually outnumber all others in cases of gastric carcinoma with pronounced lactic acid formation. The author found two forms present in such stomach contents which differed somewhat in morphology and cultured characteristics, but which he was able to prove were the same organism. The parent type is composed of short rods, but as soon as they are able to exert their lactic-acid-producing properties or are in a medium in which other organisms are actively forming lactic acid they change to a longer form. These long and short types grow in distinctive colonies between which transitional forms may experimentally be produced. The predominance of the long bacillus in certain gastric disorders is due to the fact that they possess a special resistance for lactic acid which is not common to other fermentative bacteria. They are able to develop when lactic acid is present in the stomach contents in amounts sufficient to check the growth of all other lactic-acid formers, and therefore ultimately to outgrow all of these. The irregularities of the gastric mucosa produced by a carcinomatous growth also tend to form small collections of fluid differing in composition from the general secretion, and thus explaining instances in which the bacilli are present with but small quantities of lactic acid.—*Zeitschrift für klinische Medicin*, Vol. 51, Nos. 1 and 2.

Society Reports.

THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Sixteenth Annual Session, Held at Atlanta, Ga., December 15, 16, and 17, 1903.

J. WESLEY BOVEE, M.D., OF WASHINGTON, D. C., PRESIDENT.

AN address of welcome was delivered by Mayor Evan P. Howell, which was reponded to by Dr. George Ben Johnston.

After a brief report by the Chairman of the Local Committee of Arrangements, Dr. Willis F. Westmoreland, the reading of papers was begun.

A Study of the Prostate and Treatment of Prostatic Hypertrophy.—Dr. G. WILEY BROOM of St. Louis, Mo., exhibited a number of hypertrophied prostates that he had removed The author said that he had made approximately two hundred post-mortem examinations to investigate the condition of the bladder and prostate in each subject. He said it was generally believed by routine prostatectomists that all prostates had a capsule, but this was not true. His conclusions were: (1) The position of the urethra in the normal state was always in the floor of the bladder; but in urinary obstruction it was always elevated from an inch to an inch and a half or two inches above the floor of the bladder. (2) He took the position that normally there was no third lobe, but that segmentation took place behind the prostatic fissure in consequence of a hyperplastic process, this process occurring in the direction of least resistance—into the cavity of the bladder. (3) Only a small percentage of cases of hypertrophied prostate was responsible for urinary obstruction. (4) No matter how large the prostate became, it would retain its functionating capacity. It was not the organ which caused suffering to the patient. (5) By prostatectomy this functionating organ was mutilated or destroyed, and the bladder, which really caused the patient trouble, was left *in situ* without any operation having been performed on it. (6) In only a small percentage of cases could the prostate be enucleated. (7) It was unfortunate that the profession had reached the point of resorting to routine prostatectomy in all cases of urinary obstruction. (8) The commissure and capsule were obliterated in the fibromyomatous variety of prostate. In the adenomatous variety, if complete and permanent drainage was established, the prostate would shrink.

Dr. C. H. MAYO of Rochester, Minn., had operated by the median perineal method in over thirty cases after the manner of the Goodfellow procedure, and had been much pleased with the method and results.

Dr. W. P. CARR of Washington, D. C., had seen but one prostate which there was any difficulty in peeling out of its capsule. Cases of hypertrophied prostate should be operated upon earlier, before the bladder became infected. Prostatectomy in healthy men had a very small mortality; but in those who had infected bladders, who had Bright's disease, or atheromatous arteries, it was a serious operation.

Dr. Broom, in closing, deplored the tendency to do routine prostatectomy regardless of the actual pathological conditions of the parts.

Œdematous Encephalitis.—Dr. W. P. CARR of Washington, D. C., called attention to a condition of the brain that he had encountered quite frequently when operating for cerebral epilepsy and for suspected cerebral abscess following mastoid disease due to la grippe. This condition he called œdematous encephalitis. It was apparently so much benefited by opening the skull and draining the excessive serum from the brain, that it deserved careful consideration. He reported four cases. It was impossible to say in most cases whether the œdematous encephalitis was caused by injury or by the poison of influenza, or whether it was a lesion of epilepsy. He had not been able to find any cases in the literature in which œdema was noted as a marked feature. In cases of severe cerebral symptoms following influenza or blows upon the head, when the symptoms persisted or became worse after weeks of medical treatment, he thought that exploration was justifiable in the hope of finding œdematous encephalitis or some other condition that would be benefited by operation. In operating for œdematous encephalitis he recommended that a large osteoplastic flap be cut with the De Vilbiss craniotome over the site of any injury that might be suspected as a cause, or over some location indicated by the symptoms. If the symptoms furnished no local indication, and there was no local injury, then the flap had best be turned down in a convenient place, say the upper parietal region. The exposed membranes and brain substance should be examined carefully, and if they presented an œdematous appearance, a grooved director should be introduced into the brain substance carefully in several places, and the serum drained off until the brain assumed a normal appearance. A small soft drainage tube should be inserted just through the dura into the arachnoid space and left in place as long as there was a copious discharge of serum. This tube might be brought out through one of the small trephine holes made for the introduction of the De Vilbiss instrument, and stitched to the skin after an osteoplastic flap had been replaced. If the head was carefully shaved and scrubbed, and all proper antiseptic precautions taken, this operation was almost free from danger; and if only a small percentage of the serious cases could be cured in this way, the operation would be justifiable. He had been encouraged by his limited experience to believe that surgeons might hope for recovery or great improvement from this operation in many otherwise hopeless cases of epilepsy and of progressive brain disease due to trauma and influenza.

A New Device and Method for Intestinal Anastomosis.—Dr. W. P. CARR said he had devised a method of intestinal or gastrointestinal union by small silver clamps, which he thought were more easily and quickly applied, and had none of the objectionable features of the Murphy button. The clamps were exhibited. The method consisted in clamping the inverted edges of the gut from the inside, in the manner indicated by drawings which were passed around by the author. The clamps will hold well and make an air-tight closure. They were applicable to any sized intestine or wound. They left a large opening in the lumen of the bowel, and passed out as easily as watermelon seeds. The edge and corners of the clamps were smooth and rounded. They had small teeth to prevent slipping, made by simply indenting the metal; but these teeth were not long enough to pass through the entire thickness of the bowel. The clamp might be applied with any suitable flat broad forceps, but it was better to have a forceps with a slight ridge to keep the clamp from slipping. He had used these clamps in one case of resection of five inches of gangrenous ileum caused by strangulated hernia. The man recovered, and most of the clamps were recovered between the sixteenth and twenty-first days

Dr. C. H. MAYO said he and his brother (William J.) had operated on many cases of epilepsy and traumatic insanity, and he could corroborate what the essayist had said regarding œdematous encephalitis. Treatment by drainage came the nearest to the solution of affording this class of cases relief.

Dr. I. S. STONE of Washington, D. C., mentioned a case, in referring to Dr. Carr's device, in which gastroenterostomy was performed about a year ago with the aid of the Murphy button, but the button had not yet been passed. In another case of diverticulum with obstruction the button was used, but the woman was still carrying it with some anxiety. Thus far, however, there were no symptoms of intestinal destruction from the retention of the

button. He complimented Dr. Carr on the ingenuity and originality of his device, and said when an opportunity presented itself he would use it.

Dr. Guy L. Hunner of Baltimore, Md., objected to the use of all mechanical devices, and favored suturing the intestine; although he thought the simple device exhibited by Dr. Carr would enable surgeons to do intestinal anastomosis rapidly.

Dr. J. Garland Sherrill of Louisville, Ky., advocated suturing the bowel in preference to the use of all mechanical devices. In his intestinal work he preferred silk.

The Surgical Physiology of the Lymphatic System.—Dr. C. H. Mayo of Rochester, Minn., said that a study of the lymphatic system readily explained many normal physiological as well as pathological processes. The subject was deservedly receiving more attention from surgeons who now generally recognized that aside from acting as the general absorbent system, it was constantly engaged in maintaining nutrition as well as defence against pathological processes. All tissues were provided with lymph vessels and glands in direct proportion to their exposure, activity, and necessity for repair. The tissues of the body were constantly bathed in lymph, which fluid, similar to and derived from the blood plasma, must all pass through the lymph vessels and glands. In the glands the lymph was exposed to the direct action of the leucocytes which were there found in great abundance. It was in the glands that infection was checked and destroyed, or it might possibly overpower the gland and develop local growth. An enlarged gland was an evidence of a local struggle of a defeat. The lymph system undoubtedly performed a great function in draining the ductless glands. Considering the lymph supply of certain organs, it was found that the brain was deficient in lymphatics in its structure, the arachnoid serving this purpose upon its surface. Hemorrhages into its structure became cysts from lack of absorption, and infections in its substance caused but little temperature or general disturbance, except from pressure. The liver and kidney showed the same condition in a less marked degree. The lungs, rich in lymphatics, gave constant temperature from infectious diseases. Chills usually signified the direct delivery of accumulations of infection into a vein. In certain diseases resulting from a loss of equilibrium between the production and absorption of fluids, one set of lymphatics was substituted for another by operation, as in glaucoma and hydrocephalus. When lymphatic conditions were considered in connection with surgical work, it was found that there was a real principle involved in drainage, whether it be internal or external. (1) Rest by splints, pressure, dressing or bed, to quiet the circulation: (2) by elevation to reduce arterial supply and favor venous and lymphatic return; (3) by massage to break up coagulated exudates and enable the lymph vessels to remove the exuded material; (4) moist dressings favor the escape of exudate from open wounds, and also favor the lymphatic circulation in closed injuries; (5) adjuncts to drainage in the use of solutions having affinity for moisture acting by osmosis, as glycerin or alcohol; (6) wound drainage could be accomplished by the open method with or without secondary suture; (7) by separate incision; (8) by wicks, capillary or tubular drains, or gauze packs, as mechanical aids.

Early Diagnosis of Cancer of the Uterus.—Dr. F. F. Simpson of Pittsburg, Pa., said the great body of the medical profession saw but a single case of cancer during the time they were treating hundreds of other afflictions, and naturally looked upon that malady as being relatively rare. As a malady, it was infrequent; but as a cause of death its frequency was appalling. Early in 1900 a note was addressed to the health departments of American cities, with an aggregate population of ten million, requesting a tabulated statement of deaths from cancer and from all causes during each year of the preceding decade. Statistics showed that of every fourteen people who reached the age of thirty, cancer would claim one as its victim. Bearing more directly upon the subject of cancer of the uterus, however, was the distressing fact that of every twenty-eight women who passed the age of thirty, one would be the victim of this disease. The paper was largely statistical, and the author closed by saying that the day was fast approaching when well-informed women of the cancer age would seek protection by regular quarterly examinations. Early diagnosis would then be the rule in cancer of the uterus as it was in appendicitis to-day.

Fracture Dislocation of the Spine.—Dr. J. Shelton Horsley of Richmond, Va., reviewed the opinions of several authorities on the treatment of this lesion. He recommended that in treatment individual judgment should be used as in other surgical operations. He emphasized the similarity between the injuries of the spinal cord and injuries of the brain so far as treatment was concerned, and called attention to the fact that without an operation, or a post-mortem examination, it was impossible to tell by symptoms alone when the cord was completely destroyed. He advocated the plan of McCosh, to operate in all cases of complete paralysis below the injury, unless there was improvement within twenty-four hours after the injury. When the trauma was especially marked, he operated sooner. He pointed out that the danger of delay lay in degenerative changes in the spinal cord, which set in soon after the injury. Early operation might arrest this degeneration. He reported six cases, in two of which the injury was received several years before he saw the patient. In one there was a forward dislocation of the axis and atlas from the third cervical vertebra. This was demonstrated by an *x*-ray picture. The patient had paralysis of the muscles of the arms, body, and thighs. There were disturbances of sensation of various degrees over the body and limbs. He reported two other cases in which fatal results rapidly followed the injury. One was from a gunshot wound, and the other was the result of a fall on the shoulder in which there was a fracture-dislocation in the lower dorsal region. The last two cases he operated upon, in one there was an injury at the lower dorsal region, where the whole of the dorsal spinal column was dislocated forward upon the lumbar spinal column. The spinous process of the last dorsal vertebra was fractured. The cord was caught between the last dorsal and the first lumbar as between the blades of a pair of scissors. It was not completely crushed, as the dislocation was not extensive enough. It was impossible at the operation to reduce the dislocation, so the spinous processes and the laminæ of the last three dorsal vertebræ were removed. This relieved pressure on the cord. The patient died, however, from pneumonia a week later without any improvement in the spinal symptoms. A post-mortem examination showed the wound in an excellent condition, with the cord softer than at the time of operation, and solidification of the whole lower lobe of the right lung, and a part of the middle lobe. In the other case operation was undertaken about a month after fracture of the eleventh and twelfth dorsal vertebræ in a laborer, nineteen years of age. The cord was almost completely gone, there being a few fibers remaining from its anterior portion. The laminæ had been fractured and driven into the canal. One of the articular processes had also been driven into the canal. These were removed, and the wound closed, leaving a small catgut drain. There was no decided improvement in his condition for six weeks after the operation. At this time he urinated voluntarily; two weeks later there was noticeable improvement in both sensation and motion in the thighs. This improvement continued until the present, about three years after operation. His thighs were practically normal as to motion and sensation. Bladder and rectum acted naturally, and his general health was excellent. He could stand with support and walk by having a strong

support on each side. His legs and feet were still paralyzed, both as to motion and sensation. At present patient weighed nearly two hundred pounds, and was quite comfortable, except for occasional pains in his legs.

Immediate Removal of Neoplasms.—Dr. MAURICE H. RICHARDSON of Boston, Mass., considered chiefly neoplasms of the breast and of the female pelvis in his paper on this subject. The reasons which justified the adoption of the title rule in these regions would apply with certain exceptions to all parts of the body. These reasons, all of which were illustrated by specific cases, in the author's own experience, were as follows:

1. The uncertainty of the diagnosis, even on the part of the most experienced and the most skilful, made palliative treatment hazardous, especially in the doubtful cases. Several instances were given in which the patient was not operated upon because the tumor was supposed to be benign when, in reality, it was malignant. The error cost the patient the favorable moment for operation. The impossibility of accurate diagnosis in even the most accessible regions of the body was emphasized. Breast tumors apparently benign had proved malignant. Breast tumors benign throughout their principal areas showed minute foci of malignancy. Breast tumors clearly benign had after many years developed a fatal malignancy. So in abdominal tumors, especially the pelvic tumors in women, the difficulties of diagnosis made the apparently benign cases, especially dangerous. Many instances were given illustrating the difficulties of diagnosis and the necessity for exploration in even the most favorable cases of presumably benign growths.

2. The dangers of benign tumors becoming in time malignant was emphasized and illustrated by not a few cases in which after years of slow and harmless growth a tumor had suddenly developed evidence of malignancy. Tumors of the breast, of the gall-bladder, the stomach, the uterus, the ovary, and of other regions had, by an acquired malignancy, convinced the speaker that the only safe rule of treatment was in all cases thorough extirpation of the tumor as early as possible.

3. The wisdom of exploration in certain apparently hopeless tumors was illustrated by cases in which a benign and easily remediable condition was found, and in which impending death was averted by a safe operation. In this class were infiltrating tumors of the abdominal wall supposed to be hopelessly malignant, but which proved to be tuberculosis of the muscle, aponeurosis; epigastric tumors, apparently cancerous, found to be pancreatic cysts, actinomycosis, chronic pancreatis, and the like. Pelvic tumors supposed to be malignant and inoperable were proved to be old tubal inflammations, fibroids, ovarian cysts, and the like.

4. The essential malignancy of certain areas in the malignancy-inviting nature of certain regions, especially the breast and the ovaries, was especially emphasized. In these regions the tendency of tumors to become malignant made the application of this rule practically imperative. Ovarian tumors, even when apparently benign, were shown to have especially dangerous tendencies to malignant degeneration.

5. In pelvic tumors especially, the benign often masked the malignant. Cases were reported to illustrate the obscuration of a uterine sarcoma by an overlying fibroid. In two recent cases cancer of the ovary was found concealed by an enormous fibroid, and in a third there was found an annular stricture of the sigmoid flexure.

The rule of universal extirpation had numerous exceptions. It should not apply to superficial tumors, clearly benign, which could not be removed without great disfigurement; cheloids that could not be removed without leaving a broad scar, unless they showed a tendency to ulceration and malignancy; all other benign tumors, which caused needless suffering, disability, and disfigurement, whenever their removal was dangerous, or whenever the patient's general condition was unfavorable; and tumors of all kinds in which the dangers and sufferings of removal outweighed the dangers and sufferings of the tumors themselves.

Dr. HENRY T. BYFORD of Chicago, Ill., said he belonged to the Chicago Academy of Medicine, whose motto was, "When you see a head, hit it." He thought this would fittingly apply to the removal of tumors as soon as they were seen. A year and a half ago he was called upon to diagnose a tumor in the pelvis about the size of the end of one's thumb, which was situated between the bladder and uterus. The attending physician said that this tumor did not amount to much, and argued against operation. The woman subsequently became pregnant, miscarried at the fifth month, the tumor at this time having attained the size of an egg. He thought it would continue to grow unless removed. No matter whether a tumor was going to become malignant or not, it was a foreign body and should be removed as soon as possible.

Dr. W. P. NICOLSON of Atlanta said early operation, when safe, was to be commended in every case. He related a case of sarcoma of the mesentery in which he had operated, with recovery of the patient. He also narrated a case in which a sarcoma sprang from back of the rectus muscle and infiltrated the whole pelvis. The tumor was removed, with recovery of the patient.

Dr. W. B. COLEY of New York stated that three years ago a patient came to him with a bad cancer of the breast. She had been under the observation of an eminent surgeon, who had been watching the tumor for a year at intervals, telling her not to have anything done until he thought she needed it. The tumor was finally pronounced cancer by this surgeon, but the patient consulted Dr. Coley with a view to having an operation performed. Careful examination disclosed all the characteristics of advanced cancer. An operation was done, but the disease returned within one year, from which the patient died. He thought these growths should be removed without waiting to determine whether they were malignant or not.

Dr. W. P. CARR said that one of the first tumors he had ever removed was a cancer of the breast in a girl of nineteen. He had no idea it was cancer at the time of its removal, but sections proved it to be such. This prompted him to examine all tumors, particularly those of the breast, and he was surprised to find that a great many of the tumors of the breast which he supposed to have been adenoma proved, upon microscopical examination, to be carcinoma. He thought if surgeons made it a routine practice to examine microscopically all the small benign tumors they removed, they would find many of them to be malignant.

Dr. J. M. BALDY of Philadelphia said the more experience he had, and the older he became, the more he was convinced that the truly honest man would admit his inability to diagnose accurately many cases of tumors. He supported the essayist in saying that these neoplasms ought to be removed, no matter where they occurred. There were some tumors of the breast that were not malignant. He had removed a number of them, but he thought the vast majority were malignant. In the past year he had reoperated twice on cases of cancer that had been subjected to *x*-ray treatment, and in one he had operated a third time for the return of the disease after *x*-ray treatment, although the physician who had used the *x*-ray had said the patients were doing satisfactorily.

Dr. J. SHELTON HORSLEY mentioned a case of cancer of the breast that was operated on. There was local recurrence, and the patient was treated by the *x*-ray. After two weeks' treatment with the *x*-ray the woman began to sink rapidly and soon died. Post-mortem examination disclosed extensive metastases in the brain, liver, kidneys, ovaries, heart, etc. The *x*-ray had no beneficial influence on this case.

Intestinal Cancer.—Dr. J. G. SHERRILL of Louisville, Ky., in a paper on this subject, stated that cancer of the intestine, while rare, was more frequent than physicians were led to believe; that sarcoma was much less frequent than carcinoma, and selected especially the small intestine, while carcinoma most often attacked the large bowel. The appendix was the seat of both carcinoma and sarcoma, although occurring quite infrequently. The literature showed that men suffered from both forms oftener than women. Adenocarcinoma was the type most frequently seen, while the round-celled sarcoma or the lymphosarcoma occurred oftenest. The author reported two cases of cancer of the intestines. He said that the treatment was to be largely determined by the extent of the involvement. Resection of the intestine and extirpation of the growth offered the patient the only hope of a permanent cure, and this chance, though slight, should be given the patient whenever practicable, as early in the course of the disease as possible. Any of the classic methods might be employed.

Amputation of the Hip-joint for Sarcoma.—Dr. WM. B. COLEY of New York read a paper on this subject. He said that, in the cases forming the basis of the study, the tumor originated in the bone or periosteum of femur in five cases, and in the soft parts in two. The age of the patients ranged between six and fifty-six years. In six cases Wyeth's pins were used, but in the seventh case the growth extended above Poupart's ligament, pins could not be used, and the external iliac artery was first tied. All of the patients made a good recovery from the operation; yet only one patient survived operation long enough to be called a cure. This was a sarcoma of the thigh, in which the mixed toxins of erysipelas and bacillus prodigiosus were used for two months before amputation. In one recent case the patient was still alive without recurrence; in all the other cases death occurred from local or general recurrence in from four months to two years after amputation. Of four other cases of sarcoma of the femur and thigh, treated by high amputation, just below the trochanter, two patients died at the end of four months; one died at the end of two and a quarter years, and a third had recurrence in the gluteal region, which disappeared under the mixed toxin treatment, and the patient was alive at present without recurrence, six years afterward. The extraordinary malignancy of sarcoma of the femur was shown by the very small number of patients known to have survived for more than three years after amputation. Butlin was able to find but one case in sixty-eight treated by high amputation or hip-joint amputation. Wyeth in 1901 collected 131 cases treated by hip-joint amputation with ten alive more than three years. Dr. Coley stated that he had personally known of but six cases. In one of these cases (Dr. Bull's), operated upon sixteen years ago, a severe infection occurred in the wound, probably streptococcus, and the patient was well six years later. In another case (Dr. Gerster's) the disease was so extensive and so high up that amputation was considered impossible, and the patient was treated with the mixed toxins of erysipelas and bacillus prodigiosus for several months. The tumor disappeared, and the patient was shown at the New York Surgical Society a year ago in perfect health, more than four years after treatment. The better results following amputation in the pre-antiseptic days the writer attributed to the infection that frequently occurred in the earlier period. This fact, together with the results referred to, in which the erysipelas toxins were used, he believed sufficient reasons for advocating a systematic use of the toxins after primary amputation as a prophylactic against recurrence. He would not advise such treatment prior to amputation in sarcoma of the femur, on account of the great liability to early metastases, though in a case of sarcoma of the tibia he had been able to save the leg, and the patient was now well seven years afterward. The method of treatment advocated by Mikulicz, namely, resection of the femur, Coley did not think should be adopted as a substitute for amputation. While it was true a fairly useful limb might be obtained by resection, there were no cases treated by this method that had been observed for longer than a year, hence nothing could be said as to permanent cure. The *x*-ray, Coley believed, should never be used unless the patient absolutely refused amputation. One such case he had treated two years ago (round-celled sarcoma of femur); the tumor apparently entirely disappeared in the femur, but ten months later a large metastatic tumor appeared in the pectoral region, which was partially removed by operation. A little later another very large tumor appeared in the lumbar and iliac regions. Under long-continued treatment with the mixed toxins plus the *x*-ray, the tumors disappeared, and the patient was alive and well to-day, though by no means regarded as cured.

Diagnosis and Treatment of Gallstones.—Dr. MACK ROGERS of Birmingham, Ala., read a paper on this subject. After referring to the differential diagnosis, he spoke of the operation for the removal of stones from the gall-bladder, saying that when there were no adhesions it was a comparatively easy one, but when the stone was located in the common duct, or extensive adhesions existed, or both, the surgeon had a very difficult condition to deal with. In the hands of competent, experienced men he regarded this operation as one of the safest in the abdominal cavity. The mortality in all cases averaged only about 3 per cent.

Surgery of Urinary Tuberculosis in Women.—Dr. GUY L. HUNNER of Baltimore, Md., reported thirty-five cases occurring in the services of Dr. Howard A. Kelly and his associates in Baltimore. These patients were all women with an average age at the onset of symptoms of twenty-eight years. The disease was unilateral in 31 of the cases, and it was probably primary in the kidney, as regards the urinary system, in 30 or more of the cases; 31 cases had bladder symptoms at some time in the course of the disease, although only 18 cases had bladder lesions at the time of operation; 11 of these 18 cases still had some bladder symptoms, and 5 were known to have bladder lesions, although 9 of the 11 had had systematic bladder treatment. Tuberculosis of the bladder did not heal with the ordinary methods of treatment, and if the disease persisted a year and did not occupy more than half of the bladder, it should be excised. Of 22 ureters examined microscopically, 17 showed tuberculosis, while 5 were chronically inflamed. If a tuberculous ureter remained either in part or *in toto*, the wound usually remained opened at least two years, while the removal of the ureter with the kidney resulted in rapid closure of the wounds. Five patients died—three after six and eleven weeks, and two years respectively, from involvement of the other kidney, and two, in fifteen and six days, because of the operation. Sixty-six per cent. of the patients were enjoying fairly good or excellent health.

Spurious Dysmenorrhœa.—Dr. HENRY T. BYFORD of Chicago read a paper with this title in which he made a plea for a more rational treatment. After naming twenty-five varieties that were mentioned in the textbooks, the author called attention to their disappearance therefrom. Many supposed cases were spurious in character. These had been perpetuated by the physician and cured by the quack. The absurdity of the nasal cure was emphasized and the cures referred to as spurious. Instances of menstruation in the male were quoted. The trend of the paper was to condemn writers for bringing the symptom into the foreground when it should be kept in the background, and for wasting their own time and that of their readers in ridiculous refinements and speculations.

Memorial Address on Dr. W. E. B. Davis.—Dr. RICHARD DOUGLAS of Nashville, Tenn., spoke eloquently and impressively of the work that had been accomplished by

Dr. Davis, and pointed out in a masterly manner the distinguishing characteristics of the deceased.

Diagnosis and Treatment of Congenital Misplacement of the Hip in Infancy.—Dr. ALBERT H. FREIBERG of Cincinnati, O., had been able to ascertain that in several cases children with congenital misplacement of the hip had been late in walking. It was a common experience in mild grades of rachitis that children were late in walking. The usual age of sixteen months was passed by and the rachitic child not only failed to walk, but was usually also unwilling to stand. He had been able to ascertain in several cases and to observe in one that children with congenital luxation stood readily at the usual age for walking, and especially if allowed to support themselves by holding on to some object. It was only when independent effort at ambulation was urged that the child showed its timidity and refused to make the attempt as a normal child would. This period, of course, was gone through by every normal child, but in some cases its long continuance might be attributed to congenital luxation. The length of this period in luxation cases varied greatly, but in every case was finally determined by the child's learning to walk with more or less limping, at which time the diagnosis was usuailly made and was of no further interest in this connection. In some few instances mothers observed these things, and possibly also that the apparent breadth of pelvis and perineum was unusually great. It was therefore urged that in the presence of any of these signs which had been referred to, attention be paid to the possibility of congenital luxation, and that in the event of any doubt, the *x*-ray be resorted to as a final means of precision. Experience had abundantly shown the feasibility of operative procedure after the age of one year, and that the results amply justified the great additional care which was necessary to prevent the dressings from becoming soiled in so young a patient.

(To be Continued.)

THE SOCIETY OF MEDICAL JURISPRUDENCE.

One Hundred and Seventy-seventh Regular Meeting, Held on Monday, December 14, 1903.

MR. THEODORE SUTRO, PRESIDENT, IN THE CHAIR.

A Plea for Justice to the Consumptive.—Dr. S. A. KNOPF read this paper (see page 1).

Mr. CHARLES P. BLANEY opened the discussion and said that the people in the majority of instances were the owners of the land throughout the State, and that it was not the privilege of any one class of citizens, where the public funds and public health were concerned, to retain ownership of land in any part of the State. He said that Dr. Knopf had shown that the law as it stood on the statute books prior to 1903 was sufficient to protect this class of citizens against such dangers, even if they existed, and especially against the spread of pulmonary tuberculosis. The law as it stood previously allowed cities of over 1,000,000 inhabitants in this State, whenever they desired to regulate sanatoria in various townships, to appeal to the State Board of Health, and if the State Board of Health decided that it was advisable to build such sanatoria in the State, in such a township or village, then it was required that certain properties should be condemned and sanatoria built thereon. He said that prior to the Goodsell-Bedell law sanatoria were established in this State and in the Adirondacks, and people who were afflicted with this disease and who were a menace to the inhabitants of this State would go there and perhaps be cured and so avoid the great expense of going West and perhaps dying there away from home and friends. He believed that almost every advantage given the consumptive had been eliminated by the present law. Take, for instance, large regions in Orange County where it would be possible to use acres and acres of land to build private hospitals for the consumptive, the town authorities, being influenced by men of wealth or those who desired no disfigurement to their properties and who would exert a little pressure upon the town authorities, would not permit such hospitals to be built, and therefore the benefits which might have been derived would be entirely cut off merely from the fact that certain private individuals thought that such institutions might be a disfigurement to the property. Such hospitals he said were not dangerous; it was well known that consumption would not be carried the distances people believed it would, and he believed it was right that the people of the State of New York should have such sanatoria established, and he thought it was the duty of the people residing in the City of New York to see that the law as it now stood, was repealed, and that the law as it stood prior to 1903 be placed on the statute books.

Mr. CHARLES M. DEMOND said that, from a legal standpoint, no law should be passed and no regulation should be promulgated unless there was some evil to be remedied. Laws were not enacted by the United States Government unless there were some crying evils to be remedied. He said it might be that the regulation to exclude emigrants was too broad, and it might be too that if the consumption was not particularly communicable, such regulation as proposed might be too stringent. He thought the Goodsell-Bedell law, as it now stood, increased consumption in the tenements. It was evident that consumption was communicable and probably in direct ratio to the crowded condition of the tenements. He asked what the morality of the consumptive had to do with the Goodsell-Bedell law? He said he believed in the regulation of all institutions which pretended to cure humanity. There was a time in England when insane asylums were run by private individuals and it was not until some author exposed them that there was a revolution. He said it was desired by many to build sanatoria giving unlimited license to all the diseases that flesh was heir to. The law must be regulated, otherwise we have merely license and not law. Unfortunately he said there was a danger, but he asked what morality had to do with it? It was immaterial whether or not a man was selfish. The real question was this: "Is the presence of sanatoria a good thing for the people owning the land?" He believed in local self-government, and that was what the Goodsell-Bedell law gave, for it stated that you could have all the sanatoria you wished in any town provided you got the consent of the Supervisors or Board of Health. To him it seemed as if the law was a very proper and sanitary one and the people were not deprived of the right to established sanatoria as before; he did not see how the law of 1890 was repealed by this Goodsell-Bedell law. The question with him was, can they, as a society, take such a stand as proposed by Dr. Knopf? Was it logical? Was this a good law? Were they going to encourage careful inspection of all governmental and private institutions? He believed in it, for there was nothing so dangerous as an irresponsible private institution. He believed the white light of scrutiny should go through every public and private institution for the cure of the people which were *quasi*-governmental. We should know how such institutions were operated, how much was paid them, whether they were enterprises for gain or for the good of the community, all this should be given the people. He did not believe the society should pass the resolution as proposed. Consumption might be classed with smallpox or yellow fever, and if he knew he could get either of them he said he wanted to keep far away from them. Coming from the West he had seen people going to Arizona and Colorado to be cured of consumption and once one of these patients died on the train and he was told by one of the doctors present that he was breathing some of the dried sputum. He did not care to meet with such conditions. What was said regarding the highest authorities on the question of morality he said was irrelevant and could not affect the Goodsell-Bedell bill. He believed in a resolution that the Charity and Health Commissioners establish health sanatoria; that it should be done under the law; that it should be done

right and should not injure anybody. He said he was opposed to having the society state in its wisdom that it knew more than the United States Government and he believed that it was creating a hardship if the law as proposed was signed. If one wished to establish such sanatoria he asked why the Supervisors could not be approached and persuaded to allow it done.

Dr. H. M. KING of Liberty, N. Y., said that consumption was not to be feared at all in the same sense that smallpox was, for it depended for its development upon so many factors besides the tubercle bacillus, such as the poorly-ventilated offices, the badly arranged residences of the working people and many other factors too numerous to mention. The mere fact that a consumptive was in our midst was no reason why other people should be affected, provided the consumptive be properly instructed in the care of himself. He knew of no stronger argument in this regard than that during the past year, at the Loomis Sanatorium, there were several children, children of consumptive invalids under treatment, and they were there without danger to themselves. It seemed necessary now to combat the ridiculous ostracism to which the consumptive invalid was exposed. He said the crusade against the consumptive started in the West, where a law was passed in several cities against the consumptive and he said it was absurd and unjust to deal in this way with the individual who had contracted consumption. It was Naegli who found, among autopsies performed on people who died from all kinds of diseases, that 98 per cent. of all invalids over thirty years of age had in some parts of the body evidences of tuberculosis; that only one in seven died from consumption, while one in three had pronounced lesions and four out of seven recovered from the disease with healed lesions.

Dr. H. W. BERG said he did not believe the profession at large imagined the consumptive insane or mentally unsound and that certainly the physicians of this city did not have such an opinion, and, therefore, it appeared to him that the gentleman referred to in the paper, a man practically unknown, had acted as a phantom and Dr. Knopf was attacking an adversary unworthy of his steel. He warned the society not to resolve anything as proposed by Dr. Knopf if they did not wish to make themselves ridiculous. Regarding the question of the mental state of the consumptive, it must be remembered that some of the best, wisest, and brainiest men were consumptive and, as quoted from Naegli, 98 per cent. of human beings had consumption, although often dying of other diseases. He asked if 98 per cent. of all men were insane. No human being with any regard for what he writes would say that consumptives were mentally insane. He said that so far as the Goodsell-Bedell bill, or all legislation in fact was concerned, all emanated from the doctors and not from the lawyers. He said that no president of the United States, no governor of any State, no mayor, nor any legislative body ever proposed or passed a law of any kind or description against the consumptive, without being led thereto by action of physicians. Every time action had been taken it had been backed by eminent members of the profession. He believed the laity had mistaken the terms contagious and communicable, thinking they were synonymous. By communicability one meant taking some emanation from a sick body and absorbing it into one's own. He said that consumption was not contagious but communicable. The ignorant laity think, when legislative bodies legislate against the communicability of something, that they are legislating against the contagiousness of something.

Mr. E. T. DEVINE, Secretary of Charity Organization Society, said that being neither a physician nor a jurist, he could approach the subject in an unprejudiced manner. He wished to say a word regarding the central feature of the paper and also upon the wisdom of a particular piece of legislation. It seemed to him that the doctor was speaking ironically when he stated that all the bills that got through the legislature were passed for the public good; occasionally, he said, things slipped through the legislature for other reasons, and as an example of this, he briefly referred to what had recently happened above Tuxedo Park, where a man owned a piece of land adjoining a club, and who wished to dispose of it at an exorbitant price to this club. He wanted to make it absolutely necessary that the club should purchase it and, therefore, he came to the Health Commissioner of New York City and said, "I have a piece of land well located and I am going to offer it to you free for a certain time if you will promise to use it for a camp for consumptives." The Health Department was anxious to get the land for that purpose and so closed the offer. The object of this was to make it necessary for the club to buy the land at his price. The club refused to pay, but they went to the legislature and asked them to pass a bill making it impossible to build such a camp without the consent of the township, making it necessary for them to get the consent of the township as well as that of the Board of Health. The Assembly at Albany, to their credit, vetoed this bill, but within an hour of the time they vetoed it a friend of the Governor appeared on the floor, asked them to reconsider their vote, which they did and the bill was passed. He said that was the way the Goodsell-Bedell bill was passed, and he did not think it was passed for the interest of the consumptive but in the interest of the State. This was not simply an instance of recognizing local government, for we have a requirement which stated that the State Board of Health must also give its consent for the erection of such an institution, they both have a voice in the matter, and when you add to this the consent of the township and the county authorities, he said, you must see how impossible it was to build such a camp. He said it would have been impossible for Dr. Trudeau or Dr. Loomis to have built their sanatoria if the Goodsell Bedell bill had been upon the statute books when these institutions were built. He hoped that when the opportunity presented itself the society would aid in the repeal of this measure.

Mr. WILLIAM R. A. KOEHL endorsed very heartily the views expressed by Mr. Demond, and he regretted very much this semi-political discussion in regard to the whole matter. It was regrettable that the speaker of the evening should refer to the Governor of the State as "our most distinguished Governor," for the Governor of our State did not make a bill, but he was a mere incident; the President of the United States was a mere incident to a bill. He said a man may be condemned whether he vetoes a bill or not. He was opposed to the resolution in its present form. He said he was not opposed to the consumptive and wished to help along the interests of the consumptive. He believed the matter should be laid before a committee for action, and he moved that it be referred to a Committee of Five to be appointed by the Chair and who should report back to the society at its next meeting.

(It was then further amended that the resolution be referred to the Board of Trustees for action. This was carried.)

Dr. S. A. Knopf closed the discussion and said that he only wished that Mr. Demond's statement that "all laws were good" was true. In regard to the difference which existed between consumption and smallpox he would gladly enlighten Mr. Demond by saying that the latter is a dangerous contagious disease, the former simply a communicable disease, and he illustrated the difference by saying that a well-conducted sanatorium for consumptives was the surest place for a well person *not* to contract the disease, while in the smallpox hospital, no matter how well kept, one would be sure to contract the disease unless vaccinated and revaccinated. There is no danger

in associating with a clean, conscientious consumptive, there is always danger in associating with a smallpox patient.

Mr. Demond, Dr. Knopf said, had made the statement that there was no such a thing as hardships imposed upon the consumptive. He evidently has had no experience with consumptives. To realize the hardships which are so often unjustly imposed upon the pulmonary invalids one must have been touched by the presence of consumption in one's own family or that of a near friend, and only then one will feel how greatly the consumptive deserves our sympathy.

In answer to Dr. Berg's criticism for having taken notice of an article written by a man unknown to the profession, Dr. Knopf said he thought it neither kind nor just to ignore the author of a work because he was not well enough known by the profession. Every well-known author must have been unknown at one time of his life. The fact alone that what Dr. Saxe wrote had appeared in two issues of the *New York Medical Journal* justified the consideration of the article and the author. Extracts of Dr. Saxe's article had been copied and recopied, not only in many medical, but also in quite a number of lay papers, and Dr. Knopf said that he had letters in his possession which showed the fruits of spreading such ideas. Furthermore, Dr. Saxe was not the only medical man afflicted with phthisiophobia, and when such statements were published as those promulgated by that author, or by other physicians or laymen, Dr. Knopf would always consider it his duty to protest against them.

In regard to the Goodsell-Bedell law, he could only repeat that resolutions were passed condemning it, not only by the Academy of Medicine, but also by numerous other medical societies of this city and State, besides the protests mentioned in his paper from the Charity Organization Societv and the Masonic fraternity.

As a reply to Dr. Berg's accusation that Dr. Knopf was largely responsible for the compulsory reporting of tuberculous cases in this country, he would wish to say that he had always advocated what might be called a facultative, but not a compulsory registration. The Health Board of the City of New York requests that the physician reports the name, age, sex, and residence of the tuberculous patient, and whether there are any other members in the family afflicted, and asks if the attending physician wishes that an inspector from the Health Department should visit the patient's residence. If the attending physician does not desire to have this done there will be no interference. Surely such registration did not imply any hardship to the patient, his family, or his physician, but it was a valuable aid to statistical science, it told of the whereabouts of consumptives and of the districts which were particularly invaded by tuberculosis. Nearly all medical men favored such registration, and Dr. Knopf said that he had met few who would not wish to comply willingly with such regulations.

Dr. Knopf again asked the society to aid in the repeal of the Goodsell-Bedell law, and thought it wise to consider the steps to be taken in this matter quietly in special committees made up of lawyers and physicians. To combat the private phthisiophobia, which he believed existed to a most alarming extent, he would urge the authorities to give a better example and be helpful in educating the people at large to the fact that the conscientious consumptive is as safe an individual to associate with as any well person.

Officers Elected.—*President*, Theodore Sutro; *Vice-President*, Dr. Carl Beck; *Treasurer*, D. McLean Shaw; *Recording Secretary*, John C. West; *Corresponding Secretary*, Alfred E. Ommen. *Trustees*, Drs. Edward F. Brush, Frank Furguson, E. J. Palmer, and C. A. Ramdohr; Messrs. George C. Andrews, Charles P. Blaney, Charles M. Demond, Frederick B. House, and Henry Melville.

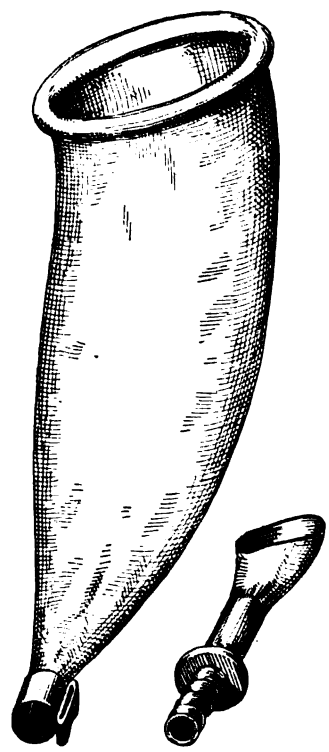
New Instruments.

A NEW FEMALE URINAL.

By FRIEDRICH GROSSE, M.D.,
NEW YORK.

Mrs. X. came under my treatment with a carcinomatous destruction of the bladder wall and vagina, causing incontinence of urine. She had two urinals of the well-known shapes, but they did not answer, being dislodged by every movement. The permanent leaking of the urinals had given rise to the worst inflammation of the skin I ever saw. The external sexual organs and neighboring regions were highly eczematous, ulcerated, and, in addition, bedsores occupied the dependent parts. The minutest shifting of the urinal exaggerated the apparently intense pains. The patient was so exhausted from lack of sleep and appetite and terrible suffering, that death seemed to be a question of only a few days.

Although the family tried to keep her dry and clean, the offensive smell was almost unbearable. Everything was done to alleviate her condition, and finally I devised an apparatus which, on being inserted into the vagina, could drain away the fluids without touching even the labia. This apparatus consisted of an annular brim of a watch spring, about one and one-half inches in diameter, covered with rubber dam, and attached to it a small bag of the same soft material, the tapered end of which was fastened to a hard-rubber piece which allowed a rubber pipe to be drawn over it, to lead off the discharges into a vessel below the bed.



The apparatus was easy to introduce, caused no complaints whatever, and worked excellently, so that the patient lay absolutely dry, and could be kept clean. Although the smell had penetrated the whole apartment, it was entirely banished. The inflamed skin soon became healed and the patient gained in strength and flesh, as far as the cancer permitted. Not long afterward I was surprised to find the sufferer out of bed, sitting in a chair, with the apparatus on. She had bound the bottle of one of her old urinals to her leg, and the pipe of the little bag connected with it. She could take it out, clean it, and introduce it herself without any difficulty.

Incident to the splendid result in this case, I tried it later with women whom I treated with ichthyol tampons, to prevent the cloths from being soiled, the tapes of the balls being put into the bag. As the amount of discharge in such cases was small, I had the end of the bag closed, and a little eye attached to it, through which, by means of a wool thread, the bag could be fastened to the thigh. All the women highly appreciated the new instrument, and one of them suggested that it would do the same service during menstruation. I followed the idea and tried it in about fifty cases, in all of which it gave satisfaction; none of the women had any

inconvenience and all preferred it to the sanitary napkin.

The diameter of the brim of the instrument varies according to the width of the vagina, and the length of the bag of the closed variety according to the quantity of fluid. In cases of incontinence of urine, the apparatus has to be used with a drainage pipe and a reservoir like the old urinals.

The insertion is done by the woman herself, introducing the ring about three inches into the vagina. A slight traction with the bag, in an angle of forty-five degrees, will bring it behind the hymenal ring, where a slight resistance will give the signal to stop, and the instrument will rest safely. A little stronger traction in different directions will remove it without difficulty.

The apparatus is superior to the common urinal, by, first, being incomparably lighter, the weight being only ten grams or so; second, adhering to the body without bandages; third, closing absolutely, provided the proper size is taken, and avoiding even moistening the labia majora. All women stated that in case of menstruation it was more comfortable than the bandages and caused no irritation whatever.

It will certainly be of great benefit in cases of permanent irrigation of the internal sexualia, in which the affluent catheter may be introduced by a hole cut into the bag, the wash will have its exit by the mentioned rubber outflow.

The instrument is inferior to the common urinal by being unavailable in the case of a virgin, and in that of incontinence of nervous or muscular origin.

65 Second Street.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Infectious Diseases, Their Etiology, Diagnosis and Treatment. By G. H. Rogers and M. S. Gabriel, M.D. 8vo, 874 pages. Illustrated. Lea Brothers & Co.

Gesammelte Abhandlungen über Zuckerbildung in der Leber. Von Prof. Dr. J. Seegen. 8vo, 492 pages. August Hirschwald, Berlin.

Months and Moods, a Fifteen-year Calendar. By Edward Curtis. Square 4to. The Grafton Press, New York.

The Purin Bodies of Foodstuffs. By I. Walker Hall, M.D. Second edition (revised), 4s. 6d. 12mo, 214 pages. Sherratt & Hughes, London. Price, 4.6.

The Principles of "Open-air Treatment of Phthisis and of Sanatorium Construction. By Arthur Ransome, M.D. 8vo, 104 pages. Smith, Elder & Co., London.

Operationen am Ohr. Von Dr. B. Heine. Mit 29 abbildungen im Text und 7 Tafeln. 8vo, 178 pages. S. Karger, Berlin. Price, M. 6.

The Worth of Words. By Dr. Ralcy Husted Bell and Dr. Wm. Colby Cooper. Third edition, 12mo. 307 pages. Hinds & Noble, New York City.

The After-treatment of Operations. By P. Lockhart Mummery, F.R.C.S. 12mo, 221 pages. Illustrated. William Wood & Company, New York. Price, muslin, $2.00 net.

Infection and Immunity with Special Reference to the Prevention of Infectious Diseases. By George M. Sternberg. 8vo, 293 pages. Illustrated. G. P. Putnam's Sons, New York.

A Manual of Bacteriology. By Herbert U. Williams, M.D. Third edition, 8vo, 351 pages. P. Blakiston's Son & Co.

Paul Guttmann's Lehrbuch der Klinischen Untersuchungs-Methoden Brust- und Unterleibs-Organe. Von Dr. Felix Klemperer. 8vo, 529 pages. August Hirschwald, Berlin.

Therapeutic Hints.

Eczema of the Eyelids.—Brocq uses locally for this condition, warm compresses of boric acid, followed by

Oxide of zinc		
Starch powder	āā	ʒii. p.
Lanolin		
Vaselin	āā	ʒiv.

M. When the inflammation has subsided the following ointment is used:

Yellow precipitate	gr. x.
Vaselin	ʒvi.

—*Medical Press.*

Corneal Ulcer in a Torpid State.—

℞	Hydrarg. oxidi flavi	gr. i.
	Atropinæ sulph.	gr. ¼.
	Vaselini	ʒi.

M. A small portion to be introduced between the lids night and morning. —De Schweinitz.

Coryza.—

℞	Powdered starch	10 parts
	Boric acid	1 part
	Bismuth subnitrate	½ of each
	Powdered quinine	½ part

S. Use as snuff.

—Hirtz in the *Clinical Review.*

Ethyl Anæsthesia.—Chloride of ethyl anæsthesia is easy and rapid and free from discomforts and danger. The fluid should be poured upon a mask or compress, a drachm or so at a time, and inhaled deeply. If the dose is repeated at intervals of five minutes, seldom more than an ounce is required. Anæsthesia results rapidly in about three minutes, and is indicated by muscular relaxation, sometimes by a dilatation of the pupils and loss of corneal reflex. There is no period of initial excitement, depression of heart, or respiration. There is seldom nausea or other ill effects. It is ill adapted to lung operations, but may be used to advantage as a preliminary to ether chloroform or ether. —Vanverts.

The Prevention of Chloroform Accidents.—Felchenfeld has made some recent additions to his suggestion that tincture of strophantus should be given in frequent five-drop doses for two or three days prior to chloroform anæsthesia, in order to strengthen the heart action. He has recently insisted on the importance of frequent examinations of the heart before the administration of chloroform, even though the organ is found sound at the primary examination. In the case of a strong and robust man, preliminary strengthening of the heart is quite unnecessary. In case of nervous irritability of the heart indicated by dulness of cardiac sounds, by a somewhat diffused and indistinct apex beat, and by a small and very rapid pulse, the author would give small doses, not more than 5 drops, of tincture of strophantus and tincture of digitalis three times daily, for some days before the operation. The good effects of this treatment are shown by a reduced pulse rate, less mental depression, and anxiety, improved appetite and good sleep. The pulse rate, it is stated, should be reduced to 80, at the highest, before a subject of cardiac irritability can be chloroformed without risk. In a second group of cases, in which there is a distinct evidence of muscular degeneration varying from slight forms of muscular weakness to grave myocarditis, the author would endeavor to fortify the flagging heart and to improve the rapid and irregular pulse; and with such object in view would substitute for the first described method of treatment warm baths, carbonic acid baths, and injection of strychnine; the administration of digitalis being continued in the form of infusion. In cases of this kind, ether should be used as the anæsthetic in preference to chloroform. The most difficult cases to deal with are those of hypertrophy of the cardiac muscles, which need careful prophylactic treatment, and in which the action of the anæsthetic should be assisted by an injection of morphine at the seat of operation.

—*Medical Age.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending December 28, 1903:

	Cases.	Deaths.
Measles	438	6
Diphtheria and croup	379	50
Scarlet fever	277	30
Smallpox	1	...
Varicella	116	...
Tuberculosis	217	161
Typhoid fever	61	14
Cerebrospinal meningitis	...	4

Hypophosphites of Calcium, Sodium, and Potassium in the Prevention and Treatment of Abscess.—Sinclair Tousey presents the following formula as an improvement upon some of the more familiar ones in the prophylaxis and treatment of suppurative conditions, notably of the cutaneous and lymphatic organs produced rather by the state of the system than by infection. The combination which has been found most effective is ℞ calcii hypophos. gr. v; sodii hypophos. gr. ii, pot. hypophos. gr. ii. This is one dose and may be prescribed in syrup or in capsules. The latter may conveniently contain half a dose apiece, two being taken at one time, and followed by half a glass of cold water. The author has not met with any disagreeable results from the use of this formula, and has found it most useful in cases which there is simply a swelling of the subcutaneous tissue presenting well-marked fluctuation, without redness or pain. He has treated such swellings in the perineum, the axilla and about the neck and caused their entire disappearance, though at the commencement of treatment there was unmistakably a drachm of fluid pus present.—*Annals of Gynecology and Pediatry.*

The Relation of Hysteria to the Female Genitals.—Voss points out that the tendency of modern gynecologists is to modify the older view that hysteria was to a large extent founded on abnormalities of the pelvic organs. It is more particularly the neurologists, whose observations show that hysteria and the female genital system do not possess essential causative inter-relationship, while on the other hand gynecologists also have found that many conditions formerly believed to underly nervous disturbances have nothing in common with them, and that symptoms supposed to have a sexual etiology were of purely neurotic nature. The author's observations on ninety-six patients, showing hysterical symptoms, revealed sexual abnormalities in only nine. Of these, two were congenital malformations, and in only two of the entire number could any connection with the nervous condition be traced. The author believes that hysteria does not arise from affections of the female genitals oftener than from other morbid conditions. There are, however, nervous symptoms dependent on the genitals which simulate hysteria, such as reflex neuritis, neuralgia of the pelvic plexus and sciatic nerve, sacralgia, etc., but they are of direct and not of reflex origin. Most of the neuroses coming under the gynecologist's care are not true hysterias, and rarely offer the typical symptoms of disturbances of sensibility, pressure points, convulsive seizures, etc., but the diagnosis must be made chiefly on the history and the discrepancy between the subjective symptoms and the slight objective lesion. When any serious condition does not appear likely it is better in such cases to refrain from internal examination. The possible consequences of even slight operative procedures must not be underestimated, as even the narcosis alone may be of moment in those of neurotic predisposition.—*Monatsschrift für Geburtshülfe und Gynäkologie.*

Typhoid Spine.—J. W. Cannon describes his own case of typhoid fever. Ten days after a relapse of his case, in turning over in bed a sharp pain was suddenly experienced in the lumbar region of the spine. For more than two months it was impossible for him to assume a sitting posture, so great was the pain induced. In turning over in bed he had to be very careful and use every precaution to keep the shoulders and hips moving at the same time to prevent any rotary motion of the spine. It is evident that the initial attack was caused by strain in turning over in bed. The pain was not unlike a sudden "crick," so often described by men engaged in lifting heavy weights. The point of injury was felt to be about the fourth and fifth lumbar articulation whence the acute spasmodic pains radiated. The author feels sure that there was periostitis of the anterior and lateral parts of the vertebræ, the inflammation extending to the ligaments, deep fascia and muscular attachments—neuritis, due to thickening of the periosteum, and injury to the nerves as they escape from the intervertebral foramen. Morphine, chloral, and bromides were of no practical benefit, nor were heat, massage, and electricity. Rest is the best treatment, and the more strictly adhered to the better. Recovery has at last been established with the exception of some weakness of the spine and slight tenderness.—*Medical Herald.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended December 19, 1903:

SMALLPOX—UNITED STATES.

		CASES	DEATHS
California, San Francisco	Nov. 29–Dec. 6	1	..
Illinois, Belleville	Dec. 5–12	1	..
Chicago	Dec. 4–11	1	..
Louisiana, Baton Rouge	Nov. 28–Dec. 5	1	..
New Orleans	Dec. 5–12	2	imported
Massachusetts, Boston	Nov. 28–Dec. 5	1	..
North Adams	Dec. 5–12	1	..
Michigan, Port Huron	Dec. 5–12	1	..
New Hampshire Manchester	Dec. 5–12	2	..
New Jersey, Camden	Dec. 5–12	1	..
New York, New York	Dec. 5–12	2	..
Ohio, Cincinnati	Dec. 4–11	4	..
Dayton	Dec. 5–12	1	..
Youngstown	Dec. 5–12	12	..
Pennsylvania, Altoona	Nov. 30–Dec. 12	3	..
Carbondale	Nov. 30–Dec. 7	2	..
Erie	Dec. 5–12	3	..
Johnstown	Dec. 5–12	3	2
McKeesport	Dec. 5–12	2	..
Norristown	Dec. 5–12	1	..
Philadelphia	Dec. 5–12	57	16
Pittsburg	Dec. 5–12	25	8
Reading	Dec. 7–14	1	..
Tennessee, Memphis	Dec. 5–12	10	..
Utah, Ogden	Nov. 1–30	1	..
Wisconsin, Milwaukee	Nov. 28–Dec. 5	1	.
	Dec. 5–12	10	.

SMALLPOX—FOREIGN.

Colombia, Barranquilla	Nov. 22–29	..	2
Brazil, Rio de Janeiro	Nov. 8–15	36	35
Ecuador, Guayaquil	Nov 14–21	..	1
France, Lyons	Nov. 14–21	..	1
Paris	Nov. 21–28	..	7
Rouen	Nov. 1–30	..	3
Great Britain, Glasgow	Nov. 27–Dec. 5	20	3
London	Nov. 14–21	5	..
	Nov 21–28	5	..
Manchester	Nov. 21–28	4	..
New Castle-on-Tyne	Nov. 21–28	1	1
Nottingham	Nov. 21–28	2	..
Italy, Catania	Nov. 19–26	..	4
Mexico, Monclova	Dec. 10	1	..
Russia, Moscow	Nov. 14–21	3	1
St. Petersburg	Nov. 14.21	59	..
Warsaw	Oct. 31–Nov. 7	..	1
Turkey, Constantinople	Nov. 15–22	..	6

YELLOW FEVER—UNITED STATES.

Texas, Laredo	Dec. 8–15	7	2

YELLOW FEVER—FOREIGN.

Brazil, Rio de Janeiro	Nov. 8–15	3	1
Ecuador Guayaquil	Nov. 21–28	..	1
Mexico, Coatzacoalcos	Nov. 28–Dec. 5	1	..

CHOLERA—FOREIGN.

India, Calcutta	Nov. 1–14	..	50
Japan, Nagasaki	Nov. 10–20	33	18
Straits Settlements, Singapore	Oct. 24–31	..	35

PLAGUE—FOREIGN.

Africa, Cape Colony	Oct. 17–24	2	..
Brazil, Rio de Janeiro	Oct. 8–15	40	17
Egypt, Alexandria	Nov. 7–13	..	1
Samallut	Nov. 7–13	1	1
India, Bombay	Nov 3–10	..	54
	Nov 10–17	..	49
Calcutta	Nov. 1–14	..	35
Karachi	Nov. 1–8	7	7
Japan, Yokohama	Oct. 31–Nov. 7	1	1

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Original Articles.

ETIOLOGY OF RHEUMATISM: OBSCURITY, INSIDIOUSNESS, PREVENTION, AND MANAGEMENT IN CHILDHOOD.

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RHEUMATISM is caused by non-neutralized acid-products of proteid metabolism. It is cured by basic constituents of food.

Salicylate of soda from oil of wintergreen is a specific for acute active manifestations; *cure* is by neutralization in tissue fluids and cells of acids of proteid metabolism by bases abundant in certain articles of diet.

Every disease in its most pronounced typical form, has one unequivocal, absolutely diagnostic, pathognomonic symptom. In rheumatism this is profuse, sour-smelling, acid perspiration. The normally alkaline saliva becomes acid, the urine is hyperacid, the fæces become acid. This condition belongs exclusively to rheumatism.

Vital processes of tissue cells are dependent upon alkaline tissue fluids.

In the normal state, acids of metabolism are *immediately* neutralized by basis held in organic combination with the proteid, and by alkali-carbonates from oxidation of vegetable acids.

In pathological conditions the first of the reserve alkalies to be drawn upon for neutralization of acids, are those of the blood. Reduction in alkalescence of blood, causes disintegration of red blood cells.

Sodium and potassium compounds are the chief elements in maintaining alkalescence of the blood. In aggravated rheumatic states, sodium carbonate of the plasma is decomposed, carbonic acid set free. Sodium transports carbonic acid to the lungs, where it is eliminated. Accumulation of carbonic acid in the blood, and in all fluids and cells of the body, shuts off oxidation.

Menacing symptoms in rheumatism are due to rapid large withdrawal from blood of the basic element, sodium; fatal reduction in alkalescence of blood; liberation of carbonic acid; arrest of detoxicating oxidative processes.

With prolonged gradual disarrangement, as in unremitting chronic states, the most resistant fixed alkalies of bone tissue are attacked; the osseous frame-work undermined; osteo- or rheumatoid arthritis.

This explains rheumatism from muscular and articular soreness following unusual exercise, with sudden checking of elimination, to rheumatic anæmia, and rheumatic hyperpyrexia. It also makes it clear why there is no line of separation between cases classified as subacute and acute; between chronic and subacute; from acute to hyperpyrexia. They are varying degrees of the same chemical disorder, alternating, blending indiscernibly.

Cases in which hyperpyrexia supervenes, are identical with the usual acute cases, at the outset.

Neglected, acute rheumatism may evidence no moderation for weeks; yet after four or six weeks of unrelinquished severity, it is as amenable to enlightened treatment as it would have been on the first day. With the application of unchanging chemical laws at any time in its course, counteraction is at once prompt and complete. Decisive, irrefragable attestation of chemical etiology.

Uncomplicated rheumatism, irrespective of duration or severity, never ends in suppuration. This extraordinary feature is likewise explained by the chemical nature of the complaint. Numerous recrudescences at varying intervals for years, constituting a part of the life history of the patient, can be solved only by recognizing its issuing from disordered metabolism.

Deficiency of basic constituents and of vegetable acids in food; excess of animal proteid, particularly nuclein; imperfect oxidation; defective elimination, are etiological factors of rheumatism.

Alcohol is a potent factor, by its action on the liver, where much important metabolism takes place; by interference with oxidation; by causing retention of poisonous waste products in all tissues and fluids of the body. The effect of alcohol is irremediable by any management, the cause abiding. Seldom does a patient keep faith with his physician regarding this important factor.

Foods rich in basic constituents and vegetable acids, organically combined with vegetable proteid, with a minimum of animal proteid; proper oxidation and elimination, *cure* and *prevent* rheumatism.

An alkaline base in organic combination, is stored with the proteid with which it is absorbed and assimilated, only to be excreted after metabolic decomposition, thus ensuring the presence of these bases at the spot where acids of metabolism are set free. If absent or deficient, the acids satisfy their chemical affinity by union with those bases which are constituents of living tissue.

Mineral water, drugs, alkaline solutions, may render the urine neutral or alkaline, without in the least influencing or neutralizing tissue fluids—they never reach them, therefore they never cure—only relieve acute phenomena.

For healthful metabolism, and neutralization of acid-products, there must be definite, constant proportions of potassium and sodium compounds.

To reach the tissues and tissue fluids, they must be in organic combination as produced by nature. Potassium is chiefly taken in with food; sodium compounds are largely formed by oxidation of vegetable acids. Vegetable food contains three to four times as much potassium as animal food. Cereals, potatoes, bread, all important vegetable articles of diet, are rich in potassium, and are essentials of the diet with rheumatic predisposition.* Salts of vegetable acids, by oxidation in the body, form alkali-carbonates. Vegetable acids, therefore, are equally

*It is most essential that potatoes, however served, should be cooked in their jackets; for the reason that the outer rind, just under the thin skin, is the richest in potash, and constitutes a chief supply of these salts to the body. This portion is sacrificed in peeling. As far as practicable, vegetables should be steamed instead of boiled, as boiling dissolves out the potash salts. Fruit should be eaten raw. When cooked the chemical union of salts of vegetable acids is destroyed.

indispensable with potassium, with the rheumatic disposition. All vegetables contain vegetable acids, but fruits are especially rich in them.

Unerring chemical laws plainly order and prescribe rich potassium-containing foods, and fruits charged with vegetable acids for the rheumatic diathesis. Experience exemplifies the soundness, the infallibility of chemical teaching.

Withdrawal of these foods, so commonly practised, is an inexplicable and an inscrutable physiological blunder.

Rheumatism is preventable, absolutely, indubitably.

This is vital in childhood.

Rheumatic tonsillitis, rheumatic torticollis, rheumatic inflammation of a single tendon, hamstring, dorsum of foot, hand, etc., is notably liable to have a concomitant, insidious endocarditis in operation; frequently an incurable valvular lesion has origin in a phenomenon seemingly so trivial.

A minor manifestation is often fraught with momentous import.

Etiology foreshows heart disease of rheumatism may be forestalled.

In a young child, pronounced unmistakable rheumatism is exceptional, while obscure, disguised forms abound.

Masked, equivocal, misleading expressions, typify the rheumatism of childhood, and are the basis of nearly every case of heart disease in children.

A child has evening temperature; a night's rest and the warmth of the bed bring morning remission. For many successive nights and days these periods are reënacted. Influenza, malaria, typhoid fever, remittent fever, catarrhal fever, mucous fever, indigestion, one, or all in turn, are diagnosticated. Purpuric spots; an exudative urticaria, a scarcely noticeable stiffness of a muscle; later a persistent anæmia, and, perhaps, a chorea and a valvular murmur, disclose the true nature of the ailment.

Minute examination would have revealed a sensitive joint, muscle, or tendon—perchance an endocarditis is betrayed. In a child with temperature, diagnosis is not complete until rheumatism has been excluded absolutely, not only by elimination of above signs, but by securing the effect of a clean tongue, and a milk diet.

Pleurisy with effusion is often rheumatic, and pneumonia occasionally is so, but neither is believed to be until a valvular murmur is audible.

Recurrent causeless vomiting* is an unfailing portent of lurking rheumatism.

Early, prompt detection and labeling of defaced types, makes it feasible to avert the discrediting, deprecable, deadly valvular defect.

To achieve this, the same trained skill, and the patient, attentive care are called for, which the archæologist brings to bear in deciphering an effaced inscription on an ancient tablet.

Anæmia with endocarditis may be the only features. With no outward mark or token, the organism may be profoundly, irreparably afflicted. Prevention is paramount in a child.

In adults, endocarditis is not concomitant to minor rheumatic phases. How interpret this modification with cessation of growth? Physiology of childhood illuminates.

In an adult the voluntary muscles constitute about 43 per cent. of the total body-weight; in a young child relatively about one-half this proportion. The incidence of rheumatism in childhood is most strongly marked when the muscles are growing rapidly, and when there is greatest muscular activity. The constituents of growth are proteid and mineral salts. *Phosphate of potash is the predominating salt in muscle. To provide for muscle-growth, alone, makes enormous demand for potash.*

Metabolism of growing structures, is from 2½ to 6$\frac{8}{10}$ times greater than it is in parts already formed. Rapid metabolism of growing muscles, with correspondingly large acid-products, necessitates an equivalent of neutralizing potash. *Muscle-growth in a child, to be normal and healthful, must be chiefly of that proteid which carries with it the fullest ratio of potassium salts, i.e. vegetable proteid.* The enduring tissue of the hardy farm lad, is preëminently the product of vegetable proteid with abundant minerals in organic combination.

At the point of contact of the lunula of the mitral valve with systole, the fibrous portion is reflected, forming a fibrous fold or band. At this fold there is localized exaggerated cell proliferation, a concurrence of growth of the leaflets, with coincident intensification of vulnerability. Moreover, there is forcible mechanical impact with each and every systole.

Owing to these two physiological conditions, every acute endocardial inflammation in a child has its inception on the auricular surface of the mitral valve, at the fibrous fold, at point of contact with systole.

The large appropriation of potash by the growing muscles; the exuberance of acid-products of the muscle-laboring child, make the balance between supply and demand of minerals close and easily lost. With every overplus of acid-products, growing mitral leaflets of heightened susceptibility, and of incessant mechanical stimulation, feel first and greatest the acid irritant.

Inflammation once set up in a growing structure, advances with perplexing virulence.

To safeguard a child's heart absolutely, he must be rheumatic-free. Inexorable physiological and chemical laws preclude this, without an abundance of potassium-containing food—cereals, vegetables, fruit.

To meet other physiological requirements, animal food is requisite, but it should not exceed the system's daily needs, as it overstimulates metabolism, and thereby prevents tissue-building.

MANAGEMENT

For the control of active rheumatic manifestations, there are two leading and chief factors—the state of the digestive organs, and the diet.

With a coated tongue, give calomel, followed by rhubarb and soda; the latter to be persisted in as long as the tongue is furred. The dose of rhubarb is proportionate to its effect on the bowel; soda should be in twenty-grain doses three times a day, before nourishment.

Milk should be the sole food as long as evident symptoms remain.

The proteid of milk contains no nuclein, and yields no uric acid. The urine becomes uric acid free on milk diet. Milk contains an abundance of phosphate of potash—muscle-salt (See above). Citric acid, a valuable anti-rheumatic, is present in considerable amount.

The first extension of the diet should be the addition of a strained cereal to milk.

Mention of cereal within hearing of the patient is unfortunate and injudicious. The rheumatic child invariably has an abhorrence of cereals. This constitutional loathing of the child's natural food is traceable to faulty feeding. Savory broths, soups, beef juice, excess of meat, etc., create a repugnance to the vitally indispensable cereals and vegetables. *Animal broths are totally destitute of food properties.* This is ancient, recent, and unalterable physiology.

*Absurdly denominated "cyclic vomiting." "Automobile vomiting" would be as fitting; no more grotesque; equally scientific.

Nevertheless, physicians wittingly and knowingly recommend them for children, where the first requisite of all food is its building, or tissue-forming value. There is a vast amount of obscure ill-health in children from heedless use of these foodless preparations.

When animal food is to be added to the diet it should be in the form of meat, not broths or beef juice. The contained extractives of broths and beef juice, by overstimulating metabolism, aggravate rheumatic anæmia and every rheumatic tendency.

Cereals must be eaten without sugar.

Sweets and animal broths in children, and alcohol and sweets in adults, are the bane of the rheumatic patient, and constantly discredit the physician by thwarting all treatment.

Vegetable soups—pea, asparagus, celery, potato, bean, tomato, are nutritive and appetizing.

When all active rheumatic manifestations have been dispelled, animal broths *on cereals* are adjuncts by stimulating appetite. They are not given for any food value, but as appetizers.

Having secured a clean tongue, all phases of rheumatism vanish with milk as the only food for a proper period; then in due succession, strained cereals, *vegetable* soups, cereal as a vegetable with butter and salt, baked potato, bread, green vegetables, fruit.

Failure in dietetic management in the past, is attributable to excessive use of broths and other animal food; sugar and sweet desserts; the use of alcohol; withdrawal of fruits and cereals.

25 West Thirty-seventh Street.

REMARKS ON THE MANAGEMENT OF FRACTURES INVOLVING THE JOINTS.*

By VIRGIL P. GIBNEY, M.D.,
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Fractures in and about joints are of perennial interest, hence the title of the paper of the evening calls for no apology. Some there be who may question the propriety of an orthopedic surgeon presenting a paper on a topic of general surgical interest. When one recalls, however, the boldness with which surgeons of all grades of experience invade the domains of orthopedic literature, the speaker on the present occasion will, I am sure, be pardoned for introducing a topic in the discussion of which every member of the Practitioners' Society may easily participate.

The opportunity afforded one having much to do with the problem of giving protection to joints from bones diseased leads him oftentimes to seek protection to joints from bones injured, and the results are, as a rule, so much more satisfactory in the latter class of cases. It has long been evident that the surgical teachings of the day on the management of fractures involving joints are those of yesterday, and that methods dating from a period when perfect restoration of function was not expected, still find a creditable majority who retain a profound deference for tradition. (Take as illustration the use the extension apparatus reinforced by heavily padded side splints.) Many patients with vicious union of the femur appear at the Hospital for Ruptured and Crippled for correction of deformity in the course of the year, and in nearly every instance the history obtained gives this treatment as the one employed. After correction by a linear osteotomy or an open incision with solution of the vicious continuity and suturing of the bones placed end to end, plaster-of-Paris, in the form of circular bandages, is applied with perfect result.

*Read before the Practitioners' Society, November 6, 1903.

We wonder why the prejudice against plaster-of-Paris exists, and the only explanation given is the lack of skill in the use of this valuable agent. Then when we find, after hundreds of subcutaneous osteotomies for hips and knees deformed as a result of tuberculous disease, fixation by a close-fitting plaster-of-Paris bandage all sufficient in maintaining the position desired, we feel that our favorite orthopedic adjuvant is worthy of more consideration at the hands of the general surgeon.

A few years ago a distinguished orthopedic surgeon [Dr. Shaffer] reported a case of fracture of the neck of the femur in an elderly gentleman cured by the use of a traction hip splint, and many of these cases long after the occurrence of the fracture and still disabled have been restored to good use of the limb by the long Taylor hip splint. The late Hugh Owen Thomas, an English orthopedic surgeon of international reputation, claimed good results in fractures of the neck of the femur with a splint known to all as the Thomas splint. Many excellent results by this appliance are already on record. Recently another member of the specialty I represent, and an esteemed colleague, has published a paper in the *Annals of Surgery* outlining a course of treatment of recent fractures of the neck of the femur that promises excellent results.

In his studies of coxa vara, my friend, Dr. Whitman, has found these fractures, complete or incomplete, amenable to the same mode of treatment that yields such brilliant results in bending of the femoral neck. I refer to complete and extreme abduction of the limb which depresses the neck of the femur and forces the trochanter major against the acetabular rim as a firm base of support. This being accomplished, a long plaster-of-Paris spica bandage, applied secundum artium, maintains perfect fixation until union is assured. Then as the limb comes down into normal position parallel with its fellow, the angle of the neck with the shaft is restored and the cure is complete.

Surgeons object to plaster-of-Paris in elderly people, and even in adults who are not elderly, because of the supposed discomfort. In correcting hip deformities in adults by osteotomy, I invariably employ a plaster-of-Paris spica bandage, and after a few days the patients are infinitely more comfortable than they would be in splints assisted by weight and pulley. A stockinette can be applied next to the skin, under this a "scratcher" or two, and over this cotton wool, especially about the bony points, secured by a flannel bandage. Then plaster-of-Paris enough to secure an immobile dressing is applied. One must cut it away where the toilet may be easily managed.

In fractures involving the elbow-joint, the points for consideration are the muscular attachment and the planes of the joint. It must be apparent to everyone that the epicondyle and condyle when separated, while easy to replace, are hard to maintain in this position, and a knowledge of the muscles attached is important when a fixed dressing is applied. Contusions of the soft parts of course interfere with a surgical dressing, but if the dressing be smoothly applied and sufficiently firm to hold the fragments in place, certain chances can be taken in the swelling which must follow. Those who rely on the circular plaster bandage have learned to make provision for this by cutting through the entire length of the plaster bandage and making of it a splint. It is maintained by good surgeons that a position in full extension makes of the olecranon a splint for the condyles, and prevents callous or other deposits in the olecranon fossa, thus minimizing the danger of full

extension as an end result. It is well known, too, that the normal tendency of all joints damaged by trauma or disease is toward flexion deformity.

Hence the importance of recognizing this factor.

An orthopedic surgeon, Dr. Arthur Gillette of St. Paul, Minn., has published, in conjunction with a colleague, a valuable paper on fractures and injuries of the elbow-joint in the *St. Paul Medical Journal* for August, 1902, and in this paper I find the views above expressed.

From personal observation and from a study of statistics I am convinced that full extension is harder to secure later in the management of the case than is flexion. After the union is sufficiently firm, say from ten days to two weeks, the extension position can be changed to that of flexion. This is true in fractures involving the elbow-joint as well as those involving the hip. Where the epiphyses are diseased and the inflammatory process invades by continuity the joint, adhesions are formed before one is prepared, and restoration of function is much more difficult than when the joint is the subject of a simple trauma. An inflammatory reaction of this kind is easily controlled by absolute rest, and the capsular ligament is not so apt to be involved in the short time that rest is necessary.

There are very few joints whose function is not sufficiently understood by medical men, and a little review of one's anatomical knowledge will help out wonderfully in making a diagnosis. This, after all, in the writer's experience, is one of the most important steps to be taken. In looking up hospital and out-patient records, it is astonishing how infrequent are clean-cut diagnoses. The terms, "hip fracture," "shoulder fracture," "elbow fracture," are very common, and I infer that this is the rule in other hospitals. In the hip, for instance, we find bending of the neck of the femur just often enough to make a differential diagnosis far from easy. But the *x*-ray of both hips ought to be conclusive, coupled with a satisfactory history. Within the last few months, three or four cases in adolescents have come under my observation, and the *x*-ray has enabled me to make a diagnosis beyond question. It is only within the last decade that fractures of the femoral neck in children have received sufficient attention to make this lesion an important factor in the differential diagnosis of hip disease. And, fortunately, the methods employed for fixing the joints have been remarkably successful in restoring not only good length but good function.

In fracture above the elbow or knee one naturally expects joint effusion, but it is not at all necessary to look upon this as a contraindication to prompt coaptation. The handling of a joint containing fluid with or without an anæsthetic does not render this condition more rebellious of treatment. If one is afraid of too much distention the sterilized needle of an aspirator ought to enable one to give prompt relief. After this the relative position of the joint surfaces, their evenness or unevenness, can be regulated to a nicety, and one can get a better idea of the exact location of the fragments. If the fragments have disturbed the normal planes of the joints or have produced mechanical obstruction to restoration of function, it is not a dangerous procedure to open the joint and restore the normal relationship of the surfaces, one to the other. The fear of invading a joint by a knife is still prevalent among the best of surgeons. And while it is well to respect this fear, it is a question sometimes whether chances might not be taken.

In fractures involving the ankle-joint, notably Pott's fracture, my attention is called often to an unsatisfactory result long after repair. Many surgeons fail to get a sufficiently long tendo Achillis when the dressing is applied. The foot, in a great many instances, is put up in moderate extension and the tendo Achillis naturally shortens.

As subsequent dressings are employed this defect may be recognized, but the difficulty, if uncorrected, is so apparent that the final correction is left to the masseur. Weak foot and later flat foot result very often, and massage fails to get the tendon long enough. These suggestions may serve to call attention to certain defects in the primary treatment.

The time devoted to bacteriology in medical schools and the surgical technique which is insisted upon ought to ensure safety in the hands of men who are not fortunate enough to get a thorough hospital training to round out their surgical learning. If the coaptation is perfect, then it becomes imperative to maintain the position by whatever means one is most familiar with, but, roughly speaking, there is, in the opinion of the writer, nothing better than the immobilization which a properly fitting plaster-of-Paris bandage affords. The student really gets very little opportunity for plaster-of-Paris work in the medical schools. He sees it applied in the clinics in a manner that does not inspire confidence when he undertakes to apply it himself. The padding is seldom put on smoothly, too much allowance is made for shrinkage, and the plaster bandages are rolled around without much attempt at uniformity. Hence the overriding of fragments even in the shaft of the bone and the condemnation of plaster-of-Paris as a dressing.

Many years ago we had discussions by the late Dr. Sayre and Dr. Frank Hamilton on this very subject—the one enamored of plaster-of-Paris, the other condemning it in season and out of season. Bad results were exhibited on one side, good ones on the other, and *vice versa;* but plaster-of-Paris has survived, and the orthopedic practitioner finds it an admirable supplement to steel braces and splints of all kinds. In our work at the Hospital for Ruptured and Crippled we have found it necessary to employ trained assistants in plaster work, because the workshop cannot begin to turn out with sufficient promptness the splints that are needed. The members of the staff, therefore, grow quite proficient in the use of this agent, and finding it so efficient in the control of spasm about a diseased hip or knee or ankle, they wonder, as does the writer, that the general surgeon does not use it more in his own practice. The surgeons in charge of the hernia department have long since learned to recognize its value over dressings after hernia operations, especially in children, and it is seldom that a patient leaves the operating room without a plaster-of-Paris spica bandage. If the operator, as is the case sometimes, objects and declares plaster unnecessary, the staff and nurses find it very difficult to care for the child so as to avoid infection.

Reasoning therefore from its value in joint disease and in the maintenance of good results after osteotomies, we claim that recent fracture could just as well be managed, with, of course, a little more care after its application.

It is hardly necessary at this time to occupy your time with a protest against passive motion after fracture. My impression is that it is the consensus of surgical opinion that passive motion is no longer tolerated. If, after a reasonable period of active motion and devices that will encourage active motion, deformity still exists, an anæsthetic would best be employed to overcome such deformity.

My paper, therefore, amounts after all to a further plea for plaster-of-Paris as a dressing for fractures,

a comparison between joint injuries from trauma and those from disease—the harmlessness of one, the ravages of the other.

16 Park Avenue.

THE PRINCIPLES OF DIAGNOSIS OF MEDICAL MALINGERING.*

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The markedly increasing prevalence of medical malingering, as well as the serious difficulties which at times beset its detection, render its study of the highest importance. Indeed at any moment and in any class of medical practice we may be confronted by feigned disease or lesions induced by factitious means, and failure to recognize them may entail most serious consequences not only to our reputation as physicians and surgeons, but also to the individual or corporation who solicits our professional services.

It is, therefore, extremely fitting that we devote sufficient time and labor thoroughly to familiarize ourselves with the cunning methods of medical malingerers, and thus protect and fortify against the chagrin and ridicule that will surely follow our failure to detect their sly tricks.

The marvelous ingenuity displayed at times by these crafty rascals in practising their deceptive art, and the great success which attends their efforts at the present time, should tend to stimulate us to even greater effort and more effective service in this department of medical science. That medical malingering constitutes one of the most formidable evils of the present age is well understood, but its peculiarly increasing successful practice would seem to reflect upon the ability of the medical practitioners to detect its fraudulent character. Moreover, its growing successful practice has proved to be a great temptation for new recruits, hence many accessions are annually added to the ranks of these miserable deceivers, who having carefully planned and studied their methods of fraud as well as invented many ingenious modern novel tricks, and devices designed solely for the purpose of defeating the most thorough and painstaking scientific medical examination, thereby aim to deceive not only the physician but also all those who are brought in contact with their nefarious practice. In view, therefore, of the unlimited field of action which medical malingering enjoys, together with the diversified character of its manifestations, its detection is rendered, even under the most favorable circumstances, exceedingly difficult, and at times well-nigh impossible. Fortunately, however, there are certain general principles which greatly aid us in its diagnosis, and when these are used in conjunction with accurate knowledge concerning the anatomy and physiology of the parts affected, together with the pathology of the diseases incident to these organs, the problem which confronts us is thereby greatly reduced. Upon investigation it has been found that the underlying motive in the large majority of cases of feigned disease can be directly traced to the advantages which accrue to the various kinds of personal gain. This may present itself in the form of conceited notoriety, monetary acquisition, or as shirking responsibility for crime and other misdemeanors which arise as the result of vicious or thoughtless conduct. In order, however, that the principles which govern its diagnosis can be better understood, it is necessary that we reduce all forms of medical malingering to a systematic order of classification, as the same rule does not apply in all cases. By a careful analysis it has been found that the various modes in which feigned disease appears, although exceedingly complex in their clinical manifestation, are capable of being reduced to three classes.

1. The first consists of cases in which the patient under some morbid impulse or fear *involuntarily feigns* disease, as seen in some forms of hysteria or neurasthenia.

2. The second class includes cases of *voluntary exaggeration of real morbid symptoms*, or manifestations superadded to genuine ones, including deficient powers of subjective analysis.

3. The third class embraces cases of deliberate and *distinctly planned deceit of factitious disease*, or purely voluntary morbid creations, thus constituting unadulterated intentional fraud or medical malingering of the worst type. The clinical application of this simple but comprehensive classification will greatly aid us in the diagnosis or detection of all the varied forms of medical malingering by the process of exclusion and elimination.

1. For instance, we have all seen cases in which it seemed impossible to decide (at least at the outset) whether the victim of an accident was a pure malingerer or had become through the fright and shock experienced by some injury or morbid impression a *genuine hysteric or neurasthenic*. Now it cannot be denied that such cases are sometimes the result of an inherent or latent neurotic diathesis, so that what at first appeared to be a pure imposition is upon further critical investigation found to be a genuine psychoneurosis of traumatic or other origin. These conditions are, therefore, feigned not by direct action of the will, but through an inability on the part of the individual to resist the promptings of an unstable and excitable nervous system, such as is commonly associated with hysteria and neurasthenia. Not all forms of feigned disease, therefore, are necessarily fraudulent in character, nor are its victims always responsible for its appearance, hence in the detection of medical malingering it is well to bear in mind that what at first may appear as a genuine case will later prove to be the result of latent hysteria or a purely neuromimetic neurosis.

Such cases, therefore, belong to the first group of our classification, and in their diagnosis we must apply the general principles which obtain in the differentiation of organic from so-called functional disease, by reference to the cause as well as the mutability of the symptoms, in which case grave troubles suddenly disappear and give place to others, such as could not result from the same organic cause.

2. Under the second class of cases we must endeavor to recognize the motives which may exist for a patient whose illness is, or has been, real, to extend or become prolonged beyond the period of his supposed incapacity for work by feigning graver or added symptoms. Thus we find sometimes a patient receiving weekly or monthly benefits during some incapacity following a real injury or illness, and who may, by refusing to duly exercise his recently recovered member, or through some indolence or indifference on his part, purposely neglect to submit himself to the prescribed treatment, and thus, by his insubordination or deception, induce deformities or complications that may not only further his stay in the hospital, but wholly incapacitate him for future usefulness. This is usually done in order to shirk his work or the duties incident to his usual occupation. He is, therefore, lazy, and malingers in order to prolong his idleness. Hence, we find real injuries, such as fractures, are sometimes delayed in their recovery by ill-conditioned men who disturb and even remove the splints. A diabetic patient

*Read at the annual meeting of the Mississippi Valley Medical Association, Memphis, Tenn., October 8, 1903.

has been known to place cane-sugar in his urine in order to prolong his stay in the hospital. Even in my own experience the following conditions have come under observation in the form of malingering for the purpose of shirking responsible duties or for personal gain, but which were fortunately discovered, viz. feigned blindness, deafness, aphasia, paralysis, epilepsy, tremor, ankylosis, hæmatemesis, and insanity. Numerous other instances could be cited as occurring in the practice of other physicians, but we are all familiar with the truth that every form of deception is sometimes resorted to for the purpose of gaining certain pecuniary benefits or the avoidance of certain responsible duties. Indeed, of all the difficult varieties of malingering, those which belong to this second class are by far the more frequent and common, while their manifestation presents the most complex forms of both organic and functional diseases; but it is the latter or functional conditions that is found to be by far the more frequent form in which they appear, while the resulting morbid phenomena are largely of a subjective character.

This, therefore, renders the diagnosis more difficult, but as before remarked, the underlying motive must be carefully studied, and by close attention to the progress of the case, mistakes will often be prevented, more especially when the symptomatology is found not to conform to certain well-defined scientific medical laws.

3. The third class comprises all cases of deliberately planned or premeditated forms of medical malingering. In such cases the simulation is the expression of unmitigated imposture and fraud. It is, therefore, a voluntary morbid creation which occasionally is so well planned and executed that it baffles all efforts put forth to detect its fraudulent character.

Indeed, its conscious purposeful action renders it the most malicious and damnable of all the varied forms of medical malingering, besides proving to be the most difficult of detection. The desperate lengths to which these miserable impostors will go at times in order to deceive not only the layman, but the doctor, can hardly be conceived or believed, while the severe and painful torture which its practice entails does not seem in the least to be a restraining factor, even when the certainty of actual death is known to be the penalty in the event of detection and exposure of their infernal methods. It is to this class of miscreants more especially that I desire to call your attention, as it is my belief that they are greatly on the increase, and while no form or class of business men or corporation are exempt from their fraudulent schemes, yet the railroad companies, perhaps, of all others, are the greatest sufferers from the stealthy impositions of these human pests; it is, therefore, fitting that we as medical representatives not only familiarize ourselves with their slick methods, but also try and devise means and measures by which we can not only detect but expose their sly tricks, and thus better protect the great and varied interests which we, at times, are called upon to minister. In order to show the unique methods by which insurance and railroad companies are swindled by such malingerers, a brief reference to the statements by "Moffett," who is considered one of the stars in this line of fraud, is all that is necessary. He states that he could recall at least seventy schemes that he himself worked successfully. The methods he used varied considerably, but included tight bandaging of normal limbs, and then pounding the same in order for them to swell and appear badly injured. The use of shot on the floor of a street car, and then stepping on same in order to fall and feign serious injuries. The cane, and screw racket, by which he would file the ferrule of his walking stick to represent a screw-driver, then he would loosen the screws that held the iron plate of the outside step of the car, and by stepping on same would fall to the ground, and claim serious damages. These and many other schemes he worked successfully for many years, and claimed that he made it a universal rule to employ the very best doctors, as he found, by experience, that they were the most easily fooled, while the companies he fleeced were better satisfied with their opinions. In this connection he also states that he paid the doctor bills promptly and willingly, even though at times he thought they were exorbitant, but this was done, he said, in order to impress them with the honesty of his actions. (See *Kansas City Medical Index-Lancet*, August, 1903.)

With a desire to place this subject before you in as practical a manner as possible, you will pardon me if I take occasion at this juncture to recite briefly a case that has recently come under my observation, and one which beautifully illlustrates many of the points referred to, besides offering a favorable opportunity to emphasize the more important principles which governed the diagnosis of this most difficult form of intentional medical malingering.

On the 28th day of August, 1902, Oran Hoskins, aged twenty-two, while leaning in the car door at Fort Worth, Tex., claimed to have been struck in the back of the head and knocked senseless to the ground by the car door, which was supposed to have been fastened to the ceiling with an iron hook, and jarred loose by switching. Two witnesses testified having seen Hoskins injured, and they at once went to his aid and claimed they found him unconscious and in convulsions. Later physicians appeared on the scene who ordered him taken to a sanatorium, where he remained three weeks, during which time he became violent and had to be restrained to his bed by straps. At the end of the three weeks his mother took him home, and what took place there for the next three months is not known to the world. Suit, however, was soon filed against the railroad company for the large sum of $75,000. In December, which was four months after the alleged accident, the first trial took place. The lawyers for the plaintiff claimed that Hoskins's injuries were of a serious and fatal nature, that his death was expected at any time, and with this view the attending physicians concurred. Their diagnosis at this time was that he had received a serious cerebral concussion, complicated with hemorrhage and extensive laceration of the brain tissue, which rendered him not only insane, but beyond hope of recovery, and his death might be looked for at any moment. A doubt arising in the minds of the jury as to the amount of damages such a person should receive resulted in a hung jury.

On February 26, 1903, or six months after the alleged accident, Dr. Cale, the chief surgeon, and myself were called to Fort Worth, Tex., to examine the patient.

Upon entering the room we found him lying in bed, and I ventured to ask him his name, when his mother informed me that he was unable to speak or understand anything that was said to him, and this had been the case, she said, ever since the injury. I asked him to sit up in bed, but he refused to do this, his mother stating that she always helped him to do this. She then did so and he sat up. He began at once to move his head in all directions, at the same time made grotesque movements with his hands and arms, which was also attended with a wild, vacant stare. I again began to question him, but he refused to answer me, his mother, however, remarking that he could not hear very well, and she doubted if he

could see well at all times. His constant movement of all four extremities led us to conclude, however, that there were no motor paralysis, nor could we detect any cranial or other palsies. With the aid of his mother we got him out of bed, and he was able to stand alone and he walked with slight assistance. Upon stripping him we could discover no marks or scars, and there was no external evidence of there having been any injury to his head. The muscular system showed no signs of genuine atrophy, and the muscular tonicity was good. As we were unable to receive any assistance from the patient himself, our examination, scientifically speaking, was necessarily incomplete. Hence, we were unable to test the sensory functions, but we learned from the mother that he did not complain or seem to suffer; that his bladder and rectal functions were not seriously impaired, although he was somewhat constipated. There were no bed sores, or other evidence of vasomotor disturbance. The superficial and deep reflexes were slightly exaggerated, but there was no ankle clonus or babinski reflex present.

We were unable to test the stereognostic sense. In regard to the special senses, there were no ocular palsies that we could detect. The pupils were enlarged, however, and glaring, but responded to light. The hearing was said by the mother to be impaired, but from our observation of the patient we had already formed an opinion that he could not only see and hear what we said, but also understand all that was done concerning him. This, however, was contrary to the general belief and opinion of all who had so far seen or examined him. Examination of the heart, lungs, and other visceral organs revealed no organic disease, although the heart action, as well as the respiration, were both accelerated. The pulse was 100, but the temperature was normal. We learned from the mother that while the patient had to be fed like a child, he enjoyed a good appetite, could lick his lips with his tongue, and slept without medicine. Mentally, the patient had an apparently dull, apathetic, stupid, vacant, demented stare, but after spending about one hour in our examination, Dr. Cale and myself both came to the conclusion that the patient was *malingering*. I was then requested to send the result of our examination in the form of a written report to the chief surgeon, and through him to the legal department, which I did. In this I embodied the special features of our examination, besides giving reasons for our diagnosis and which will be referred to later. On March 2 I received a telegram calling me to Fort Worth to appear as a witness in the trial of the case. After the usual preliminaries, the medical witnesses for the plaintiff were called to the stand. Their testimony went to show that Hoskins was seriously and permanently injured, and that he was considered by them as being idiotic, demented, and insane.

That at the beginning he had received a blow at the back of his head which produced cerebral concussion, with consequent loss of consciousness, later attended with convulsions, and then he rapidly lost the use of all of his mental faculties, including speech, which indicated to them that he also suffered cerebral hemorrhage, and laceration of the brain tissue which was sufficient to deprive him for all time of the use of his mental faculties; that he was compelled to be nursed and treated as a baby the rest of his life; that he was wholly oblivious of his surroundings; that he had been deprived of all mental life and he was now living a vegetative life: for all of which they claimed he was entitled to serious damages.

During the testimony of Dr. ——— the patient was wheeled into court and presented to the jury. His apparently pitiable condition made a profound impression upon them, especially as he made the same grotesque movements with his head, arms, and body and had the same vacant, glaring stare in his eyes as when we examined him. The effect on the jury was plainly visible, more especially when the lawyer asked the doctor the following questions:

Now, doctor, is this the young man you have been testifying about?

A. Yes, sir.

Q. What is his mental condition now?

A. I consider him in a state about like a child that has never been taught or learned anything. It is almost—well, it is idiotic: it is perhaps worse than idiotic, he has practically no mind, that is the size of it.

When this answer was given I saw two jurors break down and cry and I nudged Dr. Cale and said to him, "Doctor, we have lost this case already before we testify." It is needless to add that when I was called to the stand I took exactly the opposite view of Hoskins's case to that of the other physicians. In my testimony I claimed that Hoskins was a malingerer; that he was not as badly hurt as he wanted people to believe; that he was fooling not only the lawyers and doctors, but also the court and jury, as well as the citizens, and that my judgment prompted me to believe that he would rapidly recover: all of which subsequently proved to be true. In spite, however, of my best efforts to convince the jury that he was a malingerer, they awarded Hoskins a verdict for $35,000, the largest ever given in the State of Texas. Two weeks later the railroad company asked for a new trial, which was refused. Then followed the most sensational features connected with the case. No sooner had the motion for a new trial been overruled than Col. R. M. Wynne, one of the most prominent lawyers at Fort Worth, Tex., went before the court and made the following statement, viz.: "That Mrs. Hoskins had visited him at his office some days before the accident happened, and had asked him what damages could be recovered from a railroad company in case an accident happened to a young man by which he should be rendered unconscious and become like an idiot, or lose entire control of his mind. Supposing that she was stating a hypothetical case, Colonel Wynne said he talked with her about it, and subsequently she asked him to visit her at her home, which he did, and there met the son, Oran, who talked with him about such an accident and indicated that such was to be carried out. Subsequently Mrs. Hoskins called again at his office, and when the door was closed told him she had made up her mind to go through with such an accident to her son, and wanted him to agree to take the case; that he remonstrated with her then and there, and told her that he would not take such a case for all the gold that could be dug out of the ground, and he warned her not to undertake it. That she left saying that her mind was fully made up to try it, and that she would consult some other lawyer. She departed, and he at once told his law partner, Mr. C. R. Bowlin, of the interview, and they agreed to say nothing about it, hardly supposing that it would amount to anything. That a few days later he was surprised to read in the newspaper of just such an accident as had been outlined to him, and that he was again spoken to by Mrs. Hoskins about it. That he held his peace; that he did not tell Carlock and Gillespie about the interview Mrs. Hoskins had had with him, after he knew they had the case, because, as she had asked him where to find Mr. Carlock when she left his office on the occasion of her last interview with him before the accident, he supposed she went right to him and

consulted him about it. When the trials came on he said nothing, and when at last he saw that the case had been won in the court here and would go up to the higher court, he decided it was time for him to speak, and so he told his secret, and absolved his friends from obligation to keep it further."

When this statement had been made to the court, Messrs. Carlock and Gillespie, attorneys for the plaintiff, at once denied in open court all knowledge whatever of the woman and her fraudulent schemes, and later, when they became fully persuaded that the case was not what they thought it was when they undertook it, they gave it up entirely, and at this writing they have no connection with the case whatever, they having withdrawn in favor of other lawyers.

Mrs. Hoskins also denied emphatically all that Col. Wynne had stated about her consultation with him previous to the alleged accident. Judge Dunklin, however, set aside the verdict at once and ordered a new trial, at the same time turned the patient over to the physicians for further investigation, and they removed him to the sanatorium. No sooner had Hoskins reached the sanatorium than the same physicians who testified in his behalf in court began to subject him to certain tests (which have already been published in the *Kansas City Medical Index-Lancet*), and which consisted in brief of first impressing the patient with the seriousness of his condition and telling him that nothing short of a severe and radical operation to his brain would do him any good and even this would likely prove fatal. In the meantime, every preparation was made for the operation by the other physicians in the presence of Hoskins, by the display of instruments, etc., all of which was intended to impress upon Hoskins the seriousness of the undertaking; finally he was placed upon the operating table, when a bogus anæsthetic was first administered but substituted later by genuine ether, and which soon resulted in Hoskins confessing his fraud by admitting that he had been shamming insanity for over nine months. When the results of this startling investigation reached the ears of the legal officials of the railroad company they sent me the following telegram: "Dr. John Punton, Kansas City, Mo. Oran Hoskins under test by Dr. Walker confessed his fraud last night. You are vindicated." (Signed) West, Chapman & West, Attorneys.

Simultaneously with these events Oran Hoskins and his mother were indicted by the grand jury for conspiring to swindle the railroad company, and as soon as the results at the sanatorium were received they were placed under arrest and are now under heavy bonds to appear to answer the charge. As it now stands, a new trial has been granted the company, and the plaintiff and his mother are under bonds, waiting for the time to arrive set for their hearing. What will be the final outcome of this greatest of medical frauds remains to be seen, but it is to be hoped justice will finally prevail.

It may now be pertinent for us to inquire what methods or principles were applied in the detection or diagnosis of this most difficult and important case.

In the absence of any known specific tests all authorities agree that the leading principle in the diagnosis of fraudulent or simulated insanity is the usual presence of *marked inconsistencies* in their conduct or behavior, hence the malingerer will unwittingly expose himself in some exaggerated manner. Without any desire to exalt or underrate unduly the value of this great practical principle, I am convinced that there is an intuitive knowledge born of large clinical practical experience and training with the insane which enables the possessor to recognize as well as interpret the true significance of such inconsistent overaction or simulation when brought in contact with it, and which cannot be acquired solely from textbook knowledge. Indeed, it was the application of this principle that led us to discover the fraud, for when I saw and studied the grotesque and exaggerated movements, I was convinced that they were consciously assumed or simulated, and therefore under control of the will. The patient was, therefore, "overplaying his part" as an insane man. Moreover, it is now a well-established principle that simulation or malingering often presents clinical pictures which in themselves are medical contradictions. Hence, they do not conform to known physiologic, pathologic, chemic, symptomologic, or other medical laws, consequently their fraudulent character is usually capable of demonstration when subject to the various tests belonging to the more approved and perfected methods of modern medical science. For instance, feigned blindness can hardly resist the test of the ophthalmoscope when directed by a master of ophthalmology. The stethoscope, endoscope, and sphygmograph will reveal the true condition of the heart and lungs. The various microscopical and chemical tests will clear up a doubtful diagnosis of kidney and other lesions. Electricity will aid the diagnosis of feigned paralysis and other anomalous nervous symptoms. The use of chloroform, ether or other anæsthetic will, when judiciously applied, often prove a valuable aid in the diagnosis of doubtful morbid phenomena. Rigid isolated medical surveillance will often reveal deceptive methods. When these and other recognized agents are judiciously and skilfully employed and associated with a thorough knowledge of the motor, sensory, reflex, trophic secretory, visceral and psychical or mental mechanisms of the nervous system, the demonstration of actual pathological lesions is greatly aided, while the differentiation of the false from the true, the genuine from the counterfeit, becomes largely a question of logical deduction. In the diagnosis or detection of simulation, therefore, the physician and surgeon is called upon to show how far the clinical picture conforms to known medical law and practice by the application of all the various factors to which allusion has been made.

When the case before us was subject to the scrutiny of this great practical principle it was found to be in itself a medical contradiction. For instance, here was a man that, according to medical opinion, had received a severe blow at the base of the brain, with consequent loss of consciousness and attended with convulsions, which later culminated in mania, and subsequently presented a complete loss of his mental faculties, including speech, for a period of at least six months at the time of our examination.

The pathological condition, according to the testimony of these physicians at the first trial, agreed that there was cerebral concussion and hemorrhage combined, with serious and extensive laceration of brain tissue. The lesion, however, was located by Dr. —— in the second and third convolutions of the left side. which corresponds to Broca's speech center. Reference, however, to the symptomatology is all that is needed to show this to be a mistake, for if the supposed lesion was confined to this region, motor aphasia would be the inevitable result. But the feigned symptomatology was designed to show the presence of not only an inability to pronounce words, but also a complete absence of their memory. Hence the clinical picture was intended to affirm the presence of word deafness, word blindness, alexia, agraphia, and indeed all forms of both sensory or amnesic and motor or ataxic aphasia, including psychical blindness and deafness, as well as that form of insanity known as dementia. Hemorrhage, there-

fore, was the most plausible theoretical pathological diagnosis. By analyzing the symptomatology, however, the hemorrhagic lesion, if present, could not possibly be solely confined to Broca's speech center, but should involve other parts of the brain, notably the first and second temporal, lesions of which give rise to word deafness and occipital lobe injury or which may produce word blindness. Furthermore, if the lesion was confined to the left speech center, then the emotional involuntary or automatic centers would not be wholly destroyed, as these are largely represented and subserved by opposite hemispheres. For instance, in case of serious injury to the left speech center, even when there is total loss of voluntary speech, the corresponding center on the right side not only may continue to exercise its emotional and automatic functions and allow the patient to express himself in the form of gesture or other pantomimic kinds of language, but also is capable of being educated to supplement the action of the injured opposite side, and thus, by a process of compensation, in due course of time will restore the ability to give expression to not only pantomimic but other forms of language. The extent to which this supplemental or compensatory action of the undamaged speech area is possible varies greatly, but, according to "Herter," is sometimes very astonishing. It was, therefore, only reasonable on our part to look for some improvement in this direction at the end of six months, as all authorities claim such to be the rule, but the case in question presented no apparent improvement; its absence, therefore, would seem to favor the view of simulation. Moreover, according to "Ranney," in order to pronounce any word it is essential that both the cortical center of speech and also the nuclei of origin of the facial, glossopharyngeal, pneumogastric, and hypoglossal nerves which are associated with it must be called into action. Inasmuch as the patient appeared unable to speak or use any form of language, it was only reasonable for us to look for some such cranial nerve involvement due to pressure; but these were entirely absent, unless it could be claimed that the auditory and optic nerves were injured and thus accounted for the alleged statement of the mother that her son was somewhat deaf and blind. But Dr. Cale and myself were well satisfied that the patient could not only see and hear but understand all that was said and done in our examination, hence word deafness, word blindness, alexia, and agraphia were excluded, besides other symptoms of aphasia, as well as dementia. Further analysis of the case also revealed the fact that there were no involvement of the bladder and rectal functions, and no true atrophy of the muscles, while the reflexes indicated only a slight functional disturbance. Examination of the heart and lungs found them to be in a good condition, as well as the rest of the viscera; indeed, all organic diseases were excluded. In addition, there were no external marks or scars of any injury or fracture having been received to the head or skull, which also confirms the suspicion given expression to by the railroad officials at the outset, viz., that they doubted whether Hoskins received the injury he claimed, and certainly in the light of recent developments it would seem he did not receive any such injury. When these facts are taken in connection with the close watch instituted by Hoskins's friends to prevent any railroad medical representative to see or examine him for so many months, besides the absence of any rigid medical isolated surveillance having been enforced, together with the suspicious character of his home environments, and crafty attitude of the mother, all tended to not only favor our view of the fraudulent character of the symptoms, but also favored the correctness of our diagnosis of medical malingering. Moreover, these facts can now be supplemented with others brought out at the trial as well as the later disclosures, not forgetting the amusing incident testified to by one of the doctors and illustrated by him upon the patient to the jury while in the courtroom, viz., that Hoskins's conditions could readily be made worse and his symptoms greatly exaggerated by shaking a red piece of cloth or handkerchief in his face, which, when done, had the same effect upon Hoskins as it does upon a bull, whereby the animal becomes greatly excited and enraged, thus proving to our mind at least the conscious simulation of the symptoms by Hoskins. In the light of all this evidence, as well as the fact of his sudden or instantaneous recovery, I think you will agree that the diagnosis of medical malingering was not only justifiable but clearly confirmed. In conclusion, it is interesting to note that the principles upon which it was based, although few in number, are subject to indefinite expansion and variation, according to the demands of each case.

In their recapitulation we find that they consist in the application of the following rules:

1. The recognition and correct interpretation of inconsistent morbid physical and mental phenomena.

2. By the exclusion and elimination of disorders with which the symptomatology does not agree.

3. Their disassociation with known lesions of all kinds. These, then, constitute the chief elements which form the principles that govern the diagnosis of medical malingering. In their practical application, however, they at times embody the use of all the various methods known to medical science, while their successful utilization constitutes not only the chief function but also the highest art of the clinical diagnostician, when brought in contact with abnormal conditions said to be due to traumatic influences.

When these m re perfect methods and principles, based as they are upon a more rational knowledge of the cerebrospinal architecture and other organs of the body, are duly compared with our former more faulty ones, based as they were upon incorrect knowledge, and erroneous inference, the practical benefits which accrue to the more modern medical knowledge and technique can be readily understood, while their universal application to the study of trauma and its evil effects upon the animal economy will not only revolutionize our skill and power in the detection and exposure of all the varied forms of medical fraud and malingering, but tend to raise the standard of medicine to the lofty eminence and dignity of an exact science.

Altman Building.

High Frequency Electric Currents in Therapeutics.—J. Hall-Edwards states that there is hardly a disease extant in which high-frequency currents have not been applied, and from the glowing reports circulated one would imagine it to be a panacea for all diseases (except housemaid's knee). Experience has taught him that its virtues have been vastly overrated, and that, although it has its uses, they are certainly limited. In his hands the best results have been obtained in obstinate neuralgia, dilatation of the stomach, hemorrhoids, gonorrhœa, gleet, leucorrhœa, and in the relief of pain in cancer. He has used it with some success in the treatment of various skin affections, and in chronic prostatitis. Of its effects in phthisis he has had little personal experience, but as many well-known continental workers have reported favorably upon it, one must credit their assertions.—*Treatment*.

CONGENITAL ORBITAL SARCOMA OF ENDOTHELIAL ORIGIN IN AN INFANT. OPERATION AND PRESERVATION OF GLOBE.*

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The literature of orbital sarcoma, especially in young subjects, is extensive, but congenital orbital sarcoma of endothelial origin is certainly not common. In a careful study of the literature on the subject I have not found a case, hence I report this one in the belief that it is unique. A great diversity of opinion exists on the subject of endothelioma, as regards not only its exact place in the oncologic system, but also its clinical and anatomical significance, leaving many important and numerous questions still unsettled. In many instances it is difficult to decide, from the structure of the tumor alone, whether it is an endothelioma, sarcoma, or adenoma. Some prefer to class them as sarcomata, while others describe them as embryonal adenosarcomata. The most striking feature common to this class of neoplasms is the combination of cellular and connective tissue elements, sometimes one predominating and again the other.

Of the clinical history of this case, all that is essential may be summarized as follows:

Examination: The patient, a male infant, was eight weeks old when first seen on September 12, 1902. The parents were healthy, and the mother, a primipara, said gestation and labor had been normal. At birth a swelling at the inner part of the left upper lid, producing a slight protrusion of the left eye, was noticed, and had about the same appearance then as it had when brought in for examination. The infant was well nourished, and physical examination showed no disease of the other organs. On examination, there was found beneath the upper lid of the left eye, between the internal angular process and the supraorbital notch of the frontal bone, occupying the inner wall of the orbit, a growth, the subconjunctival surface of which was about the size and shape of the end of a large peanut. The tumor was smooth, tense, not nodulated, and when steady pressure was made upon it no pulsation nor recession was felt. The integument of the upper lid was of natural color and unattached, but, owing to the presence of the neoplasm, the lids were not tightly approximated when closed. The left eyeball slightly protruded, and was displaced downward and outward. Globe movements were limited. There was no œdema of the lids and no injection of the ocular conjunctiva. The pupil was dilated and the iris reacted slowly to light. Ophthalmoscopic examination was negative.

Operation: Under chloroform anæsthesia, the bulbar conjunctiva was opened directly over the external surface of the tumor, the eyeball itself being left *in situ*, and carefully freed from its attachments for some distance. The growth was found to be firmly adherent to the sclera, and was separated by gentle dissection. The neoplasm was found to be encapsulated and a needle was introduced into the sac, but nothing could be withdrawn. This precaution was taken, with the idea that the mass might prove to be an encephalocele. In order to facilitate its removal, the internal rectus and superior oblique muscles were severed. The sac was then opened, and the contents, which resembled brain tissue, both in color and consistency, removed with a small, dull curette. After the sac had been emptied, the portion adhering to the inner wall of the orbit was explored for a possible opening into the cranial vault, but none could be found. A ligature was tied around the proximal or attached end and the sac cut away beyond it. The severed muscles were approximated and sutured, and the opening in the bulbar conjunctiva closed. Two weeks after the operation, the little patient was taken to his home, in Wisconsin, with the eye slightly converged, but otherwise normal. I am informed that the child is healthy, and that the only evidence of an operation having been performed is the slight convergence which still persists. (September 15, 1903.)

Macroscopical Examination: The tumor was enclosed in a fibrous capsule, and measured approximately 10mm. in thickness, and about 2 cm. in length. It was grayish-red in color, friable in consistency, resembling normal brain tissue, and similar in shape to a sausage. It had no pedicle, but was attached at its proximal end by numerous bands directly to the periosteum of the inner wall of the orbit.

Histological Examination: The tumor was preserved in alcohol and imbedded in celloidin and paraffin. Sections were stained in hematoxylin and eosin, safranin, Van Gieson's stain, thionin, and Unna's polychrome methyl blue.

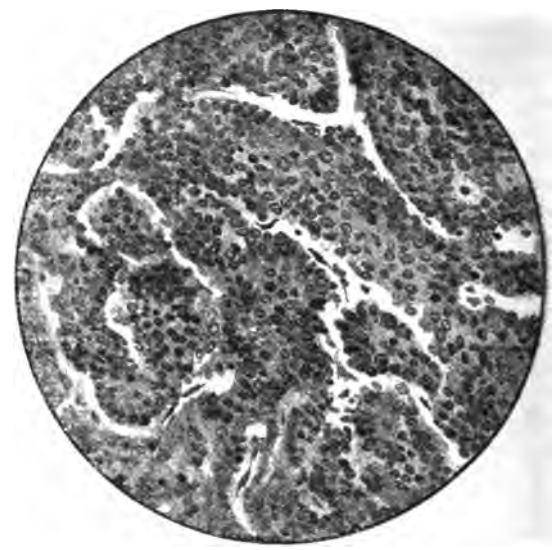

Fig. 1. Shows the alveolar arrangement and the large number of cell masses bounded by anastomosing fibrous tissue.

Viewed as a whole, with a low power (Fig. 1), the tumor is composed of a large number of cell masses, bounded by more or less complete anastomosing bands of fibrous tissue, so that an alveolar arrangement is produced. The alveoli, however, differ widely in size and in proximity to each other, and are not perfectly solid. On more careful examination it is clearly seen that the alveolar masses are formed by a somewhat complete double row of cells (Fig. 2), the long axes of which lie in line with the radii of the alveoli. The center of the alveolus within this stockade of border or covering cells is occupied by similar cells, which are not regularly arranged nor so closely packed together. These cells, as a rule, are not firmly connected with the lining ones, but lie free in the open spaces. More commonly, however, the alveolar structure is not so manifest, for there are large areas in which the proliferating cells are so closely packed together that the alveolar arrangement is lost and only a narrow streak of stroma is seen to traverse its center. This probably does not indicate a marked deviation from an alveolar structure, which the tumor certainly possesses, but rather a packing together or a coalescence of smaller alveoli, which has occurred in the course of its growth. Coming to the cells proper of the tumor, one observes a striking monotony of appearance. The cells in general are cuboidal, but when they are not closely packed together are decidedly

*Read before the Chicago Ophthalmological and Otological Society, October 13, 1903.

cylindrical. The nucleus of the former is round, while that of the latter is oval and often elongated. All of the nuclei are vesicular, and possess a considerable amount of granular chromatin scattered in small masses evenly within them. One or more deeply-stained nuclei can usually be demonstrated. The cells possess, in general, a comparatively small granular body of protoplasm, except the cylindrical cells, which have a more extensive cytoplasm. Here and there a cell will take a heavy stain, the nucleus

Fig. 2. An alveolus under high power, showing its formation of a double row of cells.

being large, and presenting every appearance of being in a state of mitotic division. An attempt at bringing out karyokinetic figures proved unsuccessful. This was probably due to the alcoholic fixation or to the slow growth of the tumor, as shown by the clinical course. In some of the alveolar spaces the cells have undergone degeneration. The cellular territories just described are bounded by tracts of connective tissue which, although not abundant, really form the structural framework of the tumor. This basement membrane, varying in thickness, forms a network with wide and irregular meshes in which the cellular elements lie. With Unna's polychrome methyl blue the connective tissue element stands out conspicuously, and while the cells within the alveolar spaces have but few fibers between them, it can readily be seen that at the circumference the covering cells are supported by bands of interstitial tissue carrying numerous blood-vessels. The stroma consists of loosely arranged fibers, with long, spindle-shaped or oval nuclei. Between these fibers are gaps and spaces which are occupied by red blood cells and occasionally by a few of the tumor cells. Within the stroma are seen vessels lined by a single layer of cells, identical with the tumor cells of the alveoli, representing a process of lymphangiectasis in which, as yet, no cell proliferation has occurred. Whether these be blood or lymph vessels, they seem to be conclusive proof that the growth is of mesodermic origin. The alveolar masses described above represent a proliferation of either blood or lymph vessel endothelium, and where they have coalesced, this proliferation has broken through its normal boundaries, in consequence of which a general invasion of the cells has occurred.

Those portions of the neoplasm that contain the typical and well-marked alveolar structure lined with the double row of cells, which are probably dilated lymph vessels (lymphactasia), might suggest adenoma were it not that the development of these tubular structures forms an almost complete and uninterrupted picture from the beginning of proliferation in the small gaps or lymph channels up to the apparently atypic and irregular masses of cell material. From the foregoing, it seems probable that the tumor is a congenital alveolar sarcoma of endothelial origin.

Histogenesis: The probable histogenesis of the growth is as follows: Early during the invagination of the mesodermic portion of the primary optic vesicle in the formation of the primary optic cup, a diverticulum grew forward from it, and later on became cut off from the parent structure. The imprisoned mesodermic tissue surrounded by mesenchyma began to proliferate, leading to the structure which the neoplasm shows.

Remarks: In the classification of these tumors, although their exact place is still *sub judice*, their embryonic origin is a fundamental consideration. In the simplest embryonic form of cell growth, all cells are alike, and, according to Thiersch and Waldeyer, if endothelium is of mesodermic origin and as such belongs to the connective tissue group, then endothelioma must belong to the class of sarcomatous tumors. A fuller discussion of this question does not come within the scope of this paper.

In a tumor which is encapsulated and slow-growing, there is always some question as to malignancy. The accepted criterion of such tendency, namely, unbridled growth of embryonal cells and their recurrence after removal and tendency to form metastases, is sometimes at fault as to each and every detail. Embryonal-celled tumors are sometimes not malignant, as, witness teratomata, while, on the other hand, mature-cell tumors are sometimes malignant, as witness fibroids. In time, back of this criterion, which is really not cause but effect, will some time be found an etiological factor that will become the test of malignancy. Nevertheless, at the present time any tumor composed of embryonal connective tissue cells and not inflammatory in origin must be called a sarcoma, whether encapsulated and slow-growing or the reverse.

My acknowledgements are due to Dr. A. J. Behrendt for referring the case to me, and Dr. W. A. Evans for many valuable suggestions.

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Multiple Angiomata of the Spleen.—Dr. Wm. C. Pumpelly, pathologist to the Georgia State Sanitarium, Milledgeville, Ga., reports a curious post-mortem finding in the case of a negro woman who died of pulmonary tuberculosis. The spleen was considerably swollen and on section presented a number of vascular areas, about 3 cm. in diameter, which were found to be composed of blood-vessels, supported by a delicate connective-tissue framework; they were distinctly circumscribed and separate from the spleen tissue. There were possibly twenty in all.

MIXED ANÆSTHESIA, WITH SPECIAL REFERENCE TO THE ADMINISTRATION OF HYOSCINE HYDROBROMATE BEFORE ETHER.

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For the purpose of producing a quieter anæsthesia, and in order to lessen the secretion of mucus in the air passages, and to diminish the disagreeable after-effects of anæsthetics, several drugs have been given by hypodermic injection, before the beginning of the inhalation. This method is known as mixed anæsthesia.

Morphine, alone or combined with atropine; atropine alone; chloral; and, lastly, hyoscine hydrobromate, as suggested by myself, have been used for this purpose.

A quarter of a grain of morphine hypodermically one hour before the commencement of the anæsthetic produces a state of calm at the time of inhalation which is highly desirable. The anæsthetic is taken more quietly, excitement is diminished and the secretion of mucus much lessened. The anæsthesia is maintained with a smaller quantity of the agent used and the muscular relaxation is complete.

It possesses the disadvantages, however, of intensifying the action of ether and chloroform, and of aggravating the nausea and vomiting afterward. In abdominal operations it locks up the bowels and makes distention greater and more difficult to relieve. Alarming respiratory depression, especially with chloroform, and prolonged stupor have been caused by it. Regnier and Lucas have observed a number of deaths which they attribute to it. Regnier states that morphine lessens the elimination of chloroform and favors accumulation, and in this way makes it more easy to give an overdose. In excitable and neurotic subjects, or in those with pulmonary or renal disease, whed a small amount of anæsthetic is desirable, it is of service.

Combined with atropine, the effect of morphine is more pronounced, especially in its action upon salivary and bronchial secretion, and at the same time atropine counterbalances the depressing influence of morphine on the respiration. On the other hand, the bad after-effects of morphine are not done away with. Atropine alone, acts mainly through its influence on the salivary and mucous glands. It prevents obstruction by fluid in the mouth and respiratory passages. However, it does not prevent excitement but even may increase it, and has no influence in lessening after-effects.

Chloral has been tried before ether, but produces most disagreeable symptoms after the withdrawal of the anæsthetic. It is a powerful depressant, and is dangerous, especially with chloroform, when collapse is apt to come suddenly.

A year ago, in considering the subject of mixed anæsthesia, it seemed to me that if some substance could be found which would accomplish all the good of morphine and atropine without their danger, and bad after-effects, a considerable gain would be accomplished in the art of producing general anæsthesia.

Something of this sort seemed especially desirable in the case of ether which, though by far the safest anæsthetic for long operations, is more difficult to administer satisfactorily than chloroform, and has more distressing sequelæ. I therefore decided to try hyoscine hydrobromate, and so far I have had extremely satisfactory results. I have taken accurate notes of all the cases in which I have given it, and, as I possess records of more than five hundred administrations of ether alone, with the Clover inhaler, I have been able to compare the two methods.

I purpose now to give an account of my cases, prefacing it with a short description of hyoscine hydrobromate as obtained from the literature.

According to Wood, hyoscine hydrobromate is the hydrobromate of an alkaloid obtained from the plant hyoscyamus niger, a member of the order *Solanaceæ*. The other members of the family used in medicine are: Atropa belladonna, Datura stramonium, Duboisia myoporoides, and Scopolia carniolica. From these plants are obtained the alkaloids, atropine, daturine, hyoscyamine, hyoscine, and scopolamine, which have all the same formula, but differ in molecular structure and physiological action.

It has been asserted that the hyoscine of commerce, which is a syrupy liquid, is obtained, as a rule, from scopoline and, therefore, is scopolamine. Hesse and Merck say that scopolamine consists of two bases, hyoscine and atropine, and as the action of the latter is unknown, it is important to see that the hyoscine used is made from Hyoscyamus niger.

In man hyoscine hydrobromate causes: (1) Dryness of the mouth and respiratory mucous membranes; (2) flushing of the face; (3) great drowsiness, deepening into sleep, and sometimes semi-delirious mutterings and dizziness; (4) diminished frequency of respiration; (5) diminished frequency of pulse rate; (6) as a rule dilatation of the pupils; (7) depression of the motor nervous mechanism.

It does not affect the sensory part of the nervous system, nor does it influence the secretion of the sweat glands as does atropine. On the circulation it has little effect beyond a slowing of the pulse rate.

Sohrt and Pavloff have studied the pharmacology of hyoscine chloride. They agree in the main. Sohrt found that the heart was quickened by paralysis of the cardioinhibitory apparatus, and did not observe changes in blood-pressure. In these conclusions he was supported by Wood. Pavloff found the heart slowed by stimulation of the cardio-inhibitory apparatus, and secondarily quickened by its paralysis. Blood-pressure he found first increased and then reduced to normal or below. The rise was due to stimulation of the whole vasomotor apparatus, especially the centers in the brain and cord; the fall to weakened muscular force of the heart. Sohrt says there is no effect on the respiration. Pavloff thinks that respiration is slowed by a depressant action on the respiratory center.

Both observers agree that hyoscine decreases salivary secretion, that it has no action on temperature or the reaction of the blood; that it diminishes the irritability of the brain, and to a small extent painful perceptions. It has no effect on tactile sensibility. It dilates the pupil slightly from stimulation of the sympathetic. It is very like atropine, except for the lowering of the irritability of the brain.

According to the latest edition of "Wood's Therapeutics," no fatal case of poisoning has been reported. I have been able to find, however, one case terminating fatally after an ordinary dose, and I have been told of another by the superintendent of a lunatic asylum. Several cases have been reported of alarming symptoms following comparatively small doses of the drug. It may be possible that certain individuals possess an idiosyncracy to hyoscine, as in the case of atropine.

In considering the reports of untoward symptoms caused by hyoscine, one must take into account the conditions under which the drug was given. As it

has mainly been used in cases of mania and in delirium tremens, and often following the administration of other powerful drugs, it is hardly possible in any case, to state that the symptoms following were due wholly to the action of hyoscine.

In one of the fatal cases which I have mentioned, the patient was suffering from typhoid fever, and the collapse following might have been produced by the weak state of the patient or by hemorrhage or perforation. In the other case, morphine and chloral had been given before the hyoscine, without effect, in a case of acute mania.

In 1,600 single administrations in an asylum in Austria no untoward symptoms were noted. One-quarter grain has been taken with no more disagreeable effect than prolonged sleep. On the whole, it is, I think, possible to say that given in doses of from $\frac{1}{120}$ to $\frac{1}{100}$ grain, the drug is perfectly safe in a subject not affected with delirium tremens, or when no other drug has preceded it.

Thomas Draper, Resident Medical Superintendent of District Asylum Enniscorthy, says of hyoscine (*British Medical Journal*, 1889), "It is a safe, certain, and rapid cerebral sedative, unattended in the vast majority of cases with any bad result." He has seen no unpleasant symptoms which have given any anxiety. I append the cases of poisoning which I have been able to collect:

R. A. Morton, Netherton, Ayr, reports a case.—Two drops of 1-per-cent. solution were put in each eye—$\frac{1}{75}$ grain. Five minutes after the patient complained of dizziness and lightness in the head. He staggered and had to be helped to bed. Complained of great dryness of mouth and throat, with thirst; giddiness became increased; senses became confused and speech was lost. Complete muscular relaxation and unconsciousness followed. Breathing was slow, face was flushed; pulse full and regular. Unconsciousness lasted four hours and was succeeded by semi-consciousness and delirium of a pleasant form for two hours, then calm, natural sleep for one and a half hours. The patient awoke and said she had not had such a good sleep for a long time. There were no evil after-effects.

Herbert Evans of Edinburgh reports a case of delirium tremens, in which 2 m. of 1-per-cent. solution were given, but had no effect. Eight hours after 3 m. by mouth were without action. In the evening morphine and chloral also had no result. Later 3 m., presumably of same strength but from another bottle, were given as a hypodermic. Following this the patient became rapidly comatose with dilated pupils, rapid pulse and congested face. Morphine was injected, then injections of pilocarpine of unknown amount every five minutes. The writer states that he probably gave gr. ii of nitrate of pilocarpine. The patient, wonderful to state, recovered.

S. W. Morton of Philadelphia reports a case in which $\frac{1}{75}$ grain was given to a medical man of 200 pounds, very irritable and susceptible, to relieve sleeplessness which had resisted all of the known hypnotics. No other drug had been given within forty-eight hours. The patient was in bed. In five minutes there was dryness of mouth, constant desire but inability to swallow; in a few minutes thickness of speech and complete paralysis of soft palate and upper lip. Pupils slightly dilated. Patient rose and staggered as one drunk. For ten minutes there was low muttering, then voice failed to a whisper; clinic convulsions and tetanic condition; opisthotonus; pupils widely dilated; pulse slow and full; respirations slow and deep and skin flushed. Movements soon gave way to complete relaxation, and in twenty-five to thirty minutes profound stupor with respirations full and stertorous and pulse slow and full. The stupor lasted six hours, when he arose with slight dizziness and difficulty in swallowing, and tendency in walking to go to the left, which persisted until the afternoon.

Joseph S. Gibb of Philadelphia reports a case: A man of fifty-eight was given $\frac{1}{75}$ grain by mistake. In forty-five minutes he was actively delirious. In a short time he could not recognize surroundings but would answer loudly when called. The pulse was full and regular; respirations diminished from eighteen to fourteen and became irregular. Pupils negative. Tongue and mouth dry; keenly sensible to pain. Delirium persisted in spite of morphine, all night, and full recovery was delayed to following evening.

William A. Carey, reports three cases. In his own case he took $\frac{1}{100}$ grain and repeated in two hours. There was dryness of the mouth, flushing, depression of muscular power, delirium, usual delusions, dilatation of pupil, and muscular tremors. All effects, except on pupil, passed off in thirty-six hours.

The second case was one of typhoid fever, $\frac{1}{60}$ grain was given. Half an hour after, mild delirium, widely dilated pupils, feeble fluttering pulse, imperfect articulation, cold extremities and cyanosis. Patient died. At the time it was thought to be perforation.

The third case was in a drunkard. All excitement was increased recovery.

In the *Australian Gazette*, 1888, Dr. Ralph Warran, reports a case: One-onehundredth grain, hypodermically, was given for the examination of a nervous woman. In ten minutes there was faintness, dryness of mouth, pupils widely dilated, pulse weak and rapid and skin cold and clammy. Ether and other stimulants and pilocarpine improved the condition. She could not be sent home, however, for eight hours.

From these reported cases it would appear that hyoscine is not a dangerous drug when given in an ordinary dose, though the last case points to the conclusion that some individuals may be very susceptible to the action of the drug, yet a high degree of hysteria may have been present.

I have given hyoscine hydrobromate so far, before fifty-seven operations; of these twenty-four were abdominal, ten were combined plastic and abdominal; nine plastic, two vaginal hysterectomies, one cauterization of cervix and vagina for cancer, one growth in the bladder, two applications to the bladder of strong nitrate of silver, and eight curettings.

All these operations were upon women, and in all the Clover inhaler and ether were used. One-onehundredth grain of hyoscine hydrobromate was injected in each case hypodermically one-half hour before the beginning of the ether inhalation. The effects of the injection observed clinically before the commencement of the ether were slight but constant.

In from three to ten minutes the mouth never failed to become dry, and thirst was almost always present. At the same time the pupils began to dilate, and continued in that condition until the ether was administered; at the same time they responded to the light reflex and accommodation was not lost. Within five minutes, as a rule, the patient began to feel drowsy. In some cases this drowsiness was pronounced, and in one case was deepened into sleep. In several cases drowsiness was not present at all. The face was quite normal in color in most of the cases, but in a few was flushed. There were no symptoms of excitement or delirium,

nor did the patients ever complain of dizziness or vertigo.

In the great majority of cases the patients did not exhibit as much anxiety as usual, and were generally calm and quiet at the commencement of the ether. The pulse, except in the case of one suffering from great weakness, was slow and full and regular, and the respirations were deep, quiet, and of normal rate.

The ether was inhaled freely and quietly and produced no secretion of mucus in the great majority of cases. Air was admitted with greater freedom than usual without producing any excitement, but preventing cyanosis and rigidity. Most of the patients passed quickly into the stage of surgical anæsthesia (though, as a rule, I do not hurry the administration), and in from two to fifteen minutes were ready for the operator. The anæsthesia was then maintained with a very small quantity of ether and a large amount of air for many hours. During this time the patient appeared as if in a calm sleep; the pupil was not always dilated and reacted to light.

The face was, as a rule, now flushed; the breathing quiet, slow and full and unobstructed by mucus, which was absent from the mouth and pharynx. The pulse was slower than usual in ether administration, but regular in volume and rhythm. There was a marked absence of vomiting during the administration of the ether. The recovery was, as a rule, more rapid than when ether alone was given, and in nearly 50 per cent. of the cases there was no after-vomiting at all, and in not one case was it very severe or prolonged. In most of the cases in which vomiting did occur, it came on before consciousness returned and was not remembered by the patient. In other cases it was absent at first and only occurred after the administration of calomel or salines.

During the first twelve hours following the end of the ether administration there was a tendency to sleep from time to time noticed. The dryness of the mouth persisted generally all through the operation, and for some hours afterward. The secretion of urine was not affected in any way, and in no case was albuminuria found after the operation when it was not present before.

No dangerous symptoms arose at any time which could be fairly attributed to the use of the hyoscine. Indeed, I have never had a set of cases of equal number in which the phenomena of anæsthesia were so slight and the course so uneventful.

The results in detail were as follows:

Fifty-seven Operations: 24 abdominal, 10 abdominal and plastic combined, 9 plastic, 2 vaginal hysterectomies, 1 cauterization of the vagina and cervix for cancer, 1 growth in bladder, 2 applications of strong nitrate of silver solution, 8 curettings.

All were in adult women, ranging in age from eighteen to seventy years. In all cases the Clover inhaler was used.

The total length of time occupied by the 57 operations, reckoning from the time of starting the ether to the time of the end of the surgical proceedings, was 129 hours and 12 minutes. The total quantity of ether consumed was, ℥ 370½; the average amount to the hour was ℥ 2.88. The average time taken to anæsthetize was 5½ minutes; the shortest time taken to produce full surgical anæsthesia was 2 minutes, and the longest time 15 minutes. The longest operation, from the start of anæsthesia to the close of the surgical proceedings, was 5 hours and 43 minutes; the shortest operation lasted 20 minutes.

Drowsiness was present in 38 cases. The pupils were dilated during the ether in 17 cases. In 50 cases the mouth and air passages were perfectly free from mucus. In 5 cases the mucus was very slight. In 2 cases, when the patient was removed from the bed to the table, some thin fluid was brought up from the stomach. In one of these coffee-ground material ran out of the mouth from the stomach when the patient was put into the Trendelenburg position. In one case there was much mucus and cyanosis for half an hour (case of abdominal hysterectomy).

In 55 cases there was absolute quiet during the administration. In 2 cases there was some struggling at the very commencement, before the patient had absorbed any ether. This was due to fright in very nervous patients, but as soon as regular inhalation began, calm succeeded.

In 28 cases there was vomiting after the operation, but in no case was it severe or prolonged. In 29 cases there was no vomiting whatever. Headache was markedly absent. The pulse rate ranged from 62 to 124 in the 57 operations, and the respirations from 20 to 52. The average pulse rate was 84; the average respirations 28.

In one case, in an elderly woman, there was a mitral regurgitant murmur, apex beat one inch outside the nipple line, swollen legs and scanty and albuminous urine. In this case, one of ovarian tumor, the operation lasted 2 hours and 17 minutes. The anæsthesia was perfectly satisfactory, no mucus, pulse regular, from 62 to 96, no vomiting after and good recovery, with no increase in albumin.

In another case there was an aortic systolic murmur. In this the anæsthetic was remarkably well taken, and the pulse and respirations were perfectly satisfactory during an operation which lasted 5 hours and 43 minutes.

In another case there was marked emphysema and bronchitis. The anæsthetic was taken beautifully, and there was no increase in the bronchitis.

In none of the cases was there any bronchitis following the ether or other respiratory disturbance.

In considering the action of ether we must remember that, as a general rule, it is by far the safest of the general anæsthetics for long operations. But, given in the ordinary way, whether by the open or closed methods, it has its limitations. Let us consider upon what bad effects these limitations depend. Ether is primarily a stimulant and a powerful one. It is an excitant, it produces salivation and secretion of mucus in the air passages and acts as an irritant to them. It interferes by this latter action with the proper aëration of the blood, and indirectly causes muscular rigidity. It raises blood-pressure greatly. It causes headache, nausea, and vomiting in a large percentage of cases, while the patient is recovering from its effects.

Hyoscine hydrobromate has a powerful action in counteracting these conditions. It acts as a cerebral sedative and renders the patient calm and free from excitement. It controls salivation and the secretion of mucus in the air passages, an action which, in my opinion, furnishes the best reason for its use. It prevents after sickness in a good large percentage of cases, and by slightly lowering blood-pressure and slowing the pulse, and by its power of lessening cyanosis, prevents dangerous cerebral congestion.

I wish to lay great stress upon the benefit which is derived from the property of hyoscine of stopping the secretion of mucus in the air passages.

Mucus obstructs respiration and causes cyanosis from the mechanical impediment which it offers to the free entrance of ether and air into the lungs. The swallowing and coughing caused by it may

compel the anæsthetist to stop the ether until the act of vomiting clears away the obstruction. Probyn Williams says, "An excessive secretion of mucus may be of such importance that it may necessitate a change of anæsthetic."

We are all familiar with the alarming picture which is presented by a patient during the administration of ether, with purple face, distended veins, rigid muscles, and labored respiration, with the mouth full of mucus, which is in vain swabbed out by the anæsthetist, until the act of vomiting comes to his relief and clears the air passages. This condition is highly dangerous in old subjects with weakened arteries, and kidneys, perhaps, somewhat the worse for wear.

Is it not reasonable to suppose that the presence of mucus in the trachea and bronchi, impregnated with the irritating ether vapor, may be a pregnant cause of cases of bronchitis and pneumonia which have been reported as following etherization?

Again, the vomiting which is caused during the recovery from ether may be partly central, but I believe, is mainly caused by the direct irritation of the large amount of ether-impregnated fluid swallowed, and secreted from the stomach and duodenum, which acts after the inhalation has stopped. Many a time I have seen a patient in the middle of an operation, when put in the extreme Trendelenburg position, bring up a pint of evil-smelling liquid from the stomach. May we not well suppose that the presence of such irritating material in the stomach may, when reflex action returns, cause the intense nausea and vomiting which so often follows ether? In the case of an abdominal operation this vomiting may lead to disastrous consequences.

I maintain, then, that hyoscine hydrobromate, if it proves to be without danger, is a valuable aid in the administration of ether. No doubt some day there will be found some agent possessing the same action upon the sensory nervous system that curare does upon the motor part, which will be given hypodermically, in a definite safe dose, and which will fulfil all the requirements of an ideal anæsthetic; until this agent is found, however, we should seek, in every way possible, to make the administration of the anæsthetic agents we have, as agreeable and safe as possible and it is with the belief that hyoscine hydrobromate, in conjunction with ether, offers us great assistance in attaining those ends, that I bring it to the notice of the medical profession.

I am indebted to Dr. William Gardner of Montreal, who allowed me to try the hyoscine in his hospital.

Some Simple Therapeutic Experiments.—W. Essex Wynter mentions a number of expedients and remedies which may with benefit take the place of internal medication in certain cases. Cradling, the application of cold, of heat, dry or moist, the comfortable arrangement of mattresses, position, mechanical support for the abdomen, are some of the subjects considered. As a remedy for vomiting he especially recommends the continuous or repeated inhalation of oxygen. In the various forms of persistent vomiting—functional, reflex and organic—no other means has proved so uniformly effectual. It is perfectly harmless under all conditions, it requires no effort on the part of the patient beyond that of ordinary respiration, and involves no suffering or after-effects of a disagreeable character. Being administered by the lungs, it not only acts independently of vomiting, which may continue for a time, but is peculiarly serviceable in such cases as those of gastric neurosis, irritability, inflammation, or ulcer, in which it is undesirable or useless to introduce anything into the stomach, or after laparotomy, when, in addition to this, retching is particularly obnoxious.—*Treatment*

THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.

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It is only by exercising the most thorough care and attention to every minute detail of diagnosis, that we can hope for success in the early recognition of this affection. The great majority of our cases of phthisis do not come to us until the disease is well established. Comparatively few patients come to us in the early stages. We are all aware of the necessity of an early diagnosis, for so much of our ultimate success in the cure depends upon our forming a conclusion early.

How often it is that a diagnosis of phthisis is made when we least suspect the disease. The patient will often complain of some obscure symptom or symptoms, and careful questions will elicit no no fact which would lead one to anticipate phthisis; but, on examining his lungs, we find unmistakable evidences of disease.

Undoubtedly, heredity plays an important rôle in the etiology. That it is not as important an etiological factor as was supposed some years ago, is admitted by most clinicians. The personal habits and environments of the patient should be inquired into, the amount of exercise taken each day, his vocation in life; whether in-doors during the day, where he can obtain a minimum amount of fresh air and sunlight, or whether his occupation is such that will enable him to obtain an abundance of these materials. The weight of the individual should be carefully considered. A pair of scales should be in every well-equipped physician's office and the weight estimated frequently. The condition of the pulse is of great diagnostic value, and frequent daily countings should be taken, the same being noted on a chart if possible. Usually the pulse of early phthisis will vary from ninety to a hundred and ten beats per minute, but it may be less or even more. It is usually a high-speed pulse; is quick, and of little volume. This high-speed pulse is especially present in the early stages, and should have considerable weight in the final summing up of diagnostic points.

The temperature should be carefully taken at least three times daily. Usually an evening rise, from 99° to 101° F., will be present. This, however, is not constant, and occasionally the temperature will be subnormal.

Digestive disturbances are often the first symptom complained of in early cases. Too much stress cannot be placed upon the importance of this part of the diagnosis. Of course, every case of early phthisis does not have indigestion, so called, but it is of great weight and should always call for further questioning and examination. Chest pains are misleading and not of much significance; occasionally, they occur, particularly in the upper portions of the chest.

The presence of a constant harrassing cough is not of much importance unless accompanied by other objective or subjective symptoms. The absence of a cough does not necessarily mean that the patient has not tuberculosis. It is not uncommon to find individuals with the physical signs of phthisis without cough. The presence or absence of expectoration does not mean much in the early cases.

The finding of tubercle bacilli in the sputum is confirmatory evidence of the presence of the disease. Their absence throughout the early stages is not uncommon. They should be found in large numbers, say eight or ten in a field, in order to be convincing. The finding of two or three bacilli on a slide is not enough to establish the diagnosis, unless other physical signs and symptoms are present. It

is rather common to find one or two bacilli on a stained specimen without the disease being present. It is often found in places where a number of tuberculous patients are housed, that the sputum of the healthy attendant contains a few bacilli.

The test of tuberculin has been lauded by some authors and condemned by others. I do not believe it should be employed as a means of diagnosis in these early cases. The reaction following the injection is not always to be depended upon, and the method is therefore decidedly unreliable.

Fistula in ano may be associated with diseased apices. The presence of this condition, in a given case, should necessitate a careful physical examination.

I now come to the physical signs obtained in a typical case. These may not be found on the first few examinations. It is important that we make several physical examinations on different occasions before definitely giving an opinion in a case. There may be appreciative dulness over an apex on one examination which is not present on a subsequent one. We may think we hear the roughened inspiration at one time and not hear it at another. I cannot emphasize too strongly the great importance of repeated physical examinations.

Inspection of the chest may be absolutely negative. Occasionally we will notice diminished expansion on the affected side; particularly if much consolidation be present. We read a great deal about the so-called phthisical chest. It is just as common to find phthisis present in the well-formed chest as it is to find it in the flat-chested individual.

The *x*-ray will often give a shadow over a greatly or slightly diseased apex, but it cannot always be depended upon. When the shadow is present on the skiagraph, it is good confirmatory evidence of the disease. When absent, it does not rule it out.

The evidence obtained by palpation depends, of course, upon the amount of consolidation present. Usually we obtain increased vocal fremitus on the affected side. The correct way of obtaining this increase is not by placing both hands on the chest at the same time, but first placing one hand on one side of the chest and asking the patient to count; then taking that hand from the chest, and placing the other hand on the other side of the chest, the patient being told to count again. It will be found that vocal fremitus is much more easily appreciated by this method.

Percussion gives impaired resonance amounting sometimes to dulness over the affected area. The percussion note cannot be described and must be heard in order to be appreciated. Sometimes it can be better obtained by instructing the patient to hold his breath at the end of expiration.

On auscultation is heard the typical, rather short, loud, roughened inspiratory, vesicular murmur with the prolonged, blowing, expiratory, bronchial effort. This is the pathognomonic sign of beginning tuberculosis, and is the most constant of all physical signs. It can be elicited only by careful auscultation and comparison with the normal breath sounds. In the very early stages the breath sounds may be simply somewhat rougher than normal. If this sign is present, it should excite suspicion in the mind of the physician and call for further examination. Another almost constant ausculatory sign is the crepitant râle heard at the end of inspiration. These sound exactly like the rubbing together of several hairs, and can often be obtained by telling the patient to cough and afterward taking a deep inspiration.

I have herein tried to give the physical signs of *early* cases in which very little, if any, consolidation is present in the affected lung. As the disease advances, other physical signs will be obtained and these we all know.

A brief summary of the points I desire to emphasize may be in order here, they are: (1) An increased pulse rate; (2) Gradual loss of weight and strength without obvious cause; (3) An evening rise of temperature; (4) Digestive disturbances, which are often present early and should be inquired into more carefully; (5) The finding of numerous tubercle bacilli in the sputum; (6) The bronchovesicular, or probably better, as some authors term it, the vesiculobronchial, breathing; (7) The small crepitant râles heard at the end of inspiration; (8) The necessity of repeated physical examinations in order that we may reach definite conclusions; (9) The importance of keeping a daily record of the pulse and temperature.

A SIMPLE AND ACCURATE METHOD OF EXAMINING THE STOOLS FOR GALLSTONES AND OTHER SOLID BODIES.

By HOWARD LILIENTHAL, M.D.,
NEW YORK.
ATTENDING SURGEON TO MT. SINAI HOSPITAL.

STRAINING a foul stool by the methods ordinarily in use is a task so distasteful to most persons that unless it is performed by the physician himself it is apt to be shirked or carried out in a careless and inefficient manner. Yet the conscientious search for foreign bodies in the fæces may be of enormous importance in arriving at a diagnosis. For a number of years I have employed a method which is far less disgusting than any other with which I am acquainted, while it is so accurate that even the smallest solid particles cannot be overlooked. The examination is easily made by the nurse or even by the patient.

Take a loop of telegraph wire a few inches greater in diameter than the entire top of the closet seat, and fasten to this a bag of at least two thicknesses of dressing gauze or mosquito netting. The bag may be sewn to the wire or simply held by safety pins, but it should be made very full, so that when the hoop is in place the wire shall be well below the level of the seat and out of the way, while the bag shall hang down into the water at the bottom of the bowl. If the patient is not confined to bed he defecates into the closet, and then simply opens the water valve often enough to wash away all soluble and amorphous matter, while solid bodies will be left in the bag. If the patient is confined to bed, the stool must, of course, be carried to the closet. It is best not to put paper in with the stool. In rural districts where there may be no plumbing the same procedure may be followed, except that the water must be carried to the privy and poured through by hand.

The principal advantage of this method, especially in city practice, is that the patient himself may be trusted to make an absolutely accurate examination. I have been able to confirm a diagnosis of cholelithiasis from tiny faceted stones considerably smaller than a mustard seed, which were discovered in the stools by the patient.

766 MADISON AVENUE.

Cystic Tumors.—A. G. Eliss says that, in view of the possible malignant degeneration of cystic tumors of the breast, as a rule, it is a wise policy to remove breast tumors on suspicion.—*The Medical and Surgical Monitor.*

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HOSPITALS IN SORE STRAITS FOR FUNDS.

IN the current number of *Charities*, the official organ of the Charity Organization Society, Mr. Frank Tucker shows that a score of private hospitals in this city are operated under conditions which result in a total annual deficit of $450,000. A manager of one of these institutions is quoted as saying: "We are pretty near the breaking point. The time has come when some of those who have been carrying the load will have to step from under." This is certainly a very significant statement and carries with it a serious reflection on the present methods of hospital management. Either the public does not properly appreciate the efforts of certain philanthropists or many of the institutions fall far short of their aims. From a purely business aspect their enterprises are failures. Paradoxical as it may appear, even the game of charity is a losing one.

A table made up from the annual reports of the institutions for the past year shows that St. Luke's Hospital ran behind $27,566, Roosevelt $6,000, the Presbyterian $80,229, the Woman's Hospital $10,700, the Flower Hospital $8,224, the Ruptured and Crippled $55,675, the Post-Graduate $44,103, the Lying-in $88,477, and Mt. Sinai $58,160. These are startling figures to the uninitiated, although there may be some reasonable explanations for their computation. They prove quite conclusively that ordinary voluntary benefactions are entirely inadequate to meet necessary expenses. Subscriptions are intermittent and irregular, while running expenses are unalterably progressive. The endowment plan is the only safe one.

The modern hospital is a very costly establishment, even when managed on most economical principles. The trouble is that few of the projectors take the truth to heart until it is too late.

A magnificently imposing building is the first consideration, and too little thought is given to its subsequent maintenance. The main question of its actual need is left to chance proof. There is no doubt that too much money has been spent in brick and mortar, and this, with heavy mortgages on real estate, contribute largely to the deficit. This, too, in spite of the fact that most if not all the hospitals named not only receive pay from patients when such is possible, but let expensive suites to wealthy patrons. The Presbyterian Hospital is conspicuous in this regard with a debit account of over $80,000, while Roosevelt, with even more advantages as a hotel-hospital, also falls short of making its expenses.

It might be argued, perhaps, that the hospital market is a trifle over-stocked and that there would be a better chance for the few than the many. From the purely economic side this would appear to be evident enough, as on general principles a business that cannot be made to succeed should not exist.

The responsibility of conducting such institutions should not fall on the few men having them directly in charge, and it is only a question of time when some of those who are carrying the load should "step from under." But hospitals multiply notwithstanding, whether they can fulfil their ultimate purposes or not. Most of them do not succeed, either as business ventures or as purely charitable necessities. The consequence is that the number of free beds is disproportionately small to those with board in private rooms, and the institution must be run on the hospital-hotel basis. Even excluding the cost of the building, there are no known methods outside of endowment funds that will make its success possible. The lying-in hospital donated by Mr. Pierpont Morgan has a deficit of $84,000 and more. The white elephant is compelled to forage on outside resources to live, and at present rates will eventually devour itself. There may be some truth, after all, in the statement that we have too many of such charities and that the time has come for some of the managers "to step from under" their assumed responsibilities. In any other undertaking the question could be easily settled. One trouble rests in the forced mixture of charity with pecuniary tribute. The model hospital should be free to every poor and needy person without distinction. Otherwise sympathy lags and donations are not freely offered. In point of fact, the municipality should take care of all the poor of the community and make outside and voluntary aid unnecessary. Hence, the proposition to create a ten-million dollar fund for the purpose is sensible enough on common grounds, but thoroughly impracticable from the standpoint of private control of the donation. By the recent appropriation of millions of dollars for the erection of a new Bellevue and other public hospitals the city government is trying to solve the problem of care for the sick in its own practical and business-like way. Perhaps this is the one and only method of settling the grave question at issue. We could then divide the private hospitals into two classes—one the endowed institutions that could afford to treat every worthy applicant free of charge; the other that would be managed as any other hotel for the mere profits that might accrue. There would then be no question which deserved voluntary contributions and which could use them to the best advantage for the really needy applicants. As it is, the public is being led to believe that each private corporation managed on the double basis of charity and pecuniary gain should be able to take care of itself. All this by no means implies that the hospitals have not done noble work, but that, by an inordinate zeal in aiming at impossibilities, they have defeated the main objects of their existence.

Pilocarpine is a specific for jaundice, and relieves all forms of itching, with the exception of that due to hepatic cancer. **Locomotor ataxia** and **tetanus** have been repeatedly reported cured by the administration of large doses of pilocarpine. The dose is gr. $\frac{1}{67}$ to $\frac{1}{23}$ every five minutes till sweating or salivation begins to appear.—*The Southern Clinic.*

THE LESSONS OF THE CHICAGO THEATRE FIRE.

THE lamentable loss of life in the Chicago theatre fire has provoked much discussion as to the probability of preventing similar disasters. As is always the case, many things have been discovered to have been left undone which should have been done. The building was claimed to be fire-proof in its construction, but contained all the inflammable material necessary to make it a veritable furnace when the fire gained its headway.

There was a culpable lack of promptness in tackling the fire at its inception, and, worst of all, the protecting curtain was caught when half-way down. Thus the body of the theatre became a veritable flue for the stage blaze. The dreadful result was what might have been expected when passageways became quickly jammed and other means of exit likewise choked.

It might have been possible to have lessened the loss of life by maintaining some order in the frantic audience, thus allowing ready escape, but such conditions are never present under the circumstances.

In the face of personal peril crowd panic is inevitable. Once under way its force accumulates in proportion to numbers. It is active and retroactive in its effects and gains fury with its duration. Each individual becomes a virtual maniac and the primitive instinct of self-preservation is paramount.

Deliberation and calm reasoning are always at a discount. This is abundantly proved by the fact that the crush and struggle are always in the direction of the greatest danger. Where the fight is thickest there is the greatest number of combatants. It has been well said that virtually the same thing would occur in an open plain if the requisite incentives were prevailing. A notable example of this was furnished at Hodynsky in Russia in 1896, when hundreds were killed while ready escape was available in every direction save the one that was so madly taken. In the *Bazar de Charité* in Paris the year following the same drama was rehearsed, and so it will be probably to the end of time, so long as crowd panic takes its awful opportunity. To control it is as much a psychological impossibility as it would be to calm the delirium of terror in a single individual in the extreme of peril, and even more so when the conditions for its multiplication are in full sway.

What mercy there is in the after-contemplation of the calamity is that the agony is so soon over. In the case of the Chicago fire it is quite evident that those who were not crushed to death at the start were quickly smothered by the smoke and the poisonous gases of combustion. Notably these products comprise carbonic oxide, sulphuretted hydrogen, chlorine, and the various ammonia compounds. These have very direct toxic effects upon the respiratory center and produce asphyxia with great rapidity.

The main question turns upon the chances of reducing fire accidents to the minimum. Various devices have been suggested to this end, the principal of which is the asbestos curtain that can be lowered between the flames on the stage and the audience.

After the disastrous Brooklyn Theater fire in December, 1876, this subject was very fully discussed, particularly by the MEDICAL RECORD, and ample arguments were offered to prove the utility of the measure; at the same time it was suggested that all inflammatory stage fixtures should be treated with alum solutions, and also that heavy ornamental box draperies should be discarded.

For a time every effort was made to cater to public sentiment, but too soon promises were forgotten and the old-time methods were in vogue again. Even in regard to the asbestos curtain, now a part of the fixture of the principal theaters, it has lately been discovered that their mechanical efficiency is not by any means what it should be. In Chicago, where the lesson of neglect of precautions brings the object lesson home to the people, it has been found necessary to declare its theaters absolutely unsafe in this regard. This, too, at a time when theater managers are volunteering so many positive statements regarding the impossibilities of accidents in their respective establishments.

Not long ago, in this city, when the fire commissioner pointed out the danger of crowded aisles, there was enough contrary influence among the theaters to set his warnings at naught and defeat his purpose of better protection for the public. Now, however, that the general subject again claims serious discussion, there may yet be hope that some radical and efficient protection may be afforded along these and other lines. In any event, the public for a long time to come will continue to be nervous over all pyrotechnic displays on the stage, and be duly apprehensive of unprotected lights and open imitation fires amid the scenery. Even the concealed electric wire may, in view of the last calamity, carry with it more than an ordinary dread.

SPECIALIZATION VERSUS SYNTHESIS.

SPECIALIZATION has, in the last half century, reached the highest development yet attained. Consequently workers in special fields were never so abundant as to-day. It is not difficult to understand why this has been so. This era of specialization was preceded by a period of tremendous growth in what may be called the fundamental sciences. Pathways almost without number were opened to new fields of investigation. The fundamental sciences, themselves, became, so to speak, specialized. The development of these special departments has in our time assumed large proportions. Increased knowledge shows that the various sciences do not stand side by side, but that to a certain extent they include one another. They overlap on their border lines. The solved problems of one are the primary factors of another. There are many synthetic relations which bind them firmly together. Specialization has led to synthesis. The wider the horizon of a scientific worker the more evident does this fact become. Professor Ostwald, at the dedication of the Rudolf Spreckel's Physiological Laboratory of the University of California, August 20, 1903, considers these synthetic tendencies in modern scientific thought. His address was upon the relation of biology to the neighboring sciences—notably physics and chemistry. As the professor expresses it, "the direction of the wind upon the sea of sciences" cannot be better illustrated than by considering the circumstances which surround his address. Here was a man invited to make the dedicatory oration at the opening of a biological laboratory who was

not only not a biologist, but was especially invited as the representative of a sister science. Furthermore, the man himself is the product of the synthesis of two neighboring sciences—physics and chemistry. Most curious of all, his address contains no word of physics and chemistry, but rather thoughts which concern the triad—physics, chemistry, biology.

Upon reflection it is evident that synthetic factors are not wanting in the various divisions of medicine. There never was a time in the history of medicine when its various departments were so dependent one upon the other as to-day. Without doubt this has been brought about by the great increase of knowledge in the special branches of our science. In considering this thought of synthesis in its application to medicine, however, certain truisms must be held clearly in view. Synthesis does not mean the abolition of workers in separate fields. It does mean the utilization by the workers in one field of the knowledge obtained in another. As the production of the physiological chemist has not done away with the necessity of the physiologist and chemist, nor the advent of the biologist with the usefulness of the histologist, bacteriologist or anatomist, so the coming of the physician thoroughly equipped in all branches of his profession will not occasion the withdrawal of the specialist in medicine. Synthesis, which is now manifest in the various departments of medicine and which will be more and more in evidence as time advances, threatens not, therefore, the individuality of him who would devote his life's work to one of these many subdivisions. This fact, although it insures his stability, increases the number of his requirements. As the biologist and physiological chemist must possess an accurate knowledge of their allied sciences, so the specialist in medicine must bring himself into intimate touch with the advances in all departments of medicine. These he must ever be able to utilize. This thought is not new, but it needs constant emphasis. This task is not as impossible of accomplishment as it at first appears. Many have watched the growth of the special fields of medicine with something akin to alarm. It has seemed as though the time were approaching when the specialist in medicine would no longer be able to prepare himself with a general medical training. So multiple would become the knowledge in any given field that its acquirement alone would be all that one man could successfully accomplish. This time, however, is destined never to appear. The development of any branch of science is always toward final simplicity. Increased knowledge always leads to simplicity of thought; increased facts to simplicity of ideas. The great masters in any field are always preëminent for the simplicity of their deductions. The time is therefore approaching when the acquirement of knowledge in the various departments of medicine will be easier than ever before. This statement will undoubtedly be strongly contested, but its truth cannot be shaken. It is founded on the history of scientific development. For the general practitioner also these synthetic tendencies of the medical sciences are full of hope. It has appeared to some as though the era of the general practitioner were drawing to a close. Such is, however, by no means the case. If there were no other reason for his continued existence, these synthetic factors assure his permanent position. The enlargement of his knowledge while not endangering the sphere of the specialist will bring to his aid a multitude of agencies which are as yet but little dreamed of. The watchword of medical advance to-day is combination. Only in this way is the solution of the great problems which confront us possible. The MEDICAL RECORD has not failed to appreciate this necessity nor to emphasize it as occasion has required. The innovation of synthesis in the various departments of medicine is, therefore, an event in which everybody may rejoice and which no one need regret.

MALARIA WHERE ANOPHELES IS USUALLY ABSENT.

The above title suggests a difficulty for the theory of the exclusive rôle of mosquitos in the transmission of malaria, and one which has been often presented. Indeed, in some cases, this difficulty has seemed so formidable that disbelief in the agency of Anopheles as a carrier of the infection has been boldly professed. In the *Journal of Hygiene* for October, Dr. John Cropper says that whereas last year in an article in that Journal he stated that though he had resided in Acre, Palestine, he had never been able to find a single Anopheles, this year his successor, Dr. Gould, having under his care two native boys with malaria, found Anopheles in their room. It is uncertain where they were bred, but the previous winter was exceptionally wet, the water coming to within half a mile of the town where malaria is comparatively rare, though common enough a mile away. At Shefa Amr, three hours from Acre, situated on low chalk hills which rise well above the plain and are remote from running water, two English ladies had malaria, and though no adult Anopheles were found, the larvæ were discovered in an open cistern. At Nablous, also, Dr. Gould found Anopheles larvæ in a shallow cistern which supplied water to the parsonage, and this year, without special apparatus, Cropper found nine Anopheles larvæ among a great many Culex and Stegomyia fasciata larvæ; and more recently two Anopheles larvæ have been found with many Culex larvæ at the new hospital. Though considering the great numbers of the patients, malaria is very infrequent, it is, nevertheless, quite well known in the town, and among the English ladies at the Mission a few yards away a few cases have occurred. Within four hours of Nablous is the Jordan valley, notorious for its unhealthiness, and within nine hours is Beisân, than which few places are more unhealthy. From both of these localities patients and visitors come to Nablous, and thus the stock of malarial parasites, which otherwise would become exhausted, is renewed. So it is probably with most, if not all, the places in the tropics which are not essentially malarious; that is, where the Anopheles does not occur abundantly. On the whole, therefore, Cropper's contribution tends to raise the question whether with more careful search Anopheles may not in future be found more and more frequently in places where its absence has hitherto been accepted.

FOOD ADULTERATION IN GREAT BRITAIN.

A commission has recently been sitting to inquire into food adulteration in Great Britain, and especially with regard to arsenical poisoning. The commission handed in its report a short time ago, and its most salient features are published in the *British Medical Journal*, December 19. The report concluded that the existing machinery of public health administration provides little if any system of official control over the proceedings of manufac-

turers. These were the recommendations made by the commission as to improvements in official control over purity of food: (*a*) Necessity for more extended administration by the Local Government Board. (*b*) Necessity for official standards. The commission recommend under (*a*) that a scientific experimental officer should be appointed, with suitable laboratory provision, with the duty of advising the Local Government Board on questions affecting the manufacture or sale of foods liable to be injurious to health or liable to valueless adulteration. This officer or his assistants should have the duty and power of making investigations and collecting information with regard to food products manufactured at home or imported from abroad, with a view to furnishing local authorities and their officers with authoritative information and advice as to the lines in which the sale of food and drugs acts may be administered to much better public advantage than is at present the case. With regard to (*b*) the commission endorses the recommendations of the Select Commission on Food Products Adulteration, 1896, and the Commission on Preservation and Coloring Matters in Food, 1901, that a scientific "Board of Reference" should be set up to deal with the question of "standards" required for the purpose of the sale of food and drugs acts. The commission further recommends that the sale of food and drugs acts should be amended so as to permit of manufacturers or intermediate vendors being attached to the prosecution. It also recommends that, with suitable safeguards, the powers of a medical officer of health to obtain the condemnation of unsound food should be extended, so as to enable him to "lay embargo" on the sale of suspected articles pending an official examination or analysis.

Adulteration of food is by no means confined to England, but is practised to a greater or less extent in all civilized countries. In the United States the custom of adding foreign substances to articles of diet—with the view chiefly of preserving them—is stated to be widespread. The MEDICAL RECORD has always made a point of strongly inveighing against and denouncing the practice. It has been urged that some of the added substances are harmless, although this has never been definitely proved. It is far more likely that every preservative detracts somewhat from the nutritive value of food. The public has, at least, the right to know what it eats, and when a food is bought purporting to be so and so, a distinct injury is done to the buyer if such be not the case. In those instances in which so-called harmless preservatives are used, the manufacturer should be compelled to advertise the fact by a label attached to the receptacle containing the mixture. There is room for sweeping reforms so far as adulteration of food is concerned in almost all civilized countries, and in the United States it is a matter that needs prompt attention.

SLEEPING SICKNESS.

At a meeting of the British Epidemiological Society, held on December 11, a paper on "Sleeping Sickness" was read by Dr. Louis Sambon. He expressed his belief that a trypanosoma was the cause of the disease, and that the species of tsetse-fly known as glossina palpalis played the part of alternative host. Dr. Sambon severely criticised the manner in which the experiments of the British commissioners were carried out at Entebbe, and said that these experiments would have to be repeated in a thoroughly scientific manner ere the question of the etiology of sleeping sickness could be said to be definitely determined.

The most interesting speech made at the meeting was that delivered by Sir Patrick Manson in the discussion which followed the reading of Dr. Sambon's paper. The speaker made some timely remarks on the question of priority in scientific discoveries. He said he was "especially pleased with that part of Dr. Sambon's paper in which he expressed the hope that questions of priority would not occupy the meeting. They were always thorny subjects and they led to a good deal of bad feeling, and, so far as his experience extended, never to any general profit. Sometimes on a Sunday he had an opportunity of contemplating the manners and customs of the fowl community, and his observations were generally taken between the morning meal and the afternoon meal when the fowls had picked up the last grain of maize, and apparently had no chance of getting more food. But even in the community of fowls of that description some enterprising bird would wander from its fellows, and by dint of perseverance would sometimes pick up a lob-worm in some corner of its habitation. Almost before one had observed the fact that this fowl had made the discovery, one also observed that this fortunate fowl was beset by numerous other fowls who rushed in to share the profit. As a result the first fowl was very quickly deprived of its morsel, and the second fowl succeeded in taking a little bit, and the third, and the fourth, and the fifth, until after a time it was found that the discovery had become the general property of the community, with the result that the owner of the fowls, in the long run, benefited by getting a more wholesome and nutritious egg in the morning. He believed that this was a fair simile as to what happened in the field of discovery. One man got hold of a lob-worm, a hundred men could extract part of the *éclat* perhaps, but in the end the whole world benefited by the discovery."

Sir Patrick Manson reviewed the investigations he made some years ago into the etiology of sleeping sickness, which made him almost decide that filaria perstans was the cause. Now he was very glad to disallow any connection between the filaria perstans and sleeping sickness. But as regarded the connection of the trypanosoma Gambiense with sleeping sickness, he should still bear in mind his experience as regards filaria perstans. His belief was that sleeping sickness was caused by trypanosoma Gambiense, but he could not say that it had been proved. Manson also did not think that Bruce's experiments were conclusive.

Prof. Ray Lankester also took part in the discussion, and deprecated the present-day custom of jumping too quickly at conclusions when making investigations into the origin of little known diseases. This hasty action is undoubtedly due to the fear of the investigator that if he does not immediately make known any discovery he may have made, he will be forestalled by some other man who is engaged in the same studies. Healthy emulation is good, but premature announcements of scientific discoveries do harm. The advice of Sir Patrick Manson, to be thoroughly sure of the ground before publishing as facts what are really little more than theories, might be taken to heart by investigators the world over.

DIET OF THE POORER CLASSES.

The proper feeding of children is one of the most important factors in building up a good sound constitution, and much of the loudly proclaimed race degeneration among civilized nations must be laid to injudicious diet. This is especially the case with the urban population. In Great Britain the defective physique of the town-dwellers is arousing wide-

spread attention, and various are the methods suggested to remedy the evil. In the *British Medical Journal*, for the past few weeks, a series of articles have appeared treating of the subject of race degeneration. The issue of that journal for December 5 deals with the diet of the poorer classes, and numerous quotations are made from a work recently published concerning the food of the laboring population of Edinburgh, by Drs. Noel Paton, J. Cranford Dunlop, and Miss E. M. Inglis. In the work referred to, the following postulates are laid down: "Since food is the sole source of the energy required (*a*) for building up the body (*b*), doing work, and (*c*) maintaining the temperature it is obvious that the working capacity and well-being of a community must be largely influenced by the food supply of the individuals. (*a*) Without an adequate supply of food, proper growth and development of the body are impossible, and not only is the work capacity of the individual diminished, but a predisposition to disease is induced. (*b*) . . . The working capacity of a man is conditioned by the amount of food he consumes and uses. . . . Food may be consumed by a man and no proportionate amount of work be produced. Thus an insufficient supply of food diminishes the work-doing power of the body in two ways: First, by preventing the full development of muscle, the great energy liberating tissue and, secondly, by not affording the potential energy for the work to be done. (*c*) Lastly, a sufficient diet is essential for the maintenance of the bodily heat." The authors then proceed to analyze the ordinary every-day diet of a number of laborers, showing that as a rule the composition of the foodstuffs used by the working classes are, on the whole, badly balanced and unsuitable. To improve the dietary of the laboring classes, the following principles should be instilled into them: (1) That a diet of tea and bread, or of tea, bread, and butter is faulty. (2) That the faults of the tea-and-bread diet can be corrected by the free use of meat, eggs, and other animal food, but that this mode of correction is expensive. (3) That the faults can also be corrected by the free use of oatmeal with milk, or of peas and beans without extra cost. (4) That to correct the faults of a tea-and-bread diet either money spent on animal food or labor spent on cooking is necessary. If they have not the money they must give labor necessary to the proper cooking of more nutritive foods. Of course, as in every other partial inquiry, it is difficult to come to a just conclusion as regards the feeding of the whole of Great Britain. Still a number of towns are included in this inquiry, and it may safely be concluded that the British urban laborer and his family have, as a general rule, enough money to spend upon food. But what is far more certain is that the vast majority of laboring men's wives have not the remotest idea of the relative properties of certain foods, as compared with those of others, nor of their relative price.

If this be the state of affairs with respect to the urban poor population of Great Britain, what of the same class in the United States? It is true that laboring men in the cities here earn a bigger wage than in the United Kingdom, but do they on the whole spend this money to better advantage in the matter of food? The native Americans, the Germans, and some of the Irish probably do expend a part of their earnings in food good in quantity and quality, but the Italians, Russians, and those from other European countries exist upon a diet which is both sparse and deficient in nutritive properties. As for the cooking of food, it is doubtful if the majority of working women on this side are not as ignorant of the art as are their sisters in Great Britain. A lesson might be learned in this connection from the peasantry of France, and to a lesser extent from those of Germany, who are extremely poor yet know how to choose and cook food judiciously and well. The question of good food is a peramount one in all that concerns a nation's prosperity. To raise a race physically and mentally sound, the children must be well fed, and in order to bring about this result the women of the poorer classes—especially in towns—must possess the knowledge of selecting suitable food and of cooking it in a proper manner. There is a wide field in the United States in which to impart this knowledge.

Functional Albuminuria.

This affection, sometimes termed intermittent, remittent, orthostatic, postural, and cyclic albuminuria, was the subject of discussion at the meeting of the Medical Society of London, held on December 14, last. The president of the society opened the discussion. In the course of his remarks he said that some physicians, including the late Sir George Johnson and Dr. Clement Dukes, considered that albuminuria was always pathological, and that the term "functional" was hardly justifiable. Its characteristic feature was that albumin was absent on rising in the morning, but appeared after breakfast. In the later part of the day it might again be absent. The effect of meals on albumin varied. In some of the so-called cases of functional albuminuria the amount of albumin was usually not influenced by diet, but in other cases the urine lost all trace of albumin under the influence of exclusive milk diet, and again became albuminous after a meal of solid food. On the other hand there was another class of cases in which exercise, and even the erect position of the body had more influence than food in the production of albumin. Functional albuminuria might occur at any age but it was most frequently met with at the period of adolescence.

Dr. Rose Bradford defined functional albuminuria as the occurrence of albuminuria in the apparently healthy. He then discussed as possible causes of the condition latent renal disease of an organic character, the subsidence or onset of renal disease and accidental albumin due to spermatorrhœa, or the presence of a discharge such as gleet. It might also be associated with diet, posture, exercise, fatigue, or bathing. Posture was the most important of these. The only clearly established pathological cause of albumin was some toxic agent—metallic poisons, ptomains, and bacterial toxins, substances present in the blood of all animas. But these were obviously absent in most cases of functional albuminuria. Reflex vasomotor mechanisms of a complex character were called into play when the body assumed the upright position. Posture was possibly the main cause of functional albuminuria.

Dr. Pavy said he could not regard functional albuminuria as an incipient stage of organic renal disease. He had watched cases for upward of fifteen years. Posture was a prominent factor in causation of this condition. Diet, in his opinion, did not play an important part; excessive exercise, however, was important, as was over brain work. An unstable vascular system was often present in such cases, and fully explained the occurrence of functional albuminuria. Mr. H. G. Armstrong said he had studied the condition during twenty years at Wellington College. He would divide functional albuminuria into three varieties: (1) Occasional, which was an extremely frequent condition; (2)

Intermittent, which occurred in from 10 to 15 per cent. of the boys; and (3) permanent, of which kind he could only remember about six cases.

Functional albuminuria is one of the most common affections known, and it is somewhat curious that it has not as yet been definitely decided as to whether the condition is pathological or otherwise. However, the general opinion of physicians is that it is what its name implies, and that the derangement of function is but temporary.

Etiology of Dysentery.

The Berlin correspondent of the *Lancet*, November 28, quotes from an account which Staff Surgeon Dr. Jürgens published in the *Deutsche medicinische Wochenschrift*, concerning bacteriological researches carried out by him during an epidemic of dysentery which broke out in a regiment in the exercise camp of Gruppe, in Western Prussia. "The epidemic," says the correspondent, "extended to twenty-six men who presented typical symptoms—namely, severe diarrhœa, hemorrhage from the bowels, and prostration. These twenty-six men were admitted into the military hospitals, and in addition to them were a number of men who suffered from diarrhœa and were treated in the barracks. All the patients recovered in from three to four weeks. The microscopical examination proved that neither entamœba histolytica nor any other protozoon was present in the bowels. Bacteria, of course, were present, and Dr. Jürgens detected a bacillus very similar in form and culture characteristic to Kruse's dysentery bacillus, but showing differences under the agglutination test; probably this bacillus is identical with that discovered by Dr. Flexner in the Philippine Islands. In other epidemics of dysentery, Kruse's bacillus is commonly found in pure culture in the bowels during the first days of the disease, and this bacillus is therefore believed to be the specific germ of dysentery, although the bactericidal action of the serum against the bacillus has not yet been ascertained. In the recent epidemic the bacillus of Dr. Jürgens was agglutinated by the blood. Serum of almost all the patients, both during the attack and during convalescence. The serum taken from patients up to the second day from the beginning of the illness had no agglutinating effect, but on the third day, and afterward, it agglutinated the bacillus of Dr. Jürgens, but not the dysentery bacillus of Kruse. Dr. Jürgens therefore infers that the etiology of dysentery is not in all cases the same, as it is not caused always by Kruse's bacilli, but sometimes by another species. The disease, though a definite entity as to its clinical symptoms, shows marked differences from a bacteriological point of view."

Dr. Davidson, one of the best known British authorities on tropical diseases, expresses his views as to the etiology of dysentery, as follows: "Under the term dysentery, a number of ailments were grouped together, which, as investigation advanced, were coming to be differentiated. Of late years we had been made acquainted with the microorganism of Ogata and Shiga in Japan. Of a similar organism discovered by Flexner in the Philippines; yet a third organism in Egypt. Celli and Fiocca, in Italy, held the bacillus coli dysenteriæ to be the exciting cause, while various pyogenic cocci and certain streptococci had been held responsible for the disease; the bacillus pyolaxeus in America, and the paramœcium in Cochin, China, had each been accredited with being the originators of dysentery. The amœbiæ seemed to be the only constantly found organism in tropical or amœbic abscess of the liver.

Professor Flexner's views with regard to the cause of dysentery are too well known to need recapitulating here, and the same may be said of the conclusions reached by E. B. Vedder and C. W. Duval. Dr. Jürgens' inference that the causal agent of dysentery is not always the same is perhaps warranted by our present knowledge of the disease.

The Effects of Radium on Animal Life.

A Paris correspondent of the *New York Daily Tribune* contributes to its issue of December 27 an article on radium, and especially as regards its effects on animal life. The writer interviewed M. J. Danysz of the Pasteur Institute, who is investigating the pathogenic action of rays and emanations emitted by radium upon various animal tissues and substances. In the course of his remarks M. Danysz said that guinea-pigs were more sensitive to radium emanations than rabbits. Applications of radium rays that create painful sores on the skins of guinea-pigs only act as stimulants or irritants on the skins of rabbits, and singularly enough, cause, in the case of rabbits, a prolific growth of hair. This experiment was made by M. Danysz upon a mouse a month old. A minute glass tube containing one milligram of radium salt was inserted beneath the skin, just over the vertebral column. In three hours symptoms of paresis and ataxia ensued. In seven hours the mouse was seized with violent convulsions of lockjaw, and in twelve hours death occurred. Mice, from three to four months old, subjected to radium rays of the same force, died in a similar manner, and identical symptoms of paresis, ataxia, and lockjaw, and death ensued within a period of from three to four days. From six to ten days were required to kill mice a year old, subjected to the same experiments. Guinea-pigs, upon whom the same experiments were made, resisted the effect of radium for a longer period than did mice of a corresponding age, but eventually they exhibited like symptoms and died. According to the investigator, the result of his studies shows that the nervous centers of animals or insects are extremely sensitive to the effect of the radium rays or emanations. The intestinal organs, on the contrary, are only slightly sensitive to the effect of radium. With regard to the effect of radium on microbes, M. Danysz states that in all cases the further development of the microbe was arrested, but that only in a few cases was the microbe actually killed.

The Changes in Gastric Secretion after Unilateral Nephrectomy.—Stejskal and Axisa found that the hydrochloric acid secretion of the stomach underwent marked diminution even early in nephritis, and were thus led to study further the interrelationship of the renal and gastric secretions. Dogs with œsophageal fistula were used, and their stomach contents studied before and after nephrectomy. Immediately after the operation the secretion began gradually to lose its acidity, until on the third to fourth days no acid whatever could be demonstrated. From this time on the quantity of hydrochloric acid begins to rise again, and about the tenth day reaches the normal. Exact determinations of the other constituents of the gastric juice were not made, but it appeared that the pepsin also was diminished in amount. Owing to the gradual manner in which the change takes place, the authors do not consider the phenomenon as being of reflex nature, and incline to the view that it is due to the changes in the blood produced by the sudden interruption of renal secretion following the operation. The fact that the gastric juice and urine are both acid secretions coming from alkaline blood must be taken into account.—*Centralblatt für innere Medicin.*

News of the Week.

The New Health Commissioner.—Mayor McClellan has appointed Dr. Thomas Darlington Commissioner of Health of New York to succeed Dr. Lederle. Dr. Darlington is a graduate of the Medical Department of Columbia University in the class of 1880.

Typhoid Epidemic in Columbus.—Thirteen cases of typhoid fever have been reported, in the past thirty days at the Ohio Penitentiary in Columbus. It is believed that the infection is due to the water supply, which is from the Scioto River.

Overcrowding in the Cincinnati Hospital.—In the City Hospital of Cincinnati a large number of patients are obliged to sleep on matresses on the floor owing to deficiency of space. In the past two weeks there have been a large number of accident cases in addition to the usual winter increase in medical cases, so that the hospital population is larger than ever before in its history.

Newspaper Contest for Hospital Supplies.—One of the Cincinnati daily papers has offered prizes of supplies to the five charity institutions receiving the largest number of votes from its patrons during the month of December. The prizes will be awarded next week and consist of five hundred dollars' worth of groceries for the first prize, two-hundred and fifty dollars' worth for the second, one hundred and twenty-five, seventy-five, and fifty dollars' worth for the third, fourth, and fifth respectively. A number of hospitals are among the competitors.

Measles Epidemic at Children's Home.—An epidemic of measles has broken out at the Children's Home in Cincinnati. At present there are thirteen cases. The superintendent, Mr. M. V. Crouse, has had to refuse admission to children who have not had the disease.

Intestinal Influenza Prevalent.—There are many cases of intestinal influenza in Cincinnati at the present time, and nearly every office and factory in which many men are employed has a number of absentees. From one line of electric cars alone there are twenty-three men off duty from this cause.

Violent Deaths in Cincinnati.—Coroner Weaver of Hamilton County, Ohio, reports for 1903, 771 violent or suspicious deaths in Hamilton County. Of these, 95 were suicides and 39 homicides. Eighty-nine deaths were due to railway accidents, and 42 to street cars. The remainder were due to miscellaneous accidents and natural deaths in cases in which no physician was called. Of the 95 suicides, 36 took poison, carbolic acid being used in 20 instances. Twenty-four persons ended their lives by shooting, and 11 by drowning. Of the 95 cases 70 were males and 25 females. It is a curious fact that not one colored person is to be found among this number. Among the accidents are 24 deaths from drowning and 5 from tetanus, following slight injuries with blank cartridges.

Insanity among the Indians.—The National Hospital for Insane Indians at Canton, S. D., has just completed the first year of its existence. The superintendent is Mr. O. S. Gifford, and the assistant superintendent and physician Dr. J. F. Turner. The hospital now contains thirty-four patients, and at the present rate of increase in the number of applicants for admission the institution will soon be filled. It is said that insanity is increasing rapidly among the Indians on the reservations, for much of which the enforced civilization of the red man is believed to be responsible.

A Naval Tuberculosis Camp has been established at the Pensacola (Fla.) Navy Yard. The present experimental camp has six patients, and the reports received of the first month's results are most gratifying to the medical authorities. The patients will live out of doors day and night, being sheltered in tents. While it has been decided to establish a naval resort for this class of patients, it may not be located at Pensacola, as Surgeon-General Rixey intends to investigate other localities, one on the Pacific Coast and another in the East, further north. When the experts decide on the best place, Congress will be asked to make an appropriation for the establishment and maintenance of an open-air hospital.

Enormous Legacy to a Hospital.—The will of the late Peter B. Brigham of Boston was sustained by a decision handed down by Justice Lebaron B. Colt, in the United States Circuit Court on December 30, and the $5,000,000 involved will go to the Brigham Hospital. Suit was brought by an heir at law, to have the gift for a hospital declared void, as in violation to the rules against perpetuities. The bill also sought, if that ground were untenable, to have the provisions for the hospital declared invalid as to any excess of property over $1,500,000, for the reason that no charitable corporation, such as was contemplated by the testator, had the capacity under the laws of this commonwealth at the time of the gift to hold property above that amount. Judge Colt decided against the plaintiff on all grounds.

Not a Promoter of Consumption Cures.—United States Consul Smith of Moscow has issued a statement denying that he is coöperating with Kisel Zagoranski (a mining engineer recently licensed by the Russian Government to practise medicine in cases of tuberculosis) in treating consumptives. So far from endorsing the man's methods, he says that the cases brought to his notice have not demonstrated the possibility of curing tuberculosis by the Zagoranski method.

It Has Been Raining in London.—The official meteorological record shows that rain fell more or less continuously in London on 205 days in 1903, or 39 days more than in 1902. The wet did not seem to affect the public health injuriously; on the contrary, it is stated that the death rate in the city and surburban districts was lower than ever before.

The New York Infirmary for Women and Children.—A meeting to celebrate the fiftieth anniversary of the New York Infirmary for Women and Children will be held at the Waldorf-Astoria on Saturday, January 16, at a quarter past eight o'clock. Addresses will be made by Dr William H. Welch of Johns Hopkins University, Miss M. Carey Thomas, President of Bryn Mawr College, Dr. Emily Blackwell, and Dr. Annie S. Daniel.

The Perils of Neglected Vaccination.—How the sin of neglected vaccination finds out its victims is shown by the medical inspector of the Chicago Health Department in his report on four cases of smallpox sent to the Isolation Hospital, quoted in the weekly bulletin of the department: "A man from Oswego, N. Y., visited friends upon his arrival in Chicago while he was in the early stage of smallpox. At the first house he visited there were two young ladies unvaccinated, though they are employed in a large downtown department store. Both are now in the hospital with smallpox, having contracted the disease from their Oswego friend. There was also an unvaccinated man at another house visited by this man, and he, too, is now in the hospital with smallpox. The fourth case, an unvaccinated young man, traveled on the same car with the Oswego man and visited in the same neighborhood."

A Leprosy Scare in Nebraska.—A report obtained currency last week that twenty-five cases of leprosy

had been discovered in the Russian colony near Lincoln, Neb. There was the usual amount of trepidation, but the alarm subsided upon the publication of the report of the Health Commissioner, who made a thorough examination of the suspected men and found them to be suffering from nothing more unpleasant than a common and perfectly benign skin disease.

Beth Israel Hospital.—The annual meeting of the Beth Israel Hospital Association was held and the first anniversary of the opening of the new hospital building at Jefferson and Cherry streets was celebrated in the dispensary of the hospital on December 29. In the last year 82,000 prescriptions have been dispensed, and 1,600 patients have been treated.

Effects of Radium.—At a recent meeting of the Academy of Sciences in Paris, Dr. Roux of the Pasteur Institute presented a paper detailing the results of exposing mice continuously to the action of radium. He hung a tube of radium in a cage containing mice, and after twenty days the animals lost their fur, which subsequently came out again, but was white. Exposure for a still longer period resulted in the production of a general muscular paralysis.

The Pennsylvania State Board of Medical Examiners has just concluded its semi-annual examination of applicants for license to practise medicine in the State. There were 103 applicants examined, and of these only fifty-seven passed. The examinations are said to have been extremely rigid.

Enlarging the List of Notifiable Diseases.—The Philadelphia Department of Public Health and Charities has under consideration the enlargement of the group of diseases notice of which will be required of physicians. As a result of conferences with committees of the Philadelphia County Medical Society and the College of Physicians of Philadelphia, it is proposed to add pneumonia, chickenpox, whooping-cough, tuberculosis, and measles to the list of notifiable diseases.

Dr. Ellen L. Lowell of New York has been appointed chief bacteriologist at the Graves Pathological Laboratory of the Orange Memorial Hospital.

Bequest to Tulane University.—The Supreme Court of Louisiana has decided in favor of Tulane University the first and most important of two contests to the Hutchinson will. By this will about $800,000 was left to the University to be used for its medical department for specified purposes. The first contest was as to the validity of the will, and the second was as to whether the University could act as trustee for one of its departments. The second decision has not yet been rendered, as the brief has not yet been submitted to the Supreme Court.

The Louisiana State Medical Society has changed its meeting place for 1904, as the invitation to Lafayette has been withdrawn. New Orleans promptly put in her invitation, which has been accepted. The unexpected increase in the size and activity of the State Society promised such an unusually large meeting that those in charge of affairs at Lafayette feared that it would be impossible for them to accommodate properly the large crowd expected. The Orleans Parish Medical Society immediately extended a cordial invitation, and is vigorously pushing preparations for the largest and most successful meeting the State Society has ever had.

The Paths of Infection in Tuberculosis.—The third lecture in the course instituted by the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis was delivered in Philadelphia on December 29 by Dr. G. Sims Woodhead of Cambridge, England. Later in the evening a reception was held in honor of the visitor, which was attended, among others, by Mr. Henry Phipps, Dr. George M. Sternberg of Washington and Dr. Wm. H. Welch of Baltimore. In his address Dr. Woodhead dwelt upon the conditions that favor the deposition and the manifestation of the activity of the tubercle-bacillus, pointing out that it may be present on the surface of healthy tissues without doing harm or giving rise to symptoms. In order that it shall manifest its activity special conditions of the host must first be present. Dr. Woodhead showed how the disease develops and spreads, particularly in those portions of the lungs that are little expanded, whether normally from anatomical conditions or pathologically as a result of adhesions or other disease. The various changes in the lungs were illustrated by means of lantern slides projected on a screen. It was pointed out that a catarrhal process of the pulmonary alveoli is the common precedent of invasion. The reaction of the tissues and the resulting histological alterations were briefly considered. Extension takes place through the lymphatics or the blood-stream. The tuberculous nodule may undergo softening and break down, leaving a cavity, or it may undergo fibrosis or cicatrization, and eventually, perhaps, calcification. Involvement of the bronchial lymphatic glands has an important influence on the nutrition of the lungs. In the early stages there may be slight hemorrhage, from the congestion due to the morbid process, while the bleeding in the latter stages results from the erosion of arteries of considerable size. The tendency to the formation of fibrous tissue is the indication of nature's attempt at cure, and is to be encouraged so far as lies within the power of the physician. This process is observed in a large number of cases in which death occurs from other causes, demonstrating the curability of the disease. Not rarely it takes place spontaneously. The physician, however, can contribute largely to the same end by improvement of the general nutrition of the patient and by properly stimulating the functional activities of the respiratory apparatus.

Michael Reese Hospital Receives $1000.—According to the will of the late B. Kuppenheimer, the Michael Reese Hospital of Chicago receives $1000.

Sanitary Investigation by the Illinois State Board of Health.—This Board has just finished a sanitary investigation of seventy-five cities of Illinois, the public water supply of which has been subjected to a careful chemical and bacteriological analysis. The water in the greater proportion of these cities has been pronounced good. The Board has consulted with the local authorities in those cities in which there was evidence of contamination of the water supply, with a view to ascertaining the cause of the pollution, and to suggest a remedy. The sanitary officers of the Board were sent to the majority of the cities for the purpose of investigating insanitary and unhygienic conditions, and to advise the local authorities as to the steps necessary to prevent an outbreak of the disease.

Proposed Medical Legislation in Iowa.—The State Board of Health of Iowa recently held its quarterly meeting, at which a revision of the laws relating to the medical profession was recommended in the following three particulars: First, the creation of a special bacteriological department, which shall have an appropriation of at least $5000 a year; second, the power to act in all cases in which it is believed there is danger of an epidemic or disease, even when there has been no outbreak; third, power to accept the

certificates of physicians from other States that exact the same preliminary training and subsequent examination as Iowa.

Three Hundred Dollars a Day for Medical Services.—Dr. M. P. Morrell of St. Louis has obtained a judgment for $12,666 in his suit for $16,000 for forty days' services rendered the late son of Dr. J. J. Lawrence. Dr. Morrell went to New York to attend Dr. Lawrence's son and rendered a bill for $16,000.

The Newman Club Lectures at Columbia.—The winter course of lectures before the Newman Club of Columbia University was opened on December 15 by Dr. J. J. Morrissey of this city, who chose for his subject, "University Education and Citizenship." A large crowd of undergraduate members was present, and quite a few alumni and invited guests..

Notes on Chicago Hospitals.—The County Board of Commissioners of Cook County is now pushing to completion new cottages for the insane, and for consumptives, at Dunning, Ill.; also a separate building at the Cook County Hospital for the treatment of persons ill with contagious diseases. In addition, plans are being drawn for a central power plant, a ward for working patients, and a morgue and pathological laboratory at Dunning, for a Children's building at the County Hospital, etc. During the year also administrative changes were made at Dunning and at the County Hospital. At Dunning a more thorough system of medical attendance was inaugurated, a partial reclassification of insane patients was made, a pathological laboratory was opened, an interne service installed, and a business manager was added to the official staff. At the hospital an assistant warden, who is a physician and surgeon, was appointed, and changes were made to effect more thorough medical and surgical service for the sick and injured. At the Dunning institutions the average daily number of patients in the insane department during 1903 was 1750, in the poorhouse 950, and in the tuberculosis ward 95.

The total number of patients admitted to the Detention Hospital during 1903 was 1491, of which number 1465 were taken to the various county institutions. At the Cook County Hospital 22,227 patients were treated in 1903; 19,430 were discharged, and 1,996 died. The number remaining in the hospital is 801. The hospital cost the county $312,920 to maintain, or about $1.00 per day for each patient.

Wisconsin College of Physicians and Surgeons.—The faculty of this college will soon erect a $50,000 addition to the present buildings, which will be of red brick, five stories in height, with a frontage of eighty-five feet, and will include a dispensary, a clinical lecture room, a dental infirmary and laboratory, a library and reading-room, and five lecture and recitation rooms.

Obituary Notes.—Dr. HAMILTON A. WEST of Galveston, Tex., died at the home of his brother, Dr. James N. West, in this city, on December 30. He was born at Russell's Cove, Ky., in 1849, and was graduated from the Medical Department of the University of Louisville in 1872. He took up the practice of his profession in Galveston and soon became prominent in medical matters in the city and State. He was for several years secretary of the Texas State Medical Society, and was instrumental in the establishment of the medical department of the University of Texas, in which he was a professor. He was an authority on yellow fever and dengue, and had also made a particular study of typhoid fever.

Dr. JEROME A. ANDERSON of San Francisco died on December 26, at the age of fifty-six years. He was a graduate of the Medical Department of the University of California in the class of 1873. He was an active medical practitioner, but was best known as an exponent of Theosophy, being at the time of his death president of the Federation of Branches of the Theosophical Society on the Pacific Coast.

Dr. JOHN M. OTTO of this city died on December 29 from the result of injuries received in falling from a wooden bridge in front of a house in the course of construction. He was a graduate of the New York University Medical College in the class of 1888.

Dr. ROBERT BOOCOCK, a homœopathic practitioner of Brooklyn, died on December 28. He was born in England, but came to this country in 1870, and was graduated from the Homœopathic Medical College in this city in 1891. He was also a Baptist minister, and at first combined the two professions, but later devoted himself exclusively to medicine.

Dr. FRANCES E. WHITE, formerly of Philadelphia, died December 30, at Jamaica Plain, Mass. She was a graduate of the Woman's Medical College of Pennsylvania in the class of 1872, and for many years was professor of physiology there, but resigned recently on account of impaired health.

Dr. AUGUSTUS D. RUGGLES of this city died on December 27 at the age of sixty-three years. He was a graduate of the Medical Department of the University of Pennsylvania in the class of 1862.

Dr. BYRON HIRAM DAGGETT of Buffalo died at the Buffalo General Hospital on December 30, death following an operation for the removal of the gall-bladder. Dr. Daggett was a graduate of the Medical Department of the University of Buffalo in the class of 1867. He was a former health physician and police surgeon of Buffalo, a member of many Buffalo medical societies, one of the editorial staff of the Buffalo *Medical and Surgical Journal*, and a member of the staffs of the Emergency, Sisters' and Riverside hospitals of Buffalo.

Dr. ANTON EIDENBENZ, who had practised in this city for over fifty years, died of pneumonia on December 30, at St. Luke's Hospital. He was eighty-six years old. Dr. Eidenbenz was born in Hessedarmstadt, Germany, and was a graduate of the University of Giessen in 1846. He was a surgeon in the Eleventh New York Regiment during the Civil War.

Dr. MICHAEL O'MALLEY died of pneumonia in Philadelphia on December 26, at the age of seventy-eight years. He was a retired army surgeon and a veteran of the Civil War.

Dr. FRANK S. JACKSON died in Dunkirk, N. Y., on January 1, at the age of fifty-two years. He was a graduate of the New York University Medical School in the class of 1881, and subsequently served an interneship in Bellevue Hospital. He practised more than twenty years in Dunkirk. He was a member of the Dunkirk and Fredonia Medical Society, and was a prominent mason.

Dr. T. G. BIRCHETT died at Vicksburg, Miss., January 2, aged sixty-eight years. He was a native of Orange County, Va., and was graduated from the Medical Department of the University of Pennsylvania in the class of 1856. He was twice Mayor of Vicksburg, served several terms in the City Council and the Mississippi Legislature, and was for years superintendent of the Mississippi State Hospital at Vicksburg.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

HOSPITAL FUNDS—ROYAL SPEECH—ARTIFICIAL RESPIRATION—AN INSTITUTE OF THE MEDICAL SCIENCES—BART'S REVERSES DECISION—KING'S—NEW MILITARY HOSPITAL—DR. HARRIS, M. P.—DEATHS OF WM. NEWMAN AND SAMUEL WOODCOCK.

LONDON, December 18, 1903.

THE Prince of Wales presided and moved the report of the Distribution Committee of King Edward's Hospital Fund, at the meeting of the Council on the 15th inst. The treasurer, Lord Rothschild, said the year was not quite ended and he hoped for further substantial donations, but feared they could not show as good a result as last year. The sum to be distributed is about £99,000. The report expresses regret at the retirement of Lord Lister from the chairmanship he had filled so well from the foundation of the fund. It passes on to mention the great expenses required to keep up hospitals to the advances of medical science, and at the same time the tendency of the necessary expenditure on the patients to increase, making the needs of hospitals greater than ever. The Committee view with satisfaction the amalgamation of the National and Royal Orthopædic Hospitals, and are of opinion that one first-rate hospital for this specialty, with its country branch, will tend to the benefit of the patients more than smaller scattered institutions. They even recommend that further sums be set aside to facilitate the possible amalgamation of other charities.

His Royal Highness, in moving the report, expressed hearty concurrence with its recommendations, but had to admit that the hopes entertained last year of an increase of £10,000 to the income had not been fulfilled. The year 1902 was an exceptional one, and some of the reserve at the disposal of the Council would be used to keep up the distribution to that scale. His Royal Highness said this decision was not come to without considering those two opposing principles, one of which deprecates any encroachments on reserves, while the other advocates the expenditure of subscriptions, with a view of relieving present necessities rather than placing them to capital account. "We are anxious," he said, "not to go back in the work initiated by the King, and in the fulfillment of which I consider a sacred trust was confided to me." He then drew attention to the enormous sums for which appeals are now contemplated by the London hospitals—probably over a million sterling will be asked for.

The Lord Mayor presided over the annual meeting of the Sunday Fund on Tuesday. The report showed, as I forecasted for you, the most successful year in the history of this fund. Mr. Coleridge advertised himself by proposing an amendment to the report, and got Archdeacon Wilberforce to second it, about voting money to medical schools, which, of course, the chairman said the fund did not do. A total distribution of nearly £60,000 among the hospitals and allied charities was recommended and agreed to by the meeting.

To the last meeting of the Medico-Chirurgical Society Professor Schäfer sent a paper which was read by the secretary, and described a method of artificial respiration in the human subject, and gave special directions as to the treatment of the apparently drowned. First noticing the Marshall Hall, Sylvester and Howard methods, he passed on to say that, in contradistinction to them, his plan is to keep the subject in the prone position throughout. Laying the patient prone, preferably on the ground, with a thick folded garment under the chest, and the arms laid forward, the operator is to put himself in a position athwart the subject, facing his head and kneeling on one knee, with the other knee and hip flexed, his hands being then placed on each side over the lower part of the back of the chest. He must then slowly throw the weight of his body forward to bear upon his own arms, and so press upon the patient's thorax and force air out of the lungs. This effected, he must slowly relax his pressure by returning gradually to the erect position, but without moving his hands. As this is done, the air is drawn by elastic reaction of the chest wall into the lungs. The process must be repeated regularly at least twelve times a minute, and not more than fifteen. In this way an exchange of nearly 500 c.c. per respiration is effected—more than enough to maintain complete aëration of the blood. The advantages of this procedure are its ease and simplicity, the efficiency of the gaseous exchange as determined by Professor Schäfer, absence of danger from falling back of the tongue (or in drowning cases), obstruction by mucus and froth in the air passages, and absence of liability to injure the liver or other viscera by the manipulations. Directions for treating the apparently drowned by this plan were embodied in the paper.

Dr. Bowles said there were a few points he did not agree with. The method was, in fact, the one he had used for forty-five years—called after Marshall Hall—but omitting the rotation of the patient, which he regarded as often a most necessary part of the plan.

Dr. Silvester said the plan was that of simple pressure and had been in use from early times. The plan proposed in the paper was defective, as it made expiration precede inspiration, and he thought the exchange of air was insufficient. Pressure on the thorax must be dangerous when the heart and other vicera were congested—the parietes might also be injured by vigorous pressure. The plan could not be used in a hot bath.

Mr. Haward thought all the methods known had advantages and disadvantages. He thought, therefore, combining them as Dr. Bowles did was the best practice.

Dr. F. W. Hewitt agreed with this: In asphyxia from anæsthetics the prone position must not be used, and bleeding would relieve the right heart.

Dr. Pembrey also supported the combined plan and venesection. In the still-born the best way was to blow into the lungs. Warmth was important.

Dr. N. Pitt asked if cases of injury to the liver by the Howard method had been recorded.

The President (Mr. Willett) thought the matter had been thoroughly investigated by the committee of the society, and so fully discussed that it would be practicable to draw up new rules for the treatment of the apparently drowned.

This morning the Senate of the University of London issued its appeal for funds to enable it to establish an Institute of the Medical Sciences. As you know from my previous letters, the Faculty of Medicine, consisting of 350 teachers of the University, having ascertained the views of the teachers in our medical schools, recommended the establishment of such an institution for the "teaching of physics, chemistry, biology, anatomy, and physiology." I hear that there is an expectation that land for the building may be granted by the exhibition commissioners, and that would be in proximity with the University, under the control of which the Institute would remain. The step is entirely in accord with the recommendations of the Royal commission and the opinion of the profession—so perhaps the appeal will be successful.

Yesterday afternoon another meeting of the governors of St. Bartholomew's Hospital was held, when it was resolved to take steps to ascertain the possibility of acquiring further additions to the present site. The resolution states that the governors take this course in view of the great encouragement of the press and in other directions, and believing that they have the unanimous support of their medical staff in the action they have decided to take. It is therefore probable that the large scheme pleaded for will be carried out.

By permission of the surgeons, the Schmidt serum for cancer is being tried at the Middlesex Hospital by Dr. Jossé Johnson, whose paper I lately summarized for you. Dr. Marmorek's antituberculous serum is also being tried at the Bompton and St. George's Hospitals. He came over last week and gave some injections, and provided Dr. Arthur Latham with the antituberculous serum to continue the treatment. Perhaps, therefore, we may obtain reliable evidence as to the value of both these remedies.

The donor of the site for King's College Hospital is the Hon. W. F. D. Smith, M. P., who is chairman of the Removal Committee and Treasurer of King's College. He wishes the donation to be associated with the memory of his father, who was for many years treasurer of the hospital. This will, of course, be done, probably by naming the central block after the late leader of the House of Commons.

The new military hospital for London is rapidly approaching completion. It will have 225 beds. The Royal Army Medical College will be built close by. The professors of military surgery and tropical medicine in the college will be at the head of the teaching and clinical departments, and will be assisted by selected officers.

We have another medical M. P. Dr. Rutherfoord Harris, the former secretary of Mr. Rhodes, who was also in the Cape Parliament. As he is a qualified medical man, I hope he will give a good deal of his undoubted talent to medical topics.

Dr. William Newman, Consulting Surgeon of Stamford Infirmary, died on the 3d inst., in his seventy-first year. He was one of our greatest provincial leaders, eminently scientific, with rare clinical insight and operative skill. One who preserved his integrity throughout, and was trusted to the utmost by his brethren.

Manchester mourns "Sam Woodcock," who died suddenly on the 12th inst., aged sixty-three years. You may remember his name best as the zealous medical reformer. Manchester knew him as a citizen devoted to well-doing, taking an active interest in her public affairs, and advocat-

ing with great eloquence everything likely to promote the good of his fellow citizens. A man of strong opinions, pushed logically but never offensively, of sterling character, Dr. S. Woodcock could not confine his work to his profession, but he did not neglect this as many a grateful patient will testify. He would have been sent to Parliament but for private reasons preventing his coming forward.

Progress of Medical Science.

Journal of the American Medical Association, Jan. 2, 1904.

The X-ray as a Therapeutic Agent.—A. D. Bevan considers this question with special reference to cancer. He considers the ray indicated, in the light of our present knowledge: (1) In superficial epitheliomas; (2) as a post-operative treatment in most of our carcinoma cases; (3) in inoperable cases, as a justifiable piece of experimental work in the hope that this line of investigation may possibly lead to valuable results. The dangers of the *x*-ray as a therapeutic agent are two, and these dangers should be especially pointed out to the general profession. The first danger is the possibility in all cases of producing a serious *x*-ray burn. This possibility can be reduced to a minimum by a thorough understanding of the technique, but cannot be entirely done away with, as burns will occur even in the hands of experts of the greatest experience. The second danger, and the more important one, is the using of the *x*-ray in cases in which it should not be used, in which its use is of no benefit to the patient, means valuable time lost, and prevents the patient receiving the greater chances of cure offered by radical surgical removal of the disease.

Perisinusal Abscess of the Lateral Sinus.—A case of this nature with metastases in the liver and sternoclavicular joint is described by Gordon King, whose patient was a white boy aged fourteen years. Operation consisted in exposure of the mastoid, opening the antrum and laying bare the lateral sinus in the posterior aspect of the mastoid opening, whereupon pus began to ooze from between the sinus wall and the upper part of the wound. This was traced up and found to come from a cavity containing about a drachm of creamy yellow pus in contact with the membranous wall of the sinus. This was freely exposed, evacuated of pus and a gauze drain applied. The sinus seemed to be normal otherwise and exploration brought out a flow of pure liquid blood. There was no evidence of thrombophlebitis. Three hours after operation the patient had a chill and evidences of inflammation in the left sternoclavicular joint. These subsided, but returned later, so that an incision was made into the joint, but no pus was ifound. The patient had had considerable pain over the liver and spleen previous to operation, and had evacuated pus and blood from the bowels. Three days after operation these abdominal pains returned and he vomited a little blood. This happened again five days later, but from this time convalescence was rapid and uninterrupted and in three weeks the patient was well.

Diabetes Mellitus: the Limitations of Its Dietetic Treatment.—This topic is discussed by A. R. Elliott, who declares that the course to be followed in the dietetic treatment of diabetes is, in the amenable stages of the disease, to allow the patient as liberal an allowance of carbohydrates as the patient can assimilate, and in the severe stages as much as is found necessary to hold in check the dystrophic advance, bearing in mind the important fact that carbohydrates only act as albumin-sparing bodies when their ingestion is followed by at least partial assimilation. At the same time every artifice must be employed to introduce the largest amount of fat that the patient can take. If this method is pursued it does not become necessary to restrict the nitrogenous elements of food, for by the judicious introduction of carbohydrates and fats little necessity exists for excessive devotion to any one class of foods, and seldom is the patient led into over-indulgence in animal foods. The point is frequently made that it is as necessary to limit the quantity as it is the quality of the foods in diabetes. It seems to the writer an unnecessary cruelty to limit the amount of available foods to these patients, for the bulimia is the outcry of starved tissues, deprived of the food values necessary for their preservation, and to meet this tissue hunger by further starvation seems both cruel and unscientific. A better solution of the difficulty is reached by adjusting the diet, as far as possible, so as to provide sufficient food calories for the systemic needs in easily available forms, such as carbohydrates, fats and alcohol, and when this is successfully accomplished the excessive craving for food disappears.

Medical News, January 2, 1904.

Chickenpox Concurrent with Smallpox.—Philip D. Bourland emphasizes the following points: In his observations, the concurrence of smallpox in no way caused the course of the cases to depart from that typical of chickenpox. Vaccinated and unvaccinated children showed equal susceptibility to infection, and the course of the sickness was the same in each class. This fact excludes varioloid. None of the writer's patients had ever been exposed to smallpox or had ever had it. No adults were attacked notwithstanding the absence of vaccination in a majority. Five of the children exposed had had chickenpox in a previous epidemic, these previous attacks conferring immunity except in one instance. Smallpox and chickenpox are distinct pathological entities, and though in intimate association, neither disease influences in any way the natural history of the other.

Thoughts on Chlorine and an Antiseptic Technique.—Douglas H. Stewart states that after testing many soaps the ordinary brown laundry variety always seemed sterile, but he has never seen sterility of the hands from the use of any soap. If soap is eliminated from the technique, the following method is suggested: Mix a heaping teaspoonful of calc. chlorat., of table salt and of aq. ammoniæ in a quart of cold water; bleach and cleanse the hands therein, and they will often be sterile. Special attention should be paid to the nails—powdered pumice stick and brush being used. Chlorinated lime under and around the margins of the nails is very cleansing. In the case of pregnant women, the advice is given to daily wash the mons veneris and all about the private parts with water, two quarts, a heaping teaspoonful of calx of salt and a half teaspoonful of pot. carb. This is allowed to dry on the skin. The following method of sterilizing the hands is given: Five minutes mechanical—pumice, brush, hot water, green soap, and wooden nail-cleaners. Five minutes chemical—two heaping teaspoonfuls of fresh calx chlorat. and one teaspoonful of U. S. P. acetic acid to the pint of sterile water. It should be remembered that all chlorine solutions depreciate very rapidly.

The Management of Typhoid-fever Epidemics.—George A. Soper believes that after an epidemic has declared itself, nothing can do more good than to take prompt steps to determine the presence and nature of the disease. Reliance should never be placed upon clinical symptoms alone in the diagnosis of typhoid fever. When utilized to the fullest extent, the Widal test can be of the utmost value at the outbreak of an epidemic of a disease which is suspected to be typhoid fever. The number of cases of sickness should be accurately determined; also where they are distributed and when they occurred. The collection and intelligent analysis of the vital statistics are an indispensable feature in the control of an epidemic. Special care should be taken to detect the existence of mild, unusual, and atypical cases. An epidemic is not so likely to spread from the severe cases as from the mild ones. As soon as possible, the original cause of the epidemic should be looked for and removed. Local health boards may control the purity of food supplies by regulations covering the quality of these products offered for sale. Disinfection on a large scale will generally be required in a typhoid-fever epidemic. In cases in which the bladder is infected, urotropin given in 10 gr. doses three times a day for a week, has been found to be effective. The State should send a representative to remain long enough at the seat of epidemic to insure the adoption of measures which will bring it under control, however long this may take.

New York Medical Journal, January 2, 1904.

The Ocular Complications of Mumps.—J. H. Woodward has searched the literature of this subject and finds records of abscess of the lids, bilateral conjunctivitis, keratits, iritis, inflammation of the lachrymal glands, paralysis of accommodation, double amblyopia, and optic neuritis, He adds the history of a personal case of optic neuritis which has been under observation for eighteen months, his patient being a girl of twelve years. The patient came through several constitutional diseases following mumps with one eye normal while the other was somewhat impaired.

The Treatment of the Cardiac Toxæmia of Pneumonia.—H. L. Elsner says that the clinician should constantly keep before his mental vision in treating pneumonias, the association of a feeble heart with dilated peripheral vessels and altered blood-pressure. The prime factor in the disease is a toxæmia with obstruction in the pulmonary circuit. This leads to cardiac asthenia, especially in the right heart with degenerative changes in the heart muscle, heart-clots, and vasomotor paralysis. The toxæmia is short lived, but the condition is dangerous. All depressants must be avoided. Nitroglycerin must not be used indiscriminately. Venesection is often preferable. Veratrum viride is contraindicated. The preferable remedies are the cardiac stimulants, such as digitalis, strychnine, and adrenalin. The latter acts on the heart and vessels,

but not on the vasomotor centers, and thus may be used to assist strychnine. To combat the cardiac asthenia he prefers to give every fifteen minutes fifteen drops each of the compound spirit of ether, aromatic spirit of ammonia, the compound spirit of lavender, and the tincture of valerian. This is kept up day and night until the pulse shows improved tone and the heart action is decidedly better. If alcohol is needed, he prefers it in the form of Tokay wine. Occasionally one may need high rectal injections of coffee and whiskey and hydopermic injections of ether, sterilized oil and camphor. Saline solutions, subcutaneous or intravenous, are called for in desperate straits.

Surgical Treatment of Gallstones.—B. F. Curtis discusses the pathology and complications of gallstones and gives the histories of five cases. His conclusions are as follows, as to the advisability of early operative intervention while the stones are still in the gall-bladder or cystic duct and before the onset of infection: (1) The serious accidents of infection are avoided and any inflammatory condition which may exist can be improved or cured, just as drainage cures urinary cystitis. (2) The stone is removed before it enters the common duct, thereby preventing all the dangerous consequences likely to follow the presence of a stone in that passage. (3) Further attacks of cystitis and colic are prevented. (4) Further calculus formation is prevented or impeded. for the stones are formed in infected gall-bladders, and the latter may be removed by operation or rendered so healthy by drainage that no more calculi will form. (5) It must be remembered, also, that latent cases are by no means free from danger, so that the individual who has recovered from an attack of colic cannot be considered cured, even if he is entirely free from symptoms for years, as it is probable that stones remain behind, or that some chronic cholecystitis persists. The possibility of secondary pancreatitis must be kept in mind, and also that of cancer of the gall-bladder, which is more common than has been supposed. (6) Without reference to more important results, it is the general feeling of those with experience in the surgery of cholelithiasis that in the latent cases, while the patients do not present symptoms pointing directly to the biliary system, they are afflicted with various dyspeptic complaints, and that the latter can be relieved or permanently cured by operation.

American Medicine, January 2, 1904.

Seasickness: Etiology and Prophylaxis.—E. Kirkland Shelmerdine attributes seasickness to three factors, acting together or independently—mechanical, mental, and the irritating influence of the bile in the stomach. In walking on shipboard, the individual undergoes many muscular contractions. The muscles of the trunk and legs undergo excessive activity, and the diaphragm is elevated by the muscles of the chest during inspiration. Many go on board ship in a bilious condition. From muscular contractions and pressure, the bile is forced into the intestines. The elevation of the diaphragm causes a negative pressure in the stomach, and the abdominal pressure aided by constipation causes the bile to flow into the stomach. The bile is a foreign body in the stomach and excites vomiting. Prophylaxis should begin ten days before sailing: Podophyllin, 3 mg. ($\frac{1}{20}$ gr.) four times daily. On the third, sixth, and the day before sailing, calomel is given—.13 gm. (2 grs.) in divided doses. The night before sailing, a bottle of magnesium citrate should be given. Five days before sailing, sodium bromide, .32 gm. (5 grs.) twice daily, is given, and this is continued till "sealegs" are acquired. The bowels must be kept loose on shipboard. The main object is to cleanse the bowels and to get rid of as much bile as possible. In cases of persistent vomiting, washing out the stomach and bowel is beneficial. Strapping the chest will quiet the stomach. The body should be relaxed and not held stiff. It should follow as far as possible the movements of the ship. There is also a nervous element in seasickness which causes lack of confidence in one's ability to navigate.

The Early Diagnosis of Arteriosclerosis.—Alfred Stengel states that in the processes of involution that occur with advancing years, the primary, most widespread, and important, is the loss of elasticity of the blood-vessels and their hardening. No researches have as yet thrown any definite light on the particular causes of physiologic senility. However, considerable light has been thrown on the factors concerned in the premature development of this condition. Early recognition of the development of this condition and a proper regulation of the life and habits of the patient may postpone the more advanced stages of the affection, if indeed they cannot cause a restitution of previous conditions. Arteriosclerosis may be localized or diffuse. It is important in the diagnosis of this trouble to consider the involvement of the smaller vessels first. Among the more definite and direct causes of arteriosclerosis are, laborious work, overuse of alcohol overfeeding, chronic metallic poisoning, and some infectious diseases, particularly syphilis. Heredity must be remembered. The first effect of loss of elasticity of the blood-vessels is an impediment to the easy circulation of the blood. The heart's work is increased, and the blood-pressure is increased. In the first heart-sound there is an early lenghthening and an increased heaviness, from augmented muscular action. At last a murmur develops. The second heart-sound is accented early. There is a tendency to increase of the tidal wave as shown by the sphygmogram. Among the early clinical symptoms are a change of vigor and of color, and various trivial evidences of reduced vitality. The writer believes that neurasthenia is cardiovascular in origin far oftener than is believed. The activity of the sweat glands is sometimes pronounced. The urine in many cases shows various changes from the normal. Increase of the total amount seems to antedate any acute actual disease. Various early symptoms testify to the affection of the heart when it is especially affected. The writer finally calls attention to the possibility of an early diagnosis by ophthalmoscopic examination. The high light of the arterial image gives evidence of thickening of the retinal arteries.

British Medical Journal, December 26, 1903.

The Stage of Invasion in Measles.—R. W. Marsden states that according to v. Jürgensen, prodromata may be practically absent in an attack of measles, or constitutional symptoms may arise soon after infection occurs. More common are instances in which the prodromal stage of invasion is unusually prolonged. The writer then cites two cases in which the exanthem appeared on the sixth day from the onset of pyrexia. The stage of invasion in measles may be of very variable duration.

Acute Rheumatism: Five Cases of Apparently Direct Infection.—E. Sydney Hawthorne reports these cases, all in one family. The first patient was the eldest son, thirty years old. Acute rheumatism was diagnosed. A few days later the second son was attacked with the same symptoms. Next the eldest daughter complained of pain, and swelling in the joints, feverishness, loss of appetite, and sleeplessness. The second son died. The father and youngest son were then attacked by the same disease. The case of a daughter who, though not living at home, was a constant visitor at the house is next reported. She had an attack which was considered to be one of acute rheumatism. All of these cases, with one exception, have been examined by two independent medical men, and some by three. The writer believes the cause of these cases of acute rheumatism to be direct conveyance of the disease from one patient to the other.

On the Relation of the Argyll-Robertson Phenomenon to Syphilis.—J. Michell Clarke, after analyzing a series of cases, draws the following conclusions: A previous syphilitic affection is not sufficient without some further change to lead to the presence of the Argyll-Robinson phenomenon, and in thirty-seven cases of cerebral and spinal syphilis, in which the mischief was confined to the ordinary visceral lesions of that disease, that is gummata, gummatous meningitis, syphilitic endarteritis, the sign was not typically present. In similar cases in which it may be present, and in other cases with a history of past syphilis in which it occurs as an isolated sign of disease, it is evidence of a further degenerative process at work within the nervous system. This degenerative process is to be regarded in the large majority of cases as a parasyphilitic one, although in a certain proportion, proof of this is wanting, and there is possibly some other cause at present obscure. This degeneration may remain stationary at an early stage without further development for long periods. If these observations are correct, the Argyll-Robertson phenomenon is an even more important sign of disease than it has been previously considered.

Some Observations on the Temperature of Coma.—James E. H. Sawyer writes that in certain conditions associated with coma the bodily temperature is well known to deviate considerably from the normal, as is the case in the high temperature of pontine lesions, and in the low temperature of diabetic coma. The writer has never met with a case of diabetic coma in which the temperature was higher than 99° F. There is considerable difficulty in explaining the cause of this subnormal temperature. In uræmic coma the temperature is most commonly normal. But often a few hours before death there is a rise in temperature. In intracerebral hemorrhage the temperature rises above normal within twelve hours, as a rule, and the earlier this rise commences the more serious is the prognosis. In comatose patients suffering from fracture of the skull, or from concussion, the temperature in three cases was recorded as 95°. In patients in a comatose condition from alcoholic poisoning, the temperature is nearly always considerably below normal.

In some cases in which the cause of the coma is not evident, the temperature will sometimes clearly indicate its nature, as between uræmic coma and that due to cerebral hemorrhage. If the temperature is above normal soon after the onset of the coma, the prognosis is nearly always unfavorable.

Deutsche medicinische Wochenschrift, December 17, 1903.

Marmorek's Tuberculosis Serum.—Goldschmidt has waited until Marmorek himself made public the results of his work before announcing his experiences with the same serum, which he employed in a number of cases during the evolution of the product. In no instance was any improvement noted, and he advises the greatest caution in administering the serum to patients, especially advanced cases and pulmonary cases with much temperature. He considers Marmorek's preparation as little else than a somewhat modified tuberculin, and proposes the following plan of his own. A cow affected with perl sucht, which is the form of animal tuberculosis most nearly approaching the human pulmonary lesion, is injected with tuberculin until an intense reaction is produced. At this moment, when the blood must be full of antitoxin, serum is to be taken from the animal and injected into another healthy cow. By repeated treatment in this way it may be possible to obtain an antitoxin which will be more in accord with Marmorek's own theory. The questions of whether antitoxin is formed at all in such a way as this, whether the tubercle bacillus does its destructive work through a toxin, and if so, whether it is to be neutralised by an antitoxin, are, however, still *sub rudice*.

Contributions to the Morphine-Scopolamine Narcosis.—Volkmann joins himself to the ranks of those who advocate this method of anæsthesia. Twenty cases, mostly women, were subjected to laparotomies and other equally serious operations under this plan without any undesirable by-effects being manifested. The method employed differs somewhat from that of other authors and consists in giving hypodermatically 12 dmg. of scopolamine hydrobromate and 1.5 cg. of morphine four hours before the operation. Two hours later the same dose is repeated, and fifteen minutes before the operation 3 dmg. of scopolamine and 0.5 cg. of morphine are injected. Shortly after the first dose the patients fall into a tranquil sleep, which gradually deepens to complete insensibility and lasts for from three to eight hours after the last injection. A small amount of ether by the drop method was given in a few cases during parts of the operation. The pulse was usually moderately accelerated, the pupils were dilated or contracted, and reacted sluggishly or not at all to light. The other reflexes were present, but diminished. Post-operative nausea was observed in four cases. The author regards the method as safe and by far the most agreeable for the patient yet in use.

The Glycolytic Ferment.—Blumenthal has found that by expressing the juice of the tissue cells in a hydraulic press he was able to obtain a fluid having the property of breaking up sugar, and that it is this that is mainly active in the normal glycolysis. This ferment, which may be universally present throughout the tissues, destroys sugar under the formation of carbon dioxide, fatty acids, and small amounts of alcohol. The pancreas is the source of another agent which has the property of increasing the glycolytic activity of this ferment throughout the body, but the *modus operandi* of this process is still uncertain. Although blood serum appears to contain some anti-glycolytic body which prevents the decomposition of sugar in the blood itself, the leucocytes appear to act as carriers of the glycolytic ferment and deposit it in the muscles, where it may, perhaps, be rendered active by the substance secreted by the pancreas. In advanced cases of diabetes the liver has been found devoid of glycolytic action, though the power of glycolysis is not altogether abolished in dogs from which the pancreas has been extirpated. The author is now engaged in attempting to obtain the glycolytic ferment of the tissues in a form that will make possible its subcutaneous injection as a therapeutic measure in diabetes.

The Destruction of Pathogenic Organisms in Milk by Heat.—Tjaden points out the difficulties of this problem, which requires a method that shall be effective, practicable for large establishments where enormous quantities of milk have to be handled in a short time and shall not interfere with the taste and digestibility of the milk or its adaptability to the manufacture of the usual dairy products. The most important factor is undoubtedly proper attention to cleanliness at the source of supply; but as this will be achieved only after the producers have learned that the extra care taken in the barnyard means a greater market value for the milk, other measures must also be developed. Heating milk for from one to two minutes to a temperature of 85° C. is sufficient to kill the germs of the ordinary infections, but occasions certain changes in the milk. These are so slight as to be negligible for all purposes except the manufacture of hard cheeses. Heating to 60–65° C. for a period of one hour also seems to assure safety, though this is not yet altogether certain, and the milk does not suffer by the process. Further investigation is necessary to determine what procedure intermediate between these two will be most practicable for routine use in large dairy establishments.

Berliner klinische Wochenschrift, December 14, 1903.

Animal Inoculation and Renal Tuberculosis.—Salus believes that the difficulty often experienced in finding the organism microscopically in urinary sediments, and the many fallacies likely to be encountered in endeavoring to identify it either by staining or by culture make the direct detection of the tubercle bacillus in urine a very uncertain proposition. While the smegma bacillus does not occur as a contamination in the urine of men nearly so often as in that of women, all specimens to be examined for the tubercle bacillus should be obtained by catheter and received into sterile receptacles, after a preliminary sterilization of the meatus and flushing of the urethra; the first portion is to be rejected. Inoculation of guinea-pigs is still the most reliable test for the existence of the tubercle bacillus in the urine, for in the very rare instances in which extraneous infection of the laboratory animals occurs, the lesions are always distributed in such a way as to leave no doubt as to the nature of the infection. Inoculation in the groin is much preferable to the usual practice of intraperitoneal injection, as fewer animals perish through mixed infections, and the local lesion can be more satisfactorily studied by excising an enlarged gland, if an early diagnosis is necessary. Negative results are of more value than positive, for it has been shown that the kidneys of tuberculous patients frequently undergo changes making them permeable to the tubercle bacilli, and in other ways simulating renal tuberculosis.

Cyclic Albuminuria.—Hauser says that two types of this condition must be recognized. In some cases casts are at times to be seen, even though but rarely, and in very small number, while in others, no matter how carefully one searches, formed elements are never found. The former are undoubtedly to be ranked with the true nephritises, but there is still considerable difference of opinion in regard to the status of the latter, which are the true orthotic cases. In fourteen cases which the author has studied and kept under observation for years there has been a distinct connection between the origin of the disease and some infectious disease which frequently was attended by a more or less severe grade of nephritis. The author's view is that the disease is essentially functional and depends on disturbances of circulation, and perhaps partly on the toxic effect of the products of muscular activity acting on a renal epithelium damaged by a former infectious process. The seat of the lesion must be assumed to be the epithelium of the tufts of the glomeruli. He considers that the standpoint of those who advise no treatment of the condition, under the belief that the trouble will be outgrown, is mistaken and likely to permit future exacerbations of serious nature. He has found the most effective system of treatment one which begins with diet and rest in bed, which are continued until the albumin has disappeared for a considerable length of time. A regular system of training the kidneys to resist the products of muscular work is then begun by allowing only the most gradual return to normal activity, each reappearance of the albumin being an indication that the pace has been too rapid, and that a return to a more restricted *régime* is necessary. A number of the author's cases have been permanently cured in this way.

Münchener medicinische Wochenschrift, December 1, 1903.

The Action of the Röntgen Rays on Animals.—Heineke found that mice were particularly susceptible to the effects of exposure to the Röntgen rays, dying usually in from six to ten days after exposures aggregating from five to nineteen hours; guinea-pigs were less easily affected, though exposures aggregating fifteen to thirty hours were fatal in seven to fourteen days; the younger animals were killed promptly while some large and vigorous individuals did not die at all. The autopsies showed marked pigment formation in the spleen and slight degenerative changes in the central nervous system. The other organs were normal, and the author ascribes the deaths to some destructive action of the rays on the red blood cells.

The Ultramicroscopical Examination of Solutions of Carbohydrates and Albumins.—Raehlmann, by the use of the new microscope of Siedentopf and Zeigmondy, has discovered facts having an important bearing on the behavior of substances in solution. The instrument depends on the principle of intense focal side illumination and is

capable of rendering visible particles only one-tenth $\mu\mu$ in diameter. A study of solutions of various coloring matters showed that they were really composed of minute particles which appeared to be characteristic in form and motion for each substance. In albuminous solutions the particles are so densely crowded together that only in a dilution of one-one hundred thousandth is it possible to distinguish them separately. From observations on albuminous urines the author believes that the method can be used to advantage both in the quantitative and qualitative determination of albumin. Various carbohydrates, such as dextrin, lactose, and dextrose, exhibited similar appearances, while glycogen particles can be recognized in a dilution of one-three millionth and have a diameter of about sixty $\mu\mu$.

Functional Kidney Diagnosis without Catheterization of the Ureters.—Voelcker and Joseph have found that indigocarmine is excreted by the kidneys with sufficient regularity and promptness to make it a reliable indicator of the functional efficiency of the two organs. The difficulties of ureteral catheterization and of the necessary freezing point determinations of the blood and urine have made the newer functional diagnosis of renal lesions more theoretical than practical and the author's method accomplishes the same purposes in a much simpler manner. Indigocarmine, which is the substance used by Heidenhain in his epoch-making studies of kidney function, has many advantages over the other pigment, methylene blue, which has previously been employed in renal work. It is non-toxic, is excreted only by the kidney, does not suffer any change in its passage through the body, and its appearance in the urine begins within a very short time after its administration, reaches a maximum in thirty minutes and comes to an end within ten hours. The authors inject into the gluteal muscles four cubic centimeters of a warm sterile 4 per cent. solution of indigocarmine in physiological salt solution. On introducing the cystoscope the urine is seen to leave the ureteral openings in jets of blue-colored fluid which gradually disperse like puffs of smoke. Not only is the finding of the ureteral orifices greatly facilitated, but it is possible to determine positively the existence or non-existence of two secreting kidneys and to estimate the relative proportion of the work done by each as indicated by the comparative size, frequency and force of the two streams. The method has been used successfully in a number of cases in which the results have been controlled by operation or autopsy and its value demonstrated.

Münchener medicinische Wochenschrift, Dec. 15, 1903.

The Formation of Antibodies after the Injection of Zymose.—Jacobsohn injected sterile yeast into goats and rabbits for the purpose of producing bodies active against the fermentation of sugar. Several specimens of sera were obtained, and their action in inhibiting fermentation in sugar solutions tested. It was found that the characters of the products of the different animals differed greatly, but one serum was distinctively active and was capable of neutralizing three to four times the amount of yeast injected into the animal. It was found that the normal serum used as a control had a slight inhibiting power on zymose fermentation.

Combined Alkali and the Titration of Gastric Juice.—Volhard, in working on his method of pepsin determination, found that his results with phenolphthalein were all too high. Further investigation showed that the presence of peptone, titration with one-tenth N. NaOH, using phenolphthalein as indicator must, in order to obtain the end reaction, always be carried beyond the point at which the reaction to litmus is strongly alkaline. The fact that albuminous bodies combine with bases as well as acids has not heretofore been considered, and the combined *alkali* of gastric contents must be taken into account just as much as the combined acid. Naturally the combined alkali is greater on albuminous diet, and different results are obtained with test-meals and test-breakfasts. Töpfer's method is based upon a wrong assumption, yet yields results approximately correct. He titrates the free HCl with dimethylamidoazobenzol, and then assuming that olizarin reacts to all acid factors except the combined acid, in order to obtain the amount of this subtracts the olizarin titration from that with phenolphthalein. As a matter of fact, with the olizarin he has already titrated the free and most of the combined acid, and what his subtraction really gives is the combined *alkali*. The values of the combined acid and alkali are nearly the same, however, so that the result is not far from right. The values hitherto obtained for the total acidity are too high, owing to this peculiarity of phenolphthalein which belongs to Glaser's group iii of indicators which are very sensitive to acids and but slightly sensitive to alkalies. To obtain the true total acidity, the titration should be carried out with olizarin or litmus as indicator.

Post-traumatic Nephritis.—Oberndorfer describes a case in which a trauma, insignificant in itself, produced a serious lesion leading to the individual's death. The patient, a man of forty-nine years, slipped in descending a stairway so that he skipped the last step and landed heavily on the right foot, but did not fall. He immediately experienced severe pain in the heel and was at once put to bed. No lesion was to be detected about the foot, and gradually the pain and loss of function improved so that in two weeks he was able to leave the house. From the time of the accident, however, the pulse was very rapid and there was much general disturbance showing itself in extreme unrest and insomnia. The patient returned from his first walk out of doors greatly fatigued, and several days later had a severe nasal hemorrhage, speedily followed by hæmaturia and pain in the region of the left kidney. Sugar and albumin were present, the hemorrhages from the kidneys continued, and the general weakness persisted until death followed, on the twenty-third day after the injury. The autopsy showed that the organs, excepting the kidneys, were fairly normal. There were hemorrhagic extravasations into the abdominal muscles and the pelvic muscles, particularly the psoas and quadratus lumborum were completely infiltrated with blood and necrotic. There was a hemorrhagic collection about the upper pole of the left kidney, and both kidneys were the seat of extreme fatty degeneration. The author ascribes the condition to the sudden compression of the organs through the forcible contraction of the various trunk muscles in the act of keeping the balance when about to fall, whereby the twelfth ribs also were driven against them, and the starting-point of the hemorrhages produced. It was discovered that the patient had a past history suggestive of hæmophilia, and this no doubt contributed to the progress of the lesion.

Archives Latines de Médecine et de Biologie, October, 1903.

The Filaria Found in Dog's Blood.—Gustavo Pittaluga reports the result of his studies in regard to this parasite (F. immitis), which finds a temporary host in the Anopheles mosquito. By the use of methylene blue as a staining agent, the whole cellular structure of the embryo is clearly shown and is described in detail by the author.

Gout in Spain.—Francisco Huertas finds that in 1900 the mortality from gout in Spain was 348, which is not a very satisfactory showing. In some of the northern provinces when the peasants have made changes in their diet, especially in regard to maize, the disease appears to be diminishing. Still, the connection between maize and gout has not been absolutely proved, and the author observes that if the disease be due to microorganisms, to hyphomycetes, yet it has not been demonstrated that these are exclusively parasites of maize.

A New Method for the Demonstration of the Intrinsic Fibrilæ of Nerve Protoplasm.—Ramon y Cajal submerges small fragments of nerve tissue in a solution of silver nitrate, then in pyrogallic acid, formol and distilled water, washing them finally in water and alcohol. The various layers of the preparation are differently stained, but the neurofibrillæ of the intermediate layers are distinctly visible in black, or chocolate or coffee color on a yellowish ground of protoplasm and nucleus. They show that, contrary to the opinion of Bethe and of Meyer, the pericellular nerve branches do not terminate in Golgi's plexus, but of themselves constitute a plexus or *terminal nest* with free extremities. Large primary, and finer paler secondary filaments are clearly shown by this new method.

The Cytological Study of the Inflammatory Liquid Products from Serous Membranes, Especially the Cephalorachidian.—A. Signorelli concludes that in all inflammation of serous membranes there is a general and a local cellular reaction. Polynucleosis is the characteristic of a general reaction of the tissues and organism and is found in all acute processes. Lymphocytosis indicates a local reaction of the organs and lymphoid tissues of serous membranes and deep layers, and is found in subacute and chronic processes. The author does not admit any essential difference between exudates and transudates, both depending upon a more or less severe or more or less prolonged inflammatory process of the serous membranes.

A New Method for the Differentiation of the Colon Bacillus and the Typhoid Bacillus in Malt Broth.—Eduardo Xalabarder and Felipe Proubasta prepare a malt broth, in which they sow the two kinds of bacilli in separate tubes. Within a few hours there is germination of both, then precipitation and transparency in the Eberth tube, slight precipitation and opacity in the coli; encapsulation of both germs, swelling and deformation by partial destruction of the typhoid bacillus, strangulation and bipartition of the other. These same morphological changes occur under the microscope when the two kinds of bacilli have been cultivated in the same tube. The authors believe that these modifications are probably due to some substances of recent formation in

the culture broth by the biochemical action of the microorganisms.

The American Journal of the Medical Sciences, October, 1903.

Multiple Myeloma (Myelomatosis), with Bence-Jones Proteid in the Urine.—F. Parkes Weber, R. Hutchison and J. J. R. Macleod conclude: (1) That Bence-Jones albumosuria is always the result of disease of the bone-marrow. (2) That it is due to an abnormal metabolic or degenerative process in the myelocytes or in tumor cells derived from the myelocytes or their predecessors. (3) That the reason why it is generally, though not always, associated with myelogenic tumor formation is that the tumor cells derived from bone-marrow cells, however much they may morphologically resemble true bone-marrow cells, are more prone to abnormality (including unusual degenerative changes) than real myelocytes are. (4) That non-myelogenic tumor cells are not affected in the same way, and therefore metastatic tumors in the bone-marrow do not give rise to Bence-Jones albumosuria.

The Occurrence of the Bence-Jones Albumin in a Pleuritic Effusion.—Isador H. Coriat reports a case in which the Bence-Jones albumin could be demonstrated in large quantities in the pleuritic effusion of a patient suffering from multiple neuritis associated with extreme tenderness of the ribs, while it was absent from the urine. The substance was preëminently of an albumose nature, although probably not a true albumose, and having all the characteristics of the Bence-Jones albumin, but existing in the pleuritic fluid in an unusual physical state. It evidently was not absorbed and did not pass into the blood stream, as not even a trace of the substance could be detected in the urine. It seems to be a derivative of the digestive action of either the leucocytes of the bacteria upon the proteids in the effusion which are derived directly from the blood. Its origin can probably be traced to serum globulin rather than to serum albumin.

Rare Case of Appendicular Abscess Situated between the Layers of the Mesentery of the Small Intestine.—Joseph C. Bloodgood reports this case as the first instance of a definite localized abscess which he has observed to be situated between the folds of the mesentery of the small intestine, nor previous to this observation had he ever been able definitely to demonstrate that an appendicular abscess was due to the perforation of a round intestinal worm. The patient was a child of eight years, and for a number of months had had attacks of abdominal colic at irregular intervals, and had on a few occasions passed a round worm. The writer saw the patient thirty-six hours after the beginning of the illness. The middle-line incision was used, as it was the only way properly to drain the abscess and protect the peritoneal cavity. Twenty-seven hours after drainage of the abscess, a second operation for obstruction was performed. From the clinical picture, definite obstruction was not certain, but in view of the extensive gauze drainage, the writer did not consider it wise to delay for more definite symptoms. In the abscess cavity were two or three round worms. Several worms perforated the wall of the intestine about the drainage tube. The fecal fistula which was formed demanded the most careful attention. When the obstruction was relieved, the fecal fistula was closed. A long lateral anastomosis was made. Four weeks after operation the wound was completely covered with epidermis. Nine months after the operation the patient was in perfect health.

Tortuosity of the Aorta.—Joseph Sailer and G. E. Pfahler have made a series of studies upon lesions of the aorta, including clinical examinations combined with fluoroscopic and radiographic examinations. It is not easy to give a clear picture of the symptomatology of the condition of atheroma of the aorta leading to tortuosity of the descending part of the arch. In eighteen cases reported, the inequality of the pulses was present in ten and not present in eight cases; in nine of the ten cases pulsation was more vigorous in the right than on the left side. Inequality of the pupils was present in three cases; in one of these it was probably due to some serious condition. Suprasternal pulsation was present in twelve cases and absent in six. Tracheal tugging of distinct downward character was present in eleven, and absent in seven cases. A systolic thrill was felt in the vessels of the neck, either with or without slight pressure, in nine cases, and it could not be elicited in nine cases. A systolic murmur usually transmitted into the vessels of the neck was present in eleven cases, but was not heard in seven cases. Twelve of the cases had dyspnœa; in one of these were physical signs of emphysema and chronic bronchitis; in the others it was probably due to the cardiac condition. Many of these patients were old, and nearly all of them had atheromatous arteries. Precordial pain was present in seven cases and was not complained of in eleven cases. In many of the cases complications in the form of valvular heart disease were present. In one case there was actually an aneurysm of the innominate artery. The degree of atheroma and the age of the patient also modified the symptoms, and the extent of the tortuosity must vary considerably in different cases.

The Transmission of Bovine Tuberculosis by Milk, with a Tabulation of Eighty-six Cases.—George M. Kober concludes: (1) Tuberculosis may be transmitted to man in milk from tuberculous cows. The danger cannot be measured by the actual number of recorded cases, but in part, at least, by the inoculation and feeding experiments and the accidental wound infections which occur; also by the prevalence of bovine tuberculosis and of the forms other than phthisis pulmonalis in man. The infectious qualities of milk are greatest when the udder is the seat of the lesions. Koch's assumption that human and bovine tuberculosis are distinct and that human tuberculosis cannot be conveyed to cattle appears to be disproved. The claim has been recently strengthened that there are two types of tubercle bacilli, the so-called bovine and human types, with certain morphological and biological differences; but also it has been shown that virulent cultures may be obtained from both types, and when inoculated into animals produce the disease in question. There should be further research to determine the frequency of primary intestinal and abdominal tuberculosis in all cases which come to autopsy, whether the child died from tuberculosis or not. Careful chemical analysis of the milk of tuberculous animals should be made with a view of determining the amount of phosphoric acid, since it seems probable from researches that the excess noted by the older chemists is the result of bacterial activity in the udder of the cow. In the meantime the pathologist need not reverse his opinion as to the identity of human and bovine tuberculosis, and the sanitarian has no reason to assume that the human subject is immune against infection with the bovine bacilli or is so slightly susceptible as to cause him to relax his efforts in preventive measures.

Primary Cancer of the Lung.—J. H. Musser writes that during the past eighteen months three cases of cancer of the lung have come under his observation. The case here specially reported was that of a man of forty-seven years. The patient complained of indigestion, sore throat at night, expectoration of mucus, dyspnœa on exertion, loss of flesh, and weakness. The sore throat was present only in the recumbent posture. A moderate cough would be attended by the welling up of large amounts of fluid. The fluid simply welled up from the pharynx and œsophagus. Headache was more or less constant, but only when the patient was stooping. Sleeplessness was very distressing. The pulse varied from 100 to 130 on exertion. Respiration varied from 28 to 32. There was no difference on the two sides. There were no signs at first in the lungs, except a slight pleural friction in the right axillary region. There was skodaic resonance over the right base. Later the lungs anteriorly were negative; posteriorly the resonance extended an inch lower on the left than on the right. The breath sounds were harsher on the right side, and vocal resonance was more distinct. There was a to-and-fro friction sound over the left base posteriorly. Breath sounds were quite indistinct in expiration. They were markedly rhoncous in inspiration, and attended by an abundance of small frictions on the right side. The breath sounds were feeble at the right base, with frictions. On the following day there were physical signs of pleuritis and diffused bronchitis. A few days later, bronchial breathing and moist râles were heard at both bases. The sputa showed three layers, as in bronchiectasis. The patient consulted the writer on December 12, and his death occurred on January 3. Autopsy revealed primary epithelial tumor of both lungs; metastasis in cervical, tracheal, and bronchial and retroperitoneal lymph nodes; fatty degeneration of liver, kidneys, and myocardium, chronic thickening of spermatic cord; cystic degeneration of the thyroid; chronic splenitis; and acute catarrhal bronchitis and tracheitis. Almost the entire extent of both lungs were apparently simultaneously involved. The tumor evidently originated from the epithelium of the alveoli. Most cases in the literature have arisen in the bronchial epithelium.—*University of Pennsylvania Medical Bulletin.*

Society Reports.

THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Sixteenth Annual Session, Held at Atlanta, Ga., December 15, 16, and 17, 1903.

J. Weslee Bovee, M.D., of Washington, D. C., President.

(Continued from page 36.)

The Progress of Ureteral Surgery.—Dr. J. Wesley Bovee of Washington, D. C., President of the Association, selected this title for his presidential address. After referring to the deaths of Drs. W. E. B. Davis, George J. Engelmann, and J. McFadden Gaston, he spoke on the surgery of the ureter, giving its history and present status. The treatment of ureteral calculi first claimed attention since the diagnosis and treatment of this condition were very much studied at the present time. The employment of the *x*-ray was the simplest procedure known for purposes of diagnosis, and were it accessible at all times and completely reliable, no other method would be comparatively valuable. Unfortunately, such conditions as calculous anuria might render a patient in a secluded place so ill that this method of investigation was necessarily precluded. Moreover, calculi might be of sufficient size to block the ureter and give no shadow in the radiograph. For this reason especially other plans of examination should be employed, although the necessity of constant manipulation of the ureter was a *sine quâ non* to dexterity in treating other conditions of this structure. Palpation would ever have its important position. Exploration was an important method in such investigations. Tubular calculi might escape discovery by this plan. The wax tipped bougie, suggested and used by Kelly, was especially sensitive, and no doubt if it touched a calculus it would receive a telltale impression. In the treatment of ureteral calculi the proper plan was extraperitoneal ureterolithotomy, as infected urine was usually associated with this condition and easily produced peritonitis, if permitted to come in contact with the peritoneum. If pus was not present, the establishment of ureterocutaneous fistula would seldom be necessary, though careful drainage of the wound would be advisable. This rule applied to every part of the duct. He was firmly convinced the ureteral wound should be made longitudinally whenever possible, and sutured after lithotomy. If much necrosis of the ureter was manifest, as had often resulted from the impaction of a calculus, each case should be treated according to the judgment of the surgeon, and such modifications as resection or exsection, with ureteroureteral anastomosis or ureterocystostomy might rarely be required. Frequently pyonephrosis accompanied calculous ureteritis. Incision and drainage, and probably nephrolithotomy, would be needed in addition. The routes employed depended upon the location of the calculus, the bladder, vagina, or loin being selected. He could only endorse the rectal route, as employed by Ceci, when examination revealed a calculus ulcerating into the rectum or threatening to do so.

For ureteral fistula nothing need be done unless obstruction of the duct below the fistulous opening existed. In such a case the caliber of the canal must be restored. Usually the fistula would then close spontaneously, although so much cicatricial tissue might be deposited about the opening as to prevent closure. Suture, or perhaps resection, might be required in that case. Dr. Bovee then referred to subcutaneous injury of the ureter, saying that no treatment was advisable unless evidence of extravasation of urine or of ureteral obstruction existed. For partial division of the ureter suturing should be applicable. Abnormal ureteral terminations of congenital origin might be corrected by ureterocystostomy, usually by the vaginal route. Fortunately in these cases the ureter was abnormally long, and therefore the difficulty was much less than was the same operation for other indications. The ureter might be removed in whole or in part for tumors, tuberculosis, and malignant disease. In 1899 he was able to collect, from literature, about twenty-four cases of partial or complete ureterectomy. Now the number had increased to nearly one hundred. In complete ureterectomy or nephroureterectomy in women probably the loin and vaginal incisions constituted the best plan. In his last case he separated the lower two inches through a vaginal incision, and then separated and withdrew the kidney and ureter by the loin route. This he believed to be the best of all.

For ureteritis the treatment had been largely of irrigation and topical applications. He had been disappointed in this work and had grave doubts of its being the best. Probably the violence done to the lower part of the ureter by this instrumentation counterbalanced the benefits. He had had a few cases of trigonitis that had come to him after ureteral irrigations were said to have been made. He had in consequence been led to speculate as to whether a non-alcoholic, non-nitrogenous diet with diuretics and rest in bed might not be superior treatment for simple ureteritis.

The Technique of the Vaginal Method.—Dr. J. Riddle Goffe of New York said in his own hands the scope of the operation, namely, the conditions to which it was applicable was steadily widening. It was no longer confined, on the one hand, to simple puncture and drainage, nor limited, on the other, to the radical operation of hysterectomy. All the intermediate procedures that were called for by the multifarious pathological conditions found in a woman's pelvis found their most direct route through the vagina. There were two vaginal incisions through which the pelvic cavity could be reached; one, posterior to the cervix into Douglas' pouch, and the other anterior to the cervix, separating the bladder from the uterus and opening up to view and touch the entire contents of the pelvis. The latter was the one which afforded the greater facilities for operative procedures, and the one which he depended upon almost exclusively. The posterior incision was frequently used in connection with it, to afford additional opportunity for the purpose simply of securing drainage, and in some cases for manipulation. The procedure was described. The simplest application of the vaginal method, and the one that probably commended itself most universally to the profession, was incision and drainage of pelvic abscesses. On general principles he believed all were ready to subscribe to the dictum that so far as the patient was concerned, any operation that could be as well done through the vagina as through the abdominal incision was better done along the vaginal route. The possibilities of this work would undoubtedly vary with individual experience, but the more experience he had, the broader became the field of application, until it seemed to him that any pathological condition that was confined to the true pelvis could be dealt with as satisfactorily, with as permanent results, and with far greater safety to the patient, through the vaginal incision than through the abdominal incision. The author's cases had embraced every variety of disease from simple retroversion, with or without adhesions, to prolapsed and cystic ovary, unilateral and bilateral salpingitis, ectopic gestation, fibroid tumors of the uterus and dermoid cysts. The method lent itself to every form of conservative work upon the uterus and its appendages that had been suggested in the trend of recent modern gynecology. The successful application of it required patience, experience, and skill, but when once the profession had been convinced of its superiority, he believed it would steadily and rapidly grow in favor and become the accepted method for the man who practised the specialty of gynecology.

Tuberculous Ostitis of the Knee.—Dr. A. R. Shands of Washington, D. C., said that the management of a case

of white swelling could be embraced in the terms immobilization and protection in any and all stages of the disease. The indication was to preserve the function of the joint as far as possible, to arrest the progress of the disease, to prevent and correct deformities. Immobilization and protection with the best hygienic surroundings and the best tonic treatment appropriate to the individual case would best accomplish the indication just mentioned. If the diagnosis was made early and this line of treatment faithfully carried out, a large percentage of cases would yield very favorable results, many recovering with little or no disability. When it became necessary to incise and drain a joint, it should be done thoroughly, and good drainage should be kept up just as long as there was any discharge. When the infection of the joint was due to an ostitis that was near the surface of the ends of the bone, often the diseased bone sloughed away, and when it could be easily located and curetted, most excellent results were obtained. A case was cited in point. The operation of excision of the knee should never be done in children, except in extreme cases, and even then the author believed that amputation would be best, for an artificial leg is more useful than such a leg as a child would have after excision.

Bilateral Diffuse Virginal Hypertrophy of the Breasts.—Dr. GEORGE BEN JOHNSTON of Richmond, Va., reported the case of a white girl, virgin, aged sixteen; four feet ten inches tall, weighing 112 pounds, who had this disease. The breasts hung from the chest wall at about the fourth rib and reached to a point just above the symphysis pubis; the nipple was flattened and stretched. The substance was soft and of similar consistence to that of a well-nourished multipara's breast; the glandular masses scattered throughout were distinctly palpable. The breasts were almost symmetrical, with the exception of a lobular division at the base of the left breast of the same general structure as the main tumor. Two small scars near the right nipple indicated the site of former abscesses. The anteroposterior circumference of the left breast was 19½ inches; the anteroposterior circumference of the right breast was 21½ inches; the superior inferior circumference of the left breast was 32 inches; and of the right, 31 inches. Operation was performed under ether anæsthesia, and occupied thirty-five minutes, the left breast being removed first, followed immediately by the right. The breast was held above the field of operation, and the amputation carried on as rapidly as the vessels could be caught by assistants. Healing was by primary intention, and the patient was up and about in six days.

The Differential Diagnosis of Syphilis and Cancer of the Vulva.—Dr. BARTON COOKE HIRST of Philadelphia read a paper on this subject. After referring briefly to the differential diagnosis of these two affections, the author reported the case of a woman, twenty-eight years of age, single, who had never been pregnant. She denied ever having led an immoral life, and the possibility of venereal infection. Ten years ago she was operated on in the Pennsylvania Hospital for hemorrhoids and fissure in ano. The wound of the operation did not heal properly. More than a year ago the patient noticed an ulcerated condition of the vulva, and a short time afterward incontinence of fæces, followed soon by incontinence of urine. For two years past there had been amenorrhœa. On a specular and digital examination, a fistula between the fossa navicularis and the rectum was discovered. The whole urethra was gone; there were three little tubercles at the neck of the bladder, these being all that was left of it. The vagina above the neck of the bladder was perfectly healthy. The cervix was normal, except that it was atrophic, as was the whole uterus. The case, at first sight, looked like an inoperable epithelioma of the vulva. It was pronounced to be so by one of the most experienced dermatologists in Philadelphia, to whom it was shown. But there was none of that extensive infiltration and elevation of the skin surfaces around the edges of the ulceration such as was seen in an example of extensive epithelioma of the vulva, considerably advanced, but not yet inoperable. Moreover, numerous pieces of tissue from different places in the ulcerated area showed nothing characteristic of cancer. There was everywhere the most extensive round-cell infiltration and necrosis of tissue. The microscopical study, as well as the macroscopical appearance, suggested syphilis in the ulcerated gummatous form as the most likely possibility, epithelioma being excluded. Accordingly the patient was put on specific treatment in spite of her negative history, and the entire absence anywhere in it upon her body of signs indicating an old syphilitic infection. The treatment was given up within a week, as the patient was severely ptyalised and could not endure large doses of potassium iodide. Lupus next suggested itself. On two separate occasions, under anæsthesia, twelve or fifteen pieces of diseased tissue were removed for microscopical examination. No tubercles nor bacilli could be discovered anywhere. Inoculations in animals were negative. The urine contained no tubercle bacilli. The bladder itself was healthy. There was a response to the tuberculin test, but the woman had a patch of consolidation in the apex of one lung. Meanwhile the patient was given *x*-ray treatments every other day for eight to ten minutes. Within three weeks the external ulceration was healed. The local appearance at that time showed great improvement. Two weeks later the rectovaginal fistula spontaneously closed under the continuance of the *x*-ray applications. Nothing remained of the original disease except the absence of the urethra and an elephantiasic condition of the labium majora. The former had been corrected by urethroplasty. He had not yet joined the new urethra to the opening in the bladder, so that the establishment of continence of urine was still doubtful, but he was quite hopeful of making the patient eventually entirely comfortable.

Symposium on Appendicitis.—Dr. GEORGE R. DEAN of Spartansburg, S. C., opened a discussion on appendicitis, saying there was not a surgeon who could tell in any given number of cases, in the beginning of the first attack, which ones would have severe attacks, and which light ones; which ones would die without operation and which would recover permanently; which ones would recover to have repeated attacks, or which ones would recover cripples but never have another attack. The surgeon should be called in all cases of appendicitis. He considered it a surgical disease, outside of the domain of the physician, and when it was once discovered there was only one proposition to be made, namely, to urge operation at the earliest possible moment.

Appendicitis and Its Relation to Pelvic Inflammations.—Dr. J. M. BALDY of Philadelphia, Pa., was able to appreciate the reasons, although not agreeing with them, of the class of surgeons who removed the vermiform appendix as a routine practice, as a prophylactic measure, but was unable to follow the reasoning of that class who adopted the practice of removal on the ground that the condition of adhesion implied appendicitis or future danger of this disease. Ninety-five per cent. of the mixed class were in origin cases of pelvic inflammatory disease, and the adhesion of the vermiform appendix was a mere coincidence due to inflammation of contiguous serous surfaces, as was so commonly the case of adhesion of intestines in pelvic inflammatory diseases. His experience had led him to differ with those gentlemen who held that appendicitis generated pelvic inflammatory disease, or that pelvic inflammatory disease caused appendicitis. The two diseases were rarely associated, and only then as a coincidence. He was firmly of the opinion that the one never causes the other. In all his experience he had not seen a single case in which, having found pus in a Fallopian tube, had he found pus in the involved vermiform appendix; nor had he found a perforating or gangrenous appendix in such a case. On the other hand,

where he had found a perforated or gangrenous vermiform appendix, or one which contained pus, either in its cavity or enclosed in its walls, had he ever noticed pus in a Fallopian tube or ovary. Should he meet with such a condition, it would appear to him that the two diseases existed as a coincidence independent of each other, as far as direct infection from one to the other was concerned.

Retroperitoneal Infection a Result of Appendicitis.—Dr. I. S. STONE of Washington, D. C., said that it was our plain duty in certain septic cases to investigate the retroperitoneal space with the same care as the cavity of the peritoneum. (1) One should consider every delayed case with anxiety lest there should be retroperitoneal infection. (2) One should be careful to give a guarded prognosis in every case of appendicitis ushered in by or complicated by chills or any symptoms of sepsis. (3) If operating in such cases one should consider retroperitoneal infection as already started, and act accordingly. The discovery and proper treatment of such infection was quite as important as the usual intraperitoneal technique. In view of the possibilities of retroperitoneal infection, the surgeon assumed great responsibility by devising non-intervention in appendicitis, and while one would often advise delay, when he believed the lesions were strictly intraperitoneal, yet it would appear to the writer that such a course was unsafe and should be condemned when there was reason to fear complications.

Short Incision in Appendicitis.—Dr. ROBERT T. MORRIS of New York said the beginner in surgery was inclined to make incisions that were too short, rendering his work more difficult and very likely incomplete. With the establishment of confidence in his resources, the tendency was to make freer and bolder incisions. The surgeon could not do good work, particularly in abdominal surgery, if he began his work with incisions that were too short. He could not do the best work if he continued to make incisions that were too bold or too free. After one had acquired a certain amount of skill in technique, he could return to the shorter incisions, which would allow the patient to escape with the least possible attack of incision. Even a bear had been known to die from too much incision, and in dealing with patients the incision was of some consequence to them. With long incisions there was more shock; more adhesions, (1) because the exposure of the peritoneum through a long incision excited greater inflammatory reaction, and this resulted in more peritoneal adhesions, which must be disposed of, or which might remain to make the patient life-long trouble. (2) The longer the incison, the greater the danger of infection from the aërial bacteria. With long incisions the patient's general resistance was interfered with. He would make this statement, however, that the surgeon should make as long an incision as he felt was necessary, and by no means be guided by the idea that he was to conform to any length of incision, the idea being that if one could allow the patient to escape with a mild attack of incision, he should do so.

The Significance of and Management of Paralysis of the Bowel.—Dr. GEO. S. BROWN of Birmingham, Ala., emphasized the views held by the surgeons of the past generation, that paralysis of the bowel in the presence of inflammation of the peritoneum was to be regarded, not as a pathological condition to be combated, but rather as nature's way of allowing the plastic exudate to form adhesions, the use of which was to confine the infection to as limited a field as possible. He held that it was not the paralysis, but the overdistention of the bowel, that should be fought. By following the plan of keeping the upper uninflamed portion of the bowel quiet, until the inflammation subsided, rather than attempting the difficult or impossible feat of waking up the inflamed and paralyzed portion by the use of purgatives, he believed many, or the majority, of the worst cases of diffuse peritonitis with which the surgeon had to deal might be cured. This rest treatment should be applied after the offending appendix or tube had been removed, and the infected site properly treated and drained. It seemed to him that if the Ochsner plan of treatment would tide over a patient with a gangrenous appendix, such a patient could have a much better chance if that appendix were removed, and to the Ochsner treatment were added the tight abdominal binder with water to relieve thirst and wash out the stomach, if there was vomiting, together with opium *ad libitum*, to relieve pain and keep down peristalsis. He believed that many patients died with all the symptoms of general peritonitis following operations for appendicitis in which an autopsy would show that the inflammation had been walled off, and that death was really due to the activity of the upper bowel, due to the presence of food or purgative, which, being unable to pass the lower paralyzed portion, set up a return wave of peristalsis causing regurgitant vomiting and death from exhaustion and sepsis. He related two cases in point. Both patients had high fever, great distention, and gulping fecal vomit, and the autopsies showed that neither had general peritonitis. One of these patients had been operated upon, the other had not, but both had been given large doses of purgatives. In a total experience of ninety cases of appendicitis he had sixty-six pus cases, twenty-four of which had been treated by the plan of starvation, except as to water, prolonged irrigation of the stomach before leaving the table, a tight abdominal binder and opium. Eighteen of these patients had more or less diffuse peritonitis, and twelve of these were so severe that they had to be extensively disemboweled in order that adhesions could be broken up and septic material wiped away. Two of these only died. These might have recovered had they been tided over without operation, but as they were both *in extremis* at the time, probably the only thing saved would have been the reputation of the surgeon. Of five other deaths occurring in the ninety cases, two were due to subdiaphragmatic abscess rupturing into the lung, one to regurgitant vomiting, due to the presence of a large quantity of castor oil in the bowel which was not washed out, and two were early cases in which abscesses that had already set up a diffuse peritonitis were merely incised.

Septic Thrombosis of the Femoral Vein Following Influenza.—Dr. D. F. TALLEY of Birmingham, Ala., reported a case of septic thrombosis due presumably to influenza, from which the patient was recovering when the phlebitic trouble arose.

Five Successful Laparotomies for Gunshot Wounds of Abdominal Viscera.—Dr. ROBERT W. JOHNSON of Baltimore, Md., read a paper with this title, in which he reported five cases. The first was one of gunshot wound of the stomach and liver; laparotomy, with recovery. Second, a gunshot wound of the liver; laparotomy, recovery. Third, gunshot wound of the liver; laparotomy; recovery. Fourth, gunshot wound of intestine; laparotomy, recovery. The fifth case was one of gunshot wound of the intestines, in which there were seventeen perforations of the gut, eleven of the mesentery. The patient was a colored man, aged seventeen. While watching an election row he was shot in the abdomen. When put on the table he presented the appearance of a strong, well-developed negro, composed in manner, but suffering from proound shock. There was no pulse at the wrist, and collapse seemed imminent. Salt solution was injected into the thighs and strychnine given hypodermically. A wound from a thirty-two caliber ball was found in the left side just above Poupart's ligament, which, after washing, was found to go directly into the abdominal cavity. A median incision was made below the umbilicus and the belly found to be full of blood. Through this incision the gut was drawn out on to warm towels and seventeen perforations of the small intestine, and eleven of the mesentery, were successfully closed

by silk Lembert sutures. Patient had no setback after the operation, and was discharged well three weeks after injury was received.

Cases of Intestinal Obstruction Treated by Resection.—Dr. W. H. Doughty, Jr., of Augusta, Ga., reported three successful cases of resection of intestine for obstruction due to gangrenous umbilica hernia, volvulus, and intussusception respectively. He presented these cases briefly as a contribution to the statistics of an operation, the mortality of which was very high. One of the cases was rather unique, so far as the author knew, in that the strangulated loop of intestine in the hernia was a part of a greater segment which had been strangulated by volvulus. It was likely that the descent of the herniated coil took place shortly after the occurrence of the volvulus, and its strangulation was occasioned by the congestion which followed the latter. The almost invariable fatality which attended the operation he attributed to the toxæmia that was induced by gangrene of the intussusceptum. In one case, however, which he outlined, in spite of the unmistakably gangrenous patches upon the intussuscipiens and involving even the mesentery, the patient, though far from being in a satisfactorv condition, stood the operation fairly well, rallied promptly from the depression which attended it, and recovered without interruption.

Free Growths in the Tunica Vaginalis.—Dr. Edward A. Balloch of Washington, D. C., reported the case of a colored boy, sixteen years of age, who came under his care in December, 1902. Family and personal history threw no light on the case. There was no history of injury. Present trouble began eight years before, as an enlargement in the upper part of the right of the scrotum, which continued to grow painlessly from that time onward. Examination showed a scrotum reaching nearly to the knees and measuring twenty-one inches in circumference at its largest point. Both testicles and both cords could be made out and felt normal as to size, shape, and consistence. There was no fluid in the scrotum, but a peculiar gelatinous, flabby feeling of the scrotal tissue. Three separate tumors were felt in the right side of the scrotum. The growths were freely movable in relation to cord, testis, and scrotal tissue. The diagnosis of fibroid growths in the tunica vaginalis was based partly on the history of a slow, painless growth, and absence of ulceration and fistulæ, excluding cancer, syphilis, and tuberculosis, and partly on the physical characteristics of the growths, together with a cheloid behind the right ear which was interpreted as indicating a tendency to fibromatosis in the patient. Operation, December 15, 1902, showed the tunica greatly enlarged and thickened, and converted into a gelatinous mass. The upper tumor ran into the inguinal canal and was attached there by a pedicle. The other two showed no distinct points of attachment. All the tumors were enucleated and the thickened tunic removed. The testicle was removed accidentally in dissecting out the tunica. The tumors weighed thirty-eight ounces, and the tunica twenty ounces. The specimens were shown. The report of the pathologist showed that the growths were soft fibromata, with areas of fatty and myxomatous degenerations. The testicle also showed areas of beginning myxomatous degeneration. The pathology of the condition was considered briefly, the conclusion being reached that the growths had their origin in the subserous connective tissue. Examination of the literature showed but one case at all resembling the one reported, although there were several reports of minute fibrous growths on the tunic following hydrocele treated by the injection of iodine.

Extrauterine Pregnancy.—Dr. T. J. Crofford of Memphis, Tenn., reported a case and exhibited a specimen in which the gestation sac was so thoroughly developed and so strong, that it was enucleated without the loss of any blood. The sac was completely intact all around the fœtus. The operation was performed before the class. The speaker supposed it to be a parovarian cyst. After the specimen was removed, it was thrown upon the floor. When the patient was put to bed, the sac was slit open and out came the fœtus. When the abdomen was opened in this case, the head of the cæcum was found in front and adherent to the anterior abdominal wall. It was found necessary to remove the appendix.

Colloid Carcinoma of the Rectum with Excision by the Combined Vaginal and Inguinal Routes.—Dr. J. Horace Whitacre of Cincinnati, Ohio, reported a case of colloid carcinoma of the rectum which presented unusual pathological and clinical features. After detailing a complete history of the case and describing the operation, the author stated that his chief reason for presenting the case was the unusual nature of the primary tumor. He had never before seen a carcinomatous tumor of the bowel which had developed as a hard, uniform thickening of the entire circumference of the tube. The tumor involved the wall of the rectum to almost a uniform degree for six inches of its length, and the organ was transformed into a tube that might very well be compared to a flattened lead pipe with very thick walls. The tube was very rigid and non-collapsible when in a fresh state. The lumen of the tube was unfortunately firmly packed with gauze before it was placed in Kaiserling's preservative fluid, and had been thereby dilated to almost twice its actual size during life. A second point of interest was the strong naked eye resemblance to tuberculosis. The minute bodies which were scattered over the pelvic peritoneum could not be differentiated from miliary tubercles. Large caseous lymph nodes were found in the hollow of the sacrum. The great predominance of fibrous tissue, the uniform involvement of a long segment of the bowel, and the appearance of minute nodules resembling miliary tubercles in the primary tumor of the rectum all spoke for hyperplastic tuberculosis of the bowel. A third point worthy of mention was the exceedingly rapid development of the solidly carcinomatous ovarian tumors from half a dozen minute miliary metastases on the peritoneal surfaces of each. These tumors were friable and almost jellylike, as were all of the metastases, whereas the original tumor was as hard as cartilage.

Pneumatic Rubber Suit.—Dr. George W. Crile of Cleveland, Ohio, said that the pneumatic rubber suit was constructed of a double layer of specially made rubber, which, when inflated, exerted a uniform pressure upon the surface, constituting an artificial peripheral resistance. It was so constructed that one or more limbs or the abdomen might separately or in combination be subjected to pressure by inflation by means of a bicycle pump. The air valves were so adjusted that the rate of decompression might be completely controlled. The effect of the suit upon the blood-pressure might be checked by means of a sphygnomonometer. The general blood-pressure might be varied at will within a range of 25 to 75 mm. of mercury. The rise had been sustained as long as twelve hours. In operations upon the head and neck, which were likely to be attended by dangerous shock and collapse, the pneumatic suit was put on the patient prior to operation. By inflation and deflation the blood-pressure might, within certain limits, in the heaviest operations, be maintained at a given level. In a laryngectomy, with extensive resection of lymphatic-bearing tissue of the neck, moderate shock developed. The blood-pressure was raised by means of the rubber suit, which soon sprung a leak; a marked fall in the blood-pressure following. During the experimental stage, the influence of the pneumatic suit upon the blood-pressure was strikingly demonstrated in a pulseless case in which the blood-pressure was raised to 110 mm. Other cases were reported, showing the value of the pneumatic rubber suit in cases of shock and collapse.

Resuscitation of Animals Apparently Dead.—Dr. Crile also read a short paper on this subject, giving a summary of experimental data. When asphyxia caused failure of

the heart and respiration, vigorous artificial respiration usually restored their function when administered within a few seconds. It was effective in an inverse ratio to the time that had elapsed; it was rarely effective after forty seconds. By the addition of saline infusion a larger proportion of animals could be resuscitated after the lapse of a little longer time. Rhythmic pressure upon the heart, either through the thorax by pressure upon the ribs over the heart or direct pressure within the thorax was also an aid. The effect of the traumatism to the heart by the direct method partially counterbalanced the benefit from this measure. Nitroglycerin, alcohol, and digitalis were useless; rapidly alternating the posture, head up, then head down, was not effective. Suspending the animal head down and making rhythmic pressure upon the heart was an effective method. This method gave the brain the advantage of gravity; it provided a moderate artificial circulation as well as respiration. It could be promptly applied. The addition of this saline infusion increased the effectiveness of the method. Animals apparently dead for periods up to fifteen minutes were resuscitated by the combined effect of artificial respiration, rhythmic pressure upon the heart, and the infusion of adrenalin. When the blood-pressure had risen to 30 or more mm. Hg., the heart began to beat and the blood-pressure was rapidly restored. The return of respiration was signaled by a short, almost imperceptible movement of the diaphragm, the respiratory action becoming gradually stronger and more frequent. The conjunctival reflex returned early. Some of the experiments failed on account of too great elevation of the adrenalin bottle; some on account of an overdose of adrenalin; several were only partially successful, owing to the great dilution of the adrenalin. Adrenalin, when injected directly into the chamber or into the wall of the heart, caused fibrillar contractions, after which the heart could not be resuscitated. After final cessation of the heart, by employing manual compression of the heart and infusing adrenalin, the blood-pressure could be raised even higher than the normal. Respiration in some instances was partially restored. Experiments in which saline infusion was substituted for adrenalin, and which were unsuccessful, were promptly successful on adding adrenalin. In a patient with crushed skull, and whose heart had ceased beating for nine minutes, resuscitation of the heart for thirty-one minutes was made by this method. During the operation for the elevation of the depressed bone, the patient moved his head. Another patient apparently dead from a severe crushing of the base of the skull was partially resuscitated twenty-four minutes after the apparent death. The proofs of the apparent death were absence of respiration, absence of heart sound on a stethoscopic auscultation, and, as a final proof, on opening the jugular vein there was absolutely no circulation. In this case the blood-pressure rose to 80 mm. at one time; voluntary respiration appeared. These evidences of vital action continued for thirty-four minutes.

Officers for the Ensuing Year.—The following officers were elected: *President*, Dr. Floyd W. McRae, Atlanta, Ga.; *First Vice-President*, Dr. Geo. S. Brown, Birmingham, Ala.; *Second Vice-President*, Dr. J. Shelton Horsley, Richmond, Va.; *Treasurer*, Dr. Chas. M. Rosser, Dallas, Tex.; *Secretary*, Dr. W. D. Haggard, Nashville, Tenn.

Birmingham, Ala., was selected as the place for holding the next annual meeting; time, December 13, 14, and 15, 1904.

Dr. John D. S. Davis of Birmingham was selected as the Chairman of the Committee of Arrangements.

The Council made a report to the effect, that the former action of the association in appropriating two thousand dollars, to a memorial in Birmingham, consisting of a ward bearing the name of the association in the City Hospital of Birmingham, be rescinded, and that in lieu thereof two thousand dollars be appropriated to the erection of a monument to the memory of Dr. W. E. B. Davis in Birmingham.

The report of the Council was adopted.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

One Hundred and Eighty-third Regular Meeting, Held on November 6, 1903.

Dr. CHARLES STEDMAN BULL, PRESIDENT, IN THE CHAIR.

Neural Injection of Osmic Acid for Facial Tic.—Dr. ROBERT ABBE presented a young man who had first come under his observation two years ago. The patient was then suffering from a severe form of facial neuralgia which involved the middle branch of the fifth nerve on the left side. As a radical operation was refused by the patient, an inch and one-half of the nerve was resected by raising the cheek after a free incision of the lip. This operation gave immediate and permanent relief; but a few weeks ago the patient began to suffer from similar pain affecting the supraorbital branch of the nerve. The pain was shooting in character, like an electric shock, recurring about once every ten minutes during the day, and occasionally it awoke him at night. It radiated upward from the left eye and there was marked tenderness of the entire scalp. As the patient still objected to an intracranial neurectomy, Dr. Abbe said he intended to resort to the neural injection of osmic acid, as had been successfully practised by Bennett. The nerve was exposed through a small incision along the upper margin of the eyebrow, and perhaps five drops of a 1½ per cent. solution of osmic acid was injected into the substance of the nerve. Dr. Abbe said he would report subsequently as to the result of the procedure.

Dr. CHARLES STEDMAN BULL called attention to the fact that the destruction of the supraorbital branch of the fifth nerve rendered the cornea non-sensitive and very liable to injury from the effects of dust or cold air. After the radical operation for facial neuralgia (removal of the Gasserian ganglion), superficial ulceration of the cornea was not an infrequent occurrence. It could be obviated by temporarily stitching together the edges of the lids.

Dr. Abbe said he understood that if the cornea was properly protected from dust and injury for a few days after these operations, it would be able to take care of itself.

The Value of the Thomas Sling in the Treatment of Fractures at the Elbow-joint.—Dr. VIRGIL P. GIBNEY presented a boy who had sustained a fracture of the internal condyle of the right elbow. When he entered the Hospital for the Ruptured and Crippled, three weeks later, motion at the joint was much limited. Massage was first ordered, and then the arm was put up in a Thomas sling and kept in that position for several weeks. Over four months had elapsed since the receipt of the injury, and the boy now had practically a perfect elbow. Flexion, extension, pronation, and supination were normal, and the condyle seemed to be in fairly good position. The patient was shown to illustrate the value of the Thomas sling in the treatment of these cases

A Case for Diagnosis.—Dr. GIBNEY showed a boy of eight years, who first came under his observation three years ago. No history was obtainable. Examination revealed an ossification of all the tissues of the right leg underneath the skin, extending from the pelvis to the internal malleolus. The condition was apparently congenital. All the joints of the leg were involved in the process and were immovable. Dr. Gibney said the condition did not correspond in all respects to a myositis ossificans, and he was inclined to attribute it to a congenital defect of the lymphatic system of the leg. The boy was otherwise in good health.

A Case of Walrus Fin.—Dr. GIBNEY presented a boy with that peculiar condition of the extremities which has

been designated as "walrus fin." Both feet were inverted, and the hands were pronated and could not be brought into a position of supination. There was also a congenital dislocation of one hip. The condition was attributed to a failure of development of the joints.

A Case of Extreme Rickets.—Dr. GIBNEY also showed a female child, four and one-half years old, with marked deformity of the joints (especially of the wrists), pot belly, curvature of the femora, and other evidences of extreme rickets. The bones, however, were apparently firm and did not fracture easily, as in some of these cases. In one instance coming under his observation the bones of the extremities had suffered such numerous fractures from very slight injuries that the resulting shortening made the patient's body appear preternaturally long and his limbs preternaturally short.

The Management of Fractures Involving Joints.—Dr. VIRGIL P. GIBNEY read this paper (see page 43).

Dr. ABBE said it had not been his experience that it was easier to correct faulty flexion than extension after fracture at the elbow-joint. He was in favor of putting up these cases in a flexed position, no matter what the character of the fracture might be, and keeping the limb at a somewhat acute angle. It was to this principle that he attributed the value of the Thomas bandage. Extension would usually be fully restored in the course of time. He did not favor passive motion after fractures. In the treatment of fractures involving the neck of the femur he considered the application of plaster-of-Paris the most comfortable and serviceable method; it rendered the patient more manageable in bed and obviated the bed sores which were so common in that class of cases, especially in old people who were treated with Buck's extension.

Dr. ROBERT F. WEIR said he regarded extreme flexion as the important point in the treatment of most of the fractures involving the elbow. We should try to get the arm up as far as possible in order to hold fragments in the best possible position and avoid future disablement. In the treatment of fractures of the leg, on the contrary, flexion should be avoided: the limb should be kept as straight as possible. In the upper extremity retention of motion less than a right angle was to be kept in mind. If a fracture of the elbow-joint was attended by considerable displacement of the fragments, as disclosed by the *x*-rays or otherwise, and efforts to replace them by manipulation proved unsuccessful, Dr. Weir, said he did not hesitate, after a week or ten days, to open the joint and replace and suture the fragments in their proper position, with chromicized catgut. The arm should then be strongly flexed and held in that position. The speaker said he fully appreciated the value of plaster-of-Paris in the treatment of fractures: it could be employed in the treatment of all fractures, with the exception, perhaps, of those involving the femur in its shaft.

Dr. Gibney, in closing, said he agreed with Drs Abbe and Weir that the treatment of fractures of the elbow-joint by flexion had many points in its favor. He recently saw several cases, however, in which that method had resulted in considerable interference with subsequent extension of the limb. In a paper published by Gillette and Brimhall (*St. Paul Medical Journal*, August, 1902), the authors had brought up this point and had mentioned as one of the advantages of the extended position that it preserved intact the fossa of the elbow, serving also as a splint for the condyles. Dr. Gibney said he was thoroughly in favor of the open method of treatment in certain cases of fracture at the elbow-joint.

Result of a New Method of Creating a Vagina in a Case of Congenital Absence.—Dr. ROBERT ABBE reported on this case, which was first presented to the society in 1898, and a complete report of the operation was published in the MEDICAL RECORD in the issue of December 10 of that year. The patient was a young woman of twenty-one years, who, after becoming engaged to be married, confided to her sister that she had never menstruated. An examination showed that the external genitalia were perfect, excepting that from the meatus urinarius to the perineum was a blank wall. A rectal examination revealed an entire absence of uterus and ovaries. The following operation was carefully planned and carried out: For several days the alimentary canal was made as empty as possible. A crescentic cut was made across the interlabial space, with concavity upward, thus getting a little shelf of mucous membrane below the urethra to divert escaping urine. By blunt dissection a free cellular space was readily created between the bladder and the rectum, to the depth of five inches. This was temporarily packed with sterile gauze to check oozing. Thiersch skin grafts were then cut from the thigh, sufficient to cover an ample plug made thus: A thin French rubber pouch, such as can be obtained at drug stores, was sterilized by boiling and stuffing with long strips of iodoform gauze to its full capacity. Upon this the skin grafts were spread with their wet sides outward and edges freely overlapping. (The method of transferring the grafts after floating them on rubber tissue immersed in salt solution was devised by me, and has been continually used for the past eight years.) Numerous small punctures had been previously made in the rubber bag after stuffing, so that the gauze contents would receive any discharge lurking about. A piece of rubber tubing, the size of one's little finger, wrapped loosely about with iodoform gauze, was now inserted into the rectum, with a view of permitting free exit of gas during the subsequent days of enforced constipation. Finally the graft-covered form was carefully passed into the new vaginal space, the walls of which were held apart by three deep retractors, which, on removal, allowed the fresh surfaces to come into closest contact with the wet surface of the grafts. To prevent the plug from being in the slightest displaced, two silkworm-gut stitches were passed across the vulva, transfixing the gauze-packed tampon, and tied over iodoform plugs at either side, as seen in the illustration. The urine was drawn every eight hours for a week with such precaution that no cystitis resulted. The bowels were confined for ten days, without the slightest discomfort to the patient. Light diet was given. No febrile reaction whatever followed.

On the tenth day, when the packing was removed, it was seen that the grafts had taken universally, and that a newly-lined cavity had been created four and one-half inches in depth. Ten weeks after the operation the patient married. When she began to go about, the gravitation of the abdominal contents tended to shorten the vaginal canal, and it was found necessary for her to wear a vaginal plug, part of every day at least. Several varieties were tried, but nothing was so comfortable as a good-sized wax candle, smoothed and rounded, and kept in by a T-bandage. Omissions of one or two weeks allowed considerable shrinkage, but the renewal of the plug overcame it.

When the patient called on Dr. Abbe, a few days ago, she stated that during the four years of her married life the canal had remained competent. An examination showed that inevitable stenosis, by cicatricial contraction, had reduced the artificial vagina to two and one-half inches in depth, but as it was made more than ample in the original design, it remained to-day a practical and competent canal.

Dr. GEORGE L. PEABODY said that many years ago he had assisted a general surgeon in a similar case. As in Dr. Abbe's case, the external genitalia were perfect, but the vagina was entirely wanting. A good-sized opening was made between the bladder and the rectum, and into this a vaginal glass plug was inserted. No skin grafting was done, and the operation proved unsatisfactory, as the opening soon closed by cicatricial contraction, in spite of systematic attempts to keep it open.

Dr. CLEMENT CLEVELAND thought thes ecases of congenital absence of the vagina were very rare. He recalled one instance which was very similar to that mentioned by Dr. Peabody, but he was unable to say what the ultimate result of the operation had been.

Dr. WEIR said the method of skin-grafting described by Dr. Abbe might also prove serviceable in the treatment of cicatricial strictures of the rectum. The successful application of a skin-graft, after the division of such a stricture, would be a great help. The speaker said he had attempted this in three cases. In one, in which he took the skin from a distant part of the body, the result was a failure. In the other two cases he took a long strip of skin from the buttock and twisted it into the rectum without completely severing its external attachment. In one of these cases the procedure was a partial success: in the other, a complete failure.

Dr. Abbe, in reply to a question, said the dissection between the bladder and rectum was made with comparative ease. It was carried down to the subperitoneal layer

New Instruments.

TONGUE FORCEPS.

BY LUCIEN L. MINER,
NEW YORK.
MEDICAL STUDENT AT COLUMBIA UNIVERSITY.

MOST tongue forceps in use to-day have serious disadvantages in that they bruise or puncture the tongue. An anæsthetist is often bothered by a rebellious tongue that persistently falls back, blocking the larynx, yet he hesitates to apply tongue forceps, and relieves the condition as best he can by pushing the jaw forward. Sometimes he is forced to secure the tongue by forceps, spike, or needle and thread, none of which is a very refined method. This is my excuse for devising the instrument here described.

The cut explains itself. The forceps, by means of a central fenestrum and a side slot, secures two pieces of gauze which grasp the tongue gently but firmly. Clean gauze can be applied for each patient.

To prove that the tongue is not bruised, I have tried it on persons not under an anæsthetic and have found that the tongue can be securely held without exerting pressure enough to cause any pain whatever.

The forceps can be advantageously used in minor throat operations under cocaine, in a difficult case of intubation. It is especially useful in abdominal work for holding the intestines without danger of trauma.

I am greatly indebted to Mr. Ford, the instrument maker, for valuable assistance in changing the original idea of a bulky double set of forceps to the present simple device.

Radiographing Criminals.—Röntgen rays will soon be made use of by the Paris police for the identification of criminals. Some 16,000 plates have already been collected, chiefly from the hospitals. Of course, all these do not represent portions of the internal anatomy of criminals. But the police go on the principal that people who have not broken the law yet may do so some day. These plates are, accordingly, being classified after the method invented by M. Bertillon. It is proposed that in future all convicted persons shall be radiographed as they are now "anthropometrized."—*London Daily Telegraph.*

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

THE HOSPITAL FORMULARY OF THE DEPARTMENT OF PUBLIC CHARITIES AND THE DEPARTMENT OF BELLEVUE AND ALLIED HOSPITALS OF THE CITY OF NEW YORK. W. E. DREYFUS, A.B., Ph.D., Editor. Sixth revised edition, 8vo, 160 pages. New York, 1903.

A NON-SURGICAL TREATISE OF DISEASES OF THE PROSTATE GLAND AND ADNEXA. By GEORGE WHITFIELD OVERALL, A.B., M.D. 12mo, 217 pages. Rowe Publishing Company, 1312-34 E. Washington St., Chicago Ill. Illustrated.

HANDBOOK OF DISEASES OF THE EAR. By RICHARD LAKE, F.R.C.S. With three colored plates. 12mo, 232 pages. William Wood & Co., New York.

ESSENTIALS OF PELVIC DIAGNOSIS, WITH ILLUSTRATIVE CASES. By E. STANMORE BISHOP, F.R.C.S., Eng. 8vo, 297 pages. William Wood & Co., New York.

MEDICAL AND SURGICAL REPORTS OF THE BOSTON CITY HOSPITAL. Fourteenth series. Edited by HERBERT L. BURRELL, M.D., W. T. COUNCILMAN, M.D., and CHARLES F. WITHINGTON, M.D. 8vo, 178 pages. Published by Trustees, Boston, 1903.

THIRTY-THIRD ANNUAL REPORT OF THE CENTRAL STATE HOSPITAL OF VIRGINIA, Petersburg, Va., for the Fiscal Year Ending September, 1903. 8vo, 83 pages.

OSSERVAZIONI SU 203 CASI DI CROUP, E SU 80 INTUBAZIONI, ESEGUITE DAL PROF. ALFONSO MONTEFUSCO. 8vo, 117 pages. Detken & Rocholl, Napols, Italy.

PRECIS D'ANATOMIE DENTAIRE. PAR J. CHOQUET 12mo, 496 pages, illustrated. F. R. de Reduval, Paris France.

TRANSACTIONS OF THE CLINICAL SOCIETY OF LONDON. Volume the Thirty-sixth, 8vo, 285 pages. Illustrated. Longmans, Green & Co., London, Eng.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Volume the Twenty-first. Edited by RICHARD H. HART, M.D. 8vo, 630 pages. Illustrated. Printed for the Association.

PHILADELPHIA HOSPITAL REPORTS. Vol. 5, 1902. Edited by HERMAN B. ALLYN, M.D. 8vo, 174 pages. Philadelphia, 1903.

QUIZ-COMPENDS, No. 19. DISEASES OF THE EAR, NOSE, AND THROAT. By JOHN JOHNSON KYLE, M.D. Illustrated. 12mo, 311 pages. P. Blakiston's Sons & Co., Philadelphia. Price, 80 cents net.

BLOOD-PRESSURE IN SURGERY. By GEO. W. CRILE, M.D. Illustrated. 8vo, 422 pages. J. P. Lippincott Co., Philadelphia.

FOURTH ANNUAL REPORT OF THE WORK OF THE CANCER LABORATORY OF THE NEW YORK STATE BOARD OF HEALTH, conducted at the Gratwick Research Laboratory, University of Buffalo, for the year 1902-3. Illustrated. 8vo, 161 pages.

THE FIFTH ANNUAL REPORT OF THE INDIANA STATE BOARD OF MEDICAL REGISTRATION AND EXAMINATION FOR THE YEAR ENDING DECEMBER 31, 1902. 8vo, 268 pages.

A COMPEND OF PATHOLOGY, GENERAL AND SPECIAL. By ALFRED EDWARD THAYER, M.D. Second edition, containing 131 illustrations. 12mo, 711 pages. P. Blakiston's Son & Co., Philadelphia, Pa.

PROGRESSIVE MEDICINE. A QUARTERLY DIGEST OF ADVANCES, DISCOVERIES, AND IMPROVEMENTS. By Various Authors. Volume 4, December, 1903. Illustrated. 8vo, 444 pages. Lea Brothers & Co., Philadelphia and New York.

ATLAS OF THE EXTERNAL DISEASES OF THE EYE, AND TREATISE ON PATHOLOGY AND TREATMENT. By PROF. Dr. O. HAAB. Second edition, 232 pages. Illustrated. W. B. Saunders & Co.

CLINICAL PATHOLOGY OF THE BLOOD. By JAMES EWING, M.D. Second edition, 8vo, 492 pages. Illustrated. Lea Bros., Philadelphia. Price, $3.50 net.

BARNBORDSHUSETS OGH DEN GYNAKOLOGISKA I HELSINGFORS. Af G. HEINRICIUS. 8vo, 77 pages.

DIE ENTSTEHUNG DER ZUCKERKRANKHEIT. By Dr. A. LORAND. 8vo, 63 pages. August Hirschwald, Berlin.

NINETEENTH ANNUAL REPORT OF THE DIRECTORS OF THE NEW YORK POST-GRADUATE HOSPITAL for the Year ending October First, 1903. 8vo, 110 pages.

Therapeutic Hints.

The Relations between Peritoneal Adhesions and the Functionating Uterus.—Ch. B. Reed finds that many adhesions are undoubtedly destroyed by the growth of uterus in pregnancy, but the rupture of the same may be attended with fatal hemorrhage.

Adhesions between the movable organs of the abdomen and the functionating uterus are only rarely a source of danger or cause of death. Where adhesions are protecting the peritoneal cavity from pus pockets, either appendicular or tubal, and pregnancy supervenes, a condition of extreme danger is present. The pus should be evacuated as soon as possible after the diagnosis is made without reference to the pregnancy.—*The Chicago Medical Recorder.*

Methylene Blue in Diarrhœa.—Combemale of Lille strongly recommends the use of this drug in all forms of rebellious diarrhœa. He thinks it is particularly indicated in infectious cases, such as those due to typhoid fever, etc. The dose is one grain three times a day.

—*Medical Press.*

Opacity of the Cornea.—Mazel of Marseilles recommends a solution of benzoate of lithium (5 to 15 gr. in ℥ii · p. aqua) to be instilled into the eye t. i. d.—He reports several patients successfully treated with this solution.

—*Medical Press.*

The Extraction of Foreign Bodies from the Ear.—Use a soft rubber tube, about the length of a cigarette, and of the proper size to be introduced into the ear. The end of the tube is dipped in paraffin, and pushed into the canal until it comes in contact with the foreign body, whereupon the operator, applying his mouth to the free end aspirates forcibly, at the same time throwing back his head. Except in cases of angular bodies of irregular contour, this method is usually attended by success, the body coming away with the tube.—*Medical Press.*

Carcinoma of the Bile-ducts.—On account of the deep situation of the bile ducts and the great difficulty in making an early diagnosis, surgery will probably never accomplish very much. If an operation is carried out sufficiently early, while the process is confined to the duct, it may be successful. If the disease be in the cystic duct, this duct, with the gall-bladder, should be removed. If the adjacent portion of the liver is implicated, a V-shaped piece of the liver may be excised. If the common bile duct is implicated a portion may be excised, the ends united with sutures, and the fundus of the gall-bladder attached to the wound or to the intestine. If the common bile duct be implicated and the growth cannot be removed, an anastomosis may be made between the fundus of the gall-bladder and the duodenum—cholecystenterostomy. If the growth is situated in the head of the pancreas and involves the common bile duct, excision is impracticable and a cholecystenterostomy should be done.—A. Hamilton Levings in the *Clinical Review.*

Physostigma.—Hare thinks that physostigma is a valuable drug in atony of the bladder or intestines, and in catarrh of the bowels; also, when combined with nux vomica, in gastric and intestinal dilation.

Fetid Breath.—

℞ Inf. sage 250.0
Glycerin, pure 30.0
Tinct. myrrh .....
Tinct. lavender ..... ää 12.0
Laborraque's solution 30.0

M. et S. Mouth wash, as required.

When due to gastric fermentation, wood charcoal in dose of ten grains every three hours. —Campbell.

To remove vegetations from the external genitals salicylic acid is an excellent remedy. Dissolve half a drachm in an ounce of acetic acid, and apply to parts with a camel's hair brush.—*The Southern Clinic.*

In Acute Laryngitis.—Full doses of sodium bromide should be given, and an embrocation of oil of amber, one part, to olive oil, three parts, should be rubbed in thoroughly over the larynx.—*The Southern Clinic.*

Epilepsy.—Dr. James Taylor does not believe that belladonna is of much effect in the treatment of epilepsy. He has found digitalis of much use, especially in those cases showing nocturnal attacks and in instances in which the patients have cold and cyanosed extremities.

—*Clinical Journal.*

Acute Bronchitis in Infants.—J. B. Norman speaks very highly of apomorphine as an expectorant in these cases. He gives $\frac{1}{600}$ grain every two hours. He has observed great benefit from combining strychnine with the apomorphine. —*Kansas City Medical Index-Lancet.*

Pruritus.—

℞ Chloral hydrate ..... 1 part.
Camphorated oil (1 in 10) ..... 10 parts.
Lanolin ..... 90 parts.

Or,

℞ Zinc oxide ..... } Equal parts.
Chalk ..... }
Camphorated oil ..... }
Lime water ..... }

—Leredde.

Urticaria.—

℞ Hydrarg. chloridi corrosiv. ..... gr. iss.
Chloroformi ..... ♏. xx.
Glycerini ..... fl. ℥ii.
Aquæ rosæ ..... fl. ℥vi.

M. ft. lotio: S. external use.

—Burgess.

Pruritus Ani.—

℞ Ext. conii ..... ℥ii.
Ungt. stramonii .....
Lanolini ..... ää ℥i.

M. Sig: Apply at bedtime and before stools.

—Tuttle.

Squibbs' Cholera Mixture.—

℞ Tinct. opii .....
Tinct. capsici .....
Spts. camphoræ ..... ää ℥i.
Chloroformi ..... ℥iii.
Alcoholis ..... q. s. ad. ℥v.

M. Dose, 20 to 40 minims.

Phosphorus for Hoarseness.—A very valuable drug for chronic hoarseness and loss of voice, is phosphorus in small, frequently repeated doses.

—*Pennsylvania Medical Journal.*

Chronic Gout.—

℞ Ext. colchici radicis .....
Ext. aloe .....
Pulv. ipecacuanhæ .....
Hydrarg. chloridi mitis ..... ää gr. i.
Ext. nucis vomicæ ..... gr. ¼

M. For one pill. S.: One every 3 or 4 hours until purgation ensues.

—A. L. Loomis.

Or,

℞ Magnesii sulph ..... gr. ii.
Potassii bicarb ..... gr. xv.
Tinct. colchici seminis ..... ♏ x.
Infus. buchu ..... fl. ℥i.

Ft. haustus. S.: To be taken every 4 to 6 hours, followed by a large draught of water.

—Fothergill.

Dry Scaly Eczema of the Auricle or External Meatus.—

℞ Hydrarg. oxid. rub .....
Hydrarg. ammoniati ..... ää gr. vi.
Adipis benzoat ..... ℥i.
Ol. olivæ ..... ℥ii.

Apply on cotton plugs.

—Barr.

Chloroform as a Teniafuge.—According to Dr. Leger, in the *Medical Press*, chloroform is as efficacious in the treatment of tapeworm as male fern, etc. He uses the following mixture:

Chloroformi ..... ℥i.
Syrupi ..... ℥i.
Aquæ ..... ℥iv.

A quarter of this is to be taken every three-quarters of an hour, and before the last dose a purgative of castor oil or tincture of jalap is given.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending January 2, 1904:

	Cases.	Deaths.
Measles	584	15
Diphtheria and croup	461	59
Scarlet fever	345	23
Smallpox	1	1
Varicella	97	...
Tuberculosis	229	177
Typhoid fever	36	10
Cerebrospinal meningitis	...	3

Arguments in Support of the Army Canteen.—The following report of the Committee on the Army Canteen was read by Dr. George M. Kober, Chairman, at the recent meeting of the American Public Health Association:

"(1) Your committee is aware of the fact that beverages containing alcohol are an accessory food of value only when it becomes necessary to increase temporarily the elasticity of mind and body and a desire and capacity for work, and that the subsequent depressing effects and the baneful influence of their misuse requires great care in its employment, especially when rest, proper food and some of the alkaloidal beverages, like coffee, tea, cocoa, and stimulants, like meat broths and soups, may accomplish the same purpose, and their sale as a substitute should be encouraged.

"(2) In spite of the fact that beer drinking, viewed in the abstract, is unproductive of good, your committee believes that its sale in canteens, under rational and comprehensive regulations, rather than its total prohibition, will subserve the best interest of scientific temperance, because so long as human nature is weak and the masses are not properly educated, the substitution of a lesser evil under military control appears not only justifiable, but will in the future, as it has in the past, prevent excesses which are fatal to the soldier, soul and body. At present, every effort toward total abstinence at military posts merely opposes theory to facts and sentiment to statistics, and compels recourse to saloons of the lowest character, whose proprietors care nothing for the efficiency of the army or the ruin of a good soldier.

"(3) Every precaution should be observed to conduct post exchanges and the sale of light wine and beer along the lines recommended by Munson in his "Theory and Practise of Military Hygiene," pp. 820-822. and your committee begs to emphasize the fact that the bar features should be entirely abolished, and that the exchange should, in fact, be a soldiers' club, with ample facilities for reading rooms, legitimate amusements and athletic sports, where the soldier as a self-respecting individual may satisfy in an orderly manner his craving for diversion from the routine duties of a military life, without undue prominence of the refreshment feature.

"(4) The sale of soft drinks, warm lunches, coffee. tea, cocoa, bouillon, and soups should be encouraged as substitutes for alcoholic beverages, and medical and line officers should be directed to educate by precept and example the rank and file of the army; that for persons in health alcohol in any form presents no advantages not found in other foodstuffs or stimulants and which are moreover free from dangers attending its use. In this connection it should be remembered that good food, well prepared, and properly cooked and served, is one of the most effective prophylactic measures against the "drink habit" in civil as well as military life, and no effort should be spared to bring the culinary department in the army to the highest state of perfection.

"(5) Medical officers should point out the grave and far-reaching consequences of the effect of venereal diseases, so intimately connected with the drink habit, and make a strong plea in favor of continence. This may be done by letting these young men know that while the sexual passion is very strong, it can be accelerated or delayed, excited or lowered by the influence of the will. The soldier can be assured that by the cultivation of pure thoughts, removal of temptation, by normal mental, and especially vigorous physical, exercise, continence is not only possible, but easy.

"(6) Strong efforts should be made to improve the social conditions of the soldiers. There are times and occasion when the friendly advice of a company commander or attending surgeon, a personal interest in the physical and moral welfare of the young soldier, will prove of greater benefit than the cold verdict of a summary court martial. Such personal efforts on the part of the officers, dictated by the spirit of a universal brotherhood of man, appears to us perfectly compatible with proper military discipline. It is also believed that the habit of making savings deposits with the army paymasters may be greatly stimulated by personal efforts."

Health Report.—The following cases of smallpox, yellow fever, chorera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended January 2, 1904:

SMALLPOX—UNITED STATES.

		Cases.	Deaths.
Arkansas, Port Smith	Dec. 12–19	1	..
California, San Francisco	Dec. 13–20	3	..
Colorado, Denver	Nov. 14–28	3	..
Illinois, Chicago	Dec. 19–26	4	..
Indiana, Evansville	Dec. 19–26	1	..
Louisiana, New Orleans	Dec. 19–26	1	..
Maine, Brewer	Dec. 19	1	..
Old Town	Dec. 19	9	..
Orono	Dec. 19	1	..
Massachusetts, Brocton	Dec. 19–26	1	..
Fall River	Dec. 19–26	1	..
Haverhill	Dec. 19–26	1	..
Michigan, Flint	Dec. 19–26	1	..
Port Huron	Dec. 19–26	2	..
Nebraska, Omaha	Dec. 19–26	1	..
New Hampshire, Manchester	Dec. 19–26	2	..
New York, New York	Dec. 19–26	1	..
Ohio, Cincinnati	Dec. 18–25	8	..
Dayton	Dec. 19–26	4	..
Youngstown	Dec. 12–19	12	..
Pennsylvania, Altoona	Dec. 12–19	..	1
Erie	Dec. 19–26	1	..
Philadelphia	Dec. 19–26	66	14
Pittsburg	Dec. 16–23	28	6
South Carolina, Charleston	Dec. 19–26	1	(Imported)
Tennessee, Memphis	Dec. 19–26	17	..
Wisconsin, Milwaukee	Dec. 19–26	10	..

SMALLPOX—FOREIGN.

Austria-Hungary, Prague	Nov. 28–Dec. 5	20	..
Trieste	Nov. 28–Dec. 5	1	..
China, Shanghai	Nov. 14–21	..	1
Colombia, Barranquilla	Dec. 5–13	..	3
France, Paris	Dec. 4–18	17	..
Great Britain, Birmingham	Dec. 5–12	2	1
Glasgow	Dec. 11–18	28	1
London	Dec. 5–12	2	..
Manchester	Dec. 5–12	2	..
New Castle-on-Tyne	Dec. 5–12	1	..
Nottingham	Dec. 5–12	1	..
India, Bombay	Nov. 24–Dec. 1	..	1
Netherlands, Rotterdam	Dec. 5–12	1	..
Russia, Moscow	Nov. 21–Dec. 5	5	3
Odessa	Nov. 28–Dec. 5	6	..
St. Petersburg	Nov. 16–23	41	..
	Nov. 28–Dec. 5	40	2
Turkey, Beirut	Nov. 28–Dec. 5	Present	
Smyrna	Nov. 22–29	..	7
Uruguay, Montevideo	Sept. 5–26	6	..
	Oct. 1–31	4	..

YELLOW FEVER—UNITED STATES.

Texas, Laredo	Dec. 26	1	..

YELLOW FEVER—FOREIGN.

Colombia, Cartagena	Nov. 23–30	..	1
Mexico, Ciudad Victoria	Dec. 6–12	3	2
Merida	Dec. 6–12	2	1
Vera Cruz	Dec. 6–12	9	2

PLAGUE—INSULAR.

Philippine Islands, Manila	Oct. 24–Nov. 14	2	2

PLAGUE—FOREIGN.

Australia, Brisbane	Sept. 1–30	1	1
China, Hongkong	Nov. 7–14	..	1
Egypt, Alexandria	Nov. 21–28	1	1
Minieh	Nov. 21–28	3	1
India, Bombay	Nov. 24–Dec. 1	..	51
Calcutta	Nov. 14–28	..	43
Karachi	Nov. 22–29	8	7
Mauritius	Nov. 12–19	71	32
	Nov. 19–26	77	41
	Nov. 26–Dec. 3	60	41

CHOLERA—INSULAR.

Philippine Islands, Manila	Oct. 24–Nov. 4	19	18
Provinces	Oct. 24–Nov. 14	551	418

CHOLERA—FOREIGN.

India, Madras	Nov. 14–20	..	3
Japan, Nagasaki	Nov. 21–30	..	1
Straits Settlements, Singapore	Nov. 7–14	..	5

Medical Record

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Original Articles.

THE SERUM TREATMENT OF TYPHOID FEVER.*

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[From the Beth Israel Hospital, New York.]

TYPHOID fever is one of the most serious and protracted of all acute infectious diseases. It is present everywhere and demands many victims annually.

The methods of treatment now in vogue had for their object the strengthening and sparing of the organism, in order to allow it to fight out its battle with the immigrated Eberth bacilli. We were, however, unable to support it directly in this combat. We could only pave the way for nature, but not enter upon it ourselves.

Since von Behring showed that diphtheria could be cured by a specific serum, a similar method of treatment has been looked for in typhoid fever.

Chantemesse[1] was probably the first to attack this problem successfully. His first experiments were undertaken in the year 1892, but were not crowned by practical results. It was only in 1899 that he succeeded in obtaining a serum, showing antitoxic and bactericidal properties for typhoid fever. At the close of his work Chantemesse says: "Having gained this experience, I have been able to inject a typhoid-fever patient with an antitoxic serum. The value of this new line of treatment cannot be judged except by the study of large statistics and numerous observations. I can, however, say that the serum acts in typhoid fever after the manner of an antitoxin, diminishing and suppressing nervous phenomena, lowering the temperature and effecting a cure."

Chantemesse[2] then treated one hundred cases of typhoid fever with this serum and published the results in 1901. According to him, the serum seems to exert a specific action; the duration of the disease is shortened and the mortality diminished. Chantemesse had a mortality of 6 per cent. with his method, whereas in other Paris hospitals it amounted to 10–20 per cent. Chantemesse advises the early use of injections even in cases in which the diagnosis of typhoid fever is not yet quite certain. The results seem to be better the earlier the treatment is begun. Danger from the serum treatment does not exist. Chantemesse compares the treatment of typhoid fever with that of diphtheria and says: "As in diphtheria, the serumtherapy of typhoid fever should be begun early. But the resemblance stops here. In diphtheria the serum suppresses or diminishes the intoxication and causes an expulsion of the microbes from the throat, whereas in typhoid fever the germs infesting the internal organs cannot disappear until surrounded and digested by the phagocytes. We can understand that these microbes, through the action of the serum, may be destroyed more or less quickly according to the vitality of the patient, and that those of the microbes that have escaped the action of the phagocytes may multiply and cause a relapse, which hardly ever occurs in diphtheria."

Bokenham,[3] Walker,[4] and Ewing[5] have worked in producing an antityphoid serum, but do not report any clinical results from it.

Jez[6] made an organic extract from the spleen, marrow, brain, spinal cord, and thymus of rabbits, which he had immunized against typhoid fever and treated typhoid patients with it. He gives it per os and in tablespoon doses and arrives at the following conclusions:

1. The Jez antityphoid extract is of specific therapeutic value against typhoid fever only.

2. It is a harmless preparation, which can be given even in large doses, without any untoward effects.

3. It is an aid in differential diagnosis.

4. If given uninterruptedly in typhoid fever it decreases the temperature and strengthens the pulse.

5. It shortens the duration of typhoid fever and diminishes or neutralizes completely the effect of the toxins of typhoid fever.

6. Taken per os it naturally cannot cause any such complications as sometimes result from subcutaneous injections.

Eichhorst[7] has treated two patients with a serum made in Berne without any appreciable results, but had excellent success in twelve patients treated with Jez extract.

Du Mesnil[8] later on treated a larger number of cases of typhoid fever with a serum also made by the Berne Board of Health (Drs. Tavel and Jez) and had good results.

Whereas the authors just mentioned ascribe to

TABLE OF CASES OF TYPHOID FEVER TREATED WITH ANTITYPHOID SERUM.

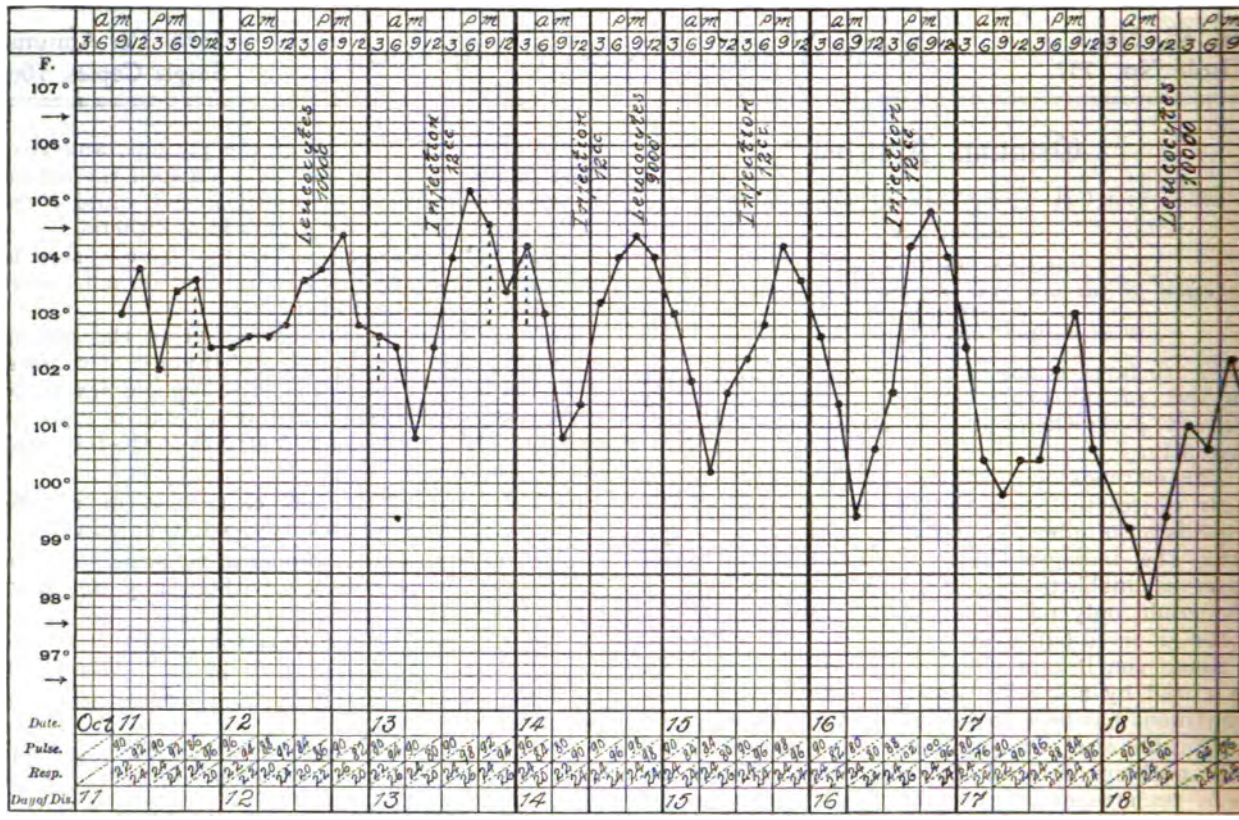
Name	Age	Widal	Day of disease on which injections were begun	Complications	EFFECT: On temperature. (How many degrees more the fever remitted than previously)	EFFECT: On general condition	Day of normal temperature
J. E.	16	+	10	...	1½°	Improved. Headache disappeared.	22
A. B.	16	—	16	...	1° Marked remission after second injection	Apathy disappeared	21
M. W. Severe case	12	+	12	Otitis media	1½° Temp. rising again	Improved	31
A. Br. Relapse	16	+	9	...	2° Marked remissions	Good	21
A. G.	36	—	15	...	1° After 2 injections	Headache and apathy disappeared	20
N. C.	19	—	13	...	1°	Mental condition much brighter	23
R. S.	13	+	15	...	½°	Good	21
A. S.	10	+	14	Double Pneumonia	No constant remission	Mental condition much brighter	38
Fr. G.	47	+	12	...	1° Relapse	At first good, later had no effect	60
Tillie S.	17	+	13	Double Pneumonia	1½°	Sensorium clearer; general condition better	33

*Read before the German Medical Society of New York, November 2, 1903.

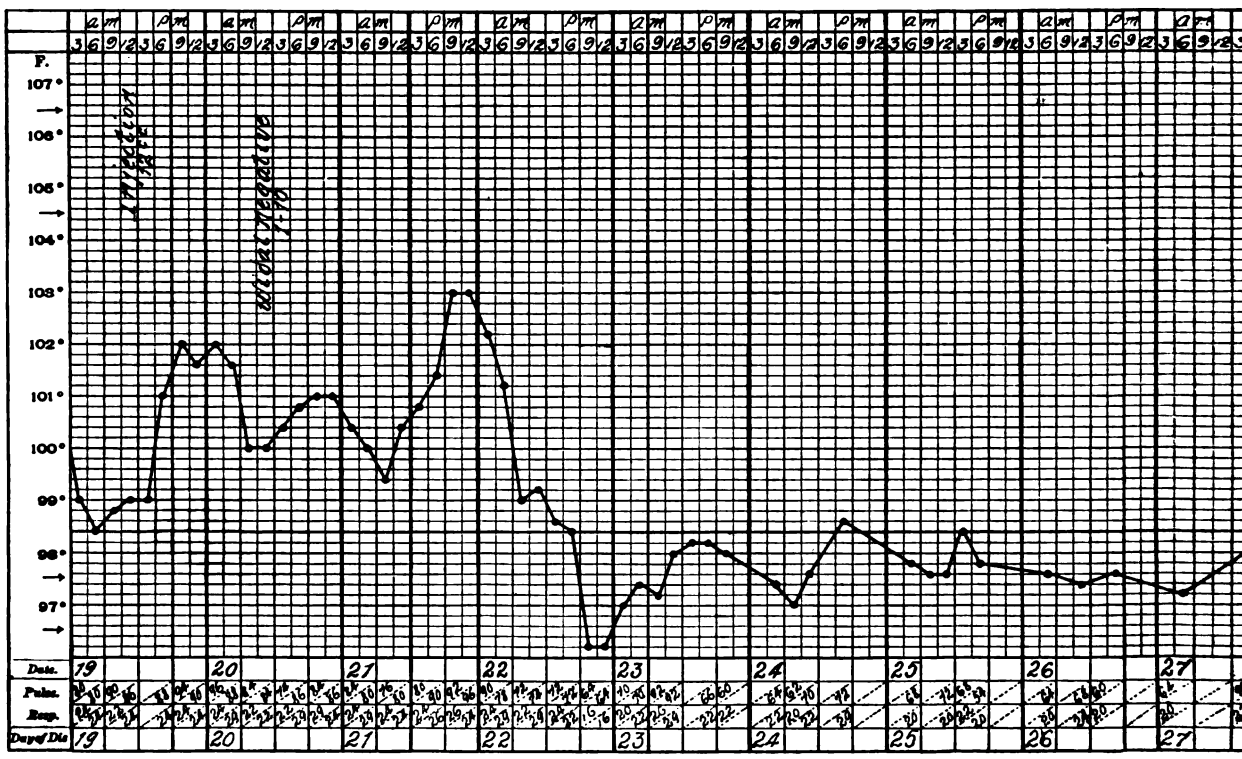
the new agent a specific action against typhoid fever, Widal[1] seems to be somewhat skeptical. Widal closes his remarks on serotherapy as follows:

"(1) Except for the diphtheria antitoxin, no serum seems to have given the results which laboratory experience would warrant us to expect in man. (2) It seems that all the so-called antitoxic sera act not upon the microbes nor the toxin, but upon the cells of the organism, which they aid in their combat with the microbes. (3) Therefore the ser of immunized animals do not at present seem t have any certain specific action, but only a gener tonic effect."

Under these circumstances, and considering th great importance of this subject for practica medicine, I have thought it of interest to give my own experience with serotherapy in typhoid fever This relates only to a limited number of cases, ye they seem to me sufficient to base a judgment upon

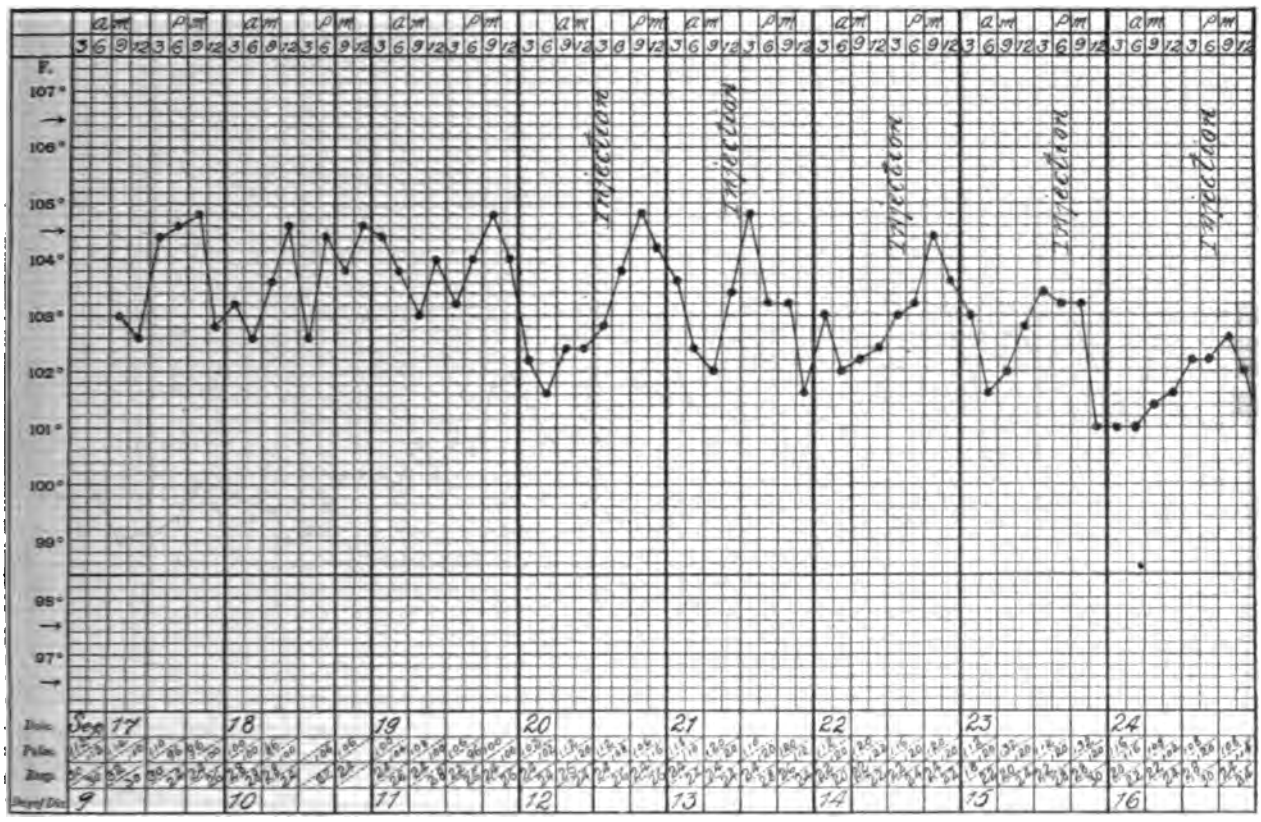


Case I (First part).

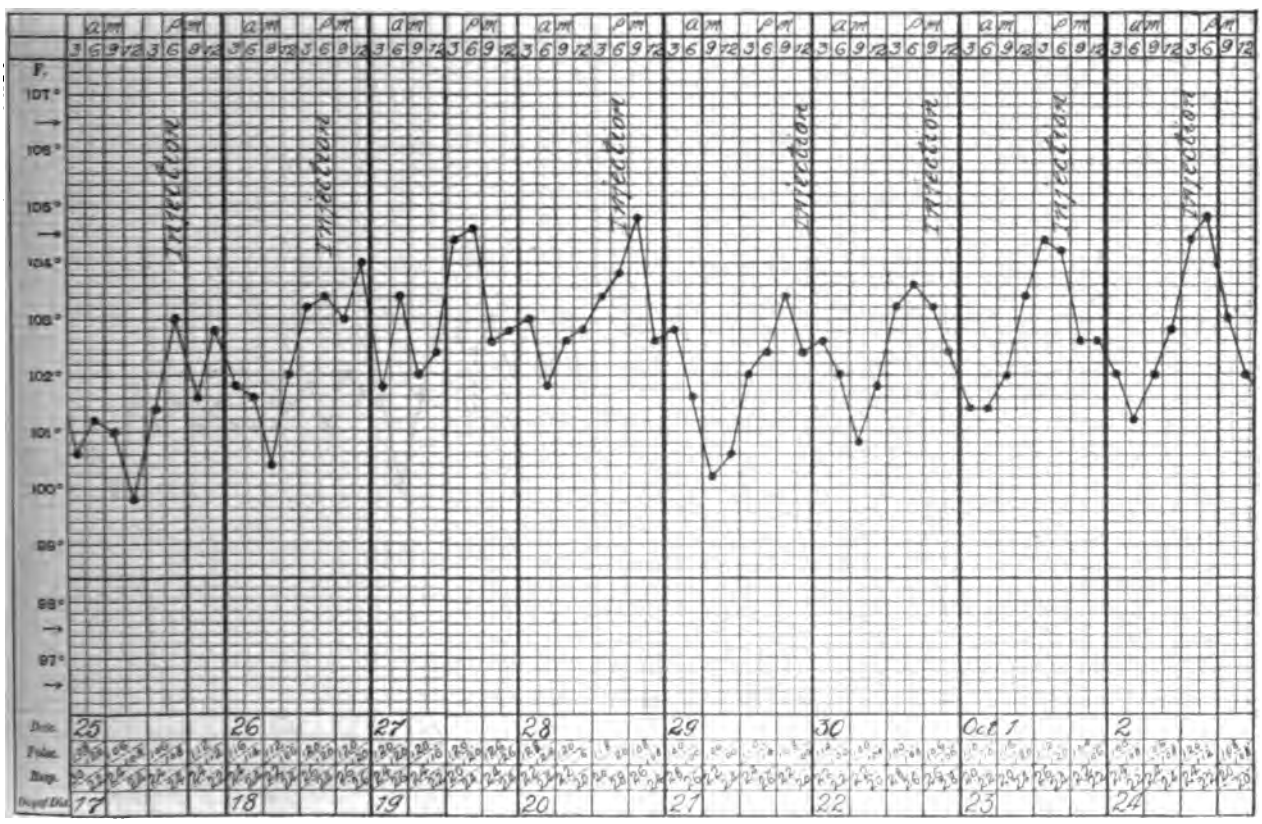


Case I (Second part).

I employed the anti-typhoid serum of Jez and Tavel of the Berne Board of Health. Expecting more striking results from subcutaneous injections of the serum than from giving it by mouth, I chose the first method for its routine employment, although in a few cases I also tried it per os. I used the serum, however, in smaller doses than advocated by Jez, on account of the comparatively small quantity of serum I had at my disposal. As soon as the diagnosis of typhoid fever was made (we usually waited until Widal reaction was positive), 6 to 12 c.c. of serum were injected daily until the temperature remained under 100° F.



Case II (First part).

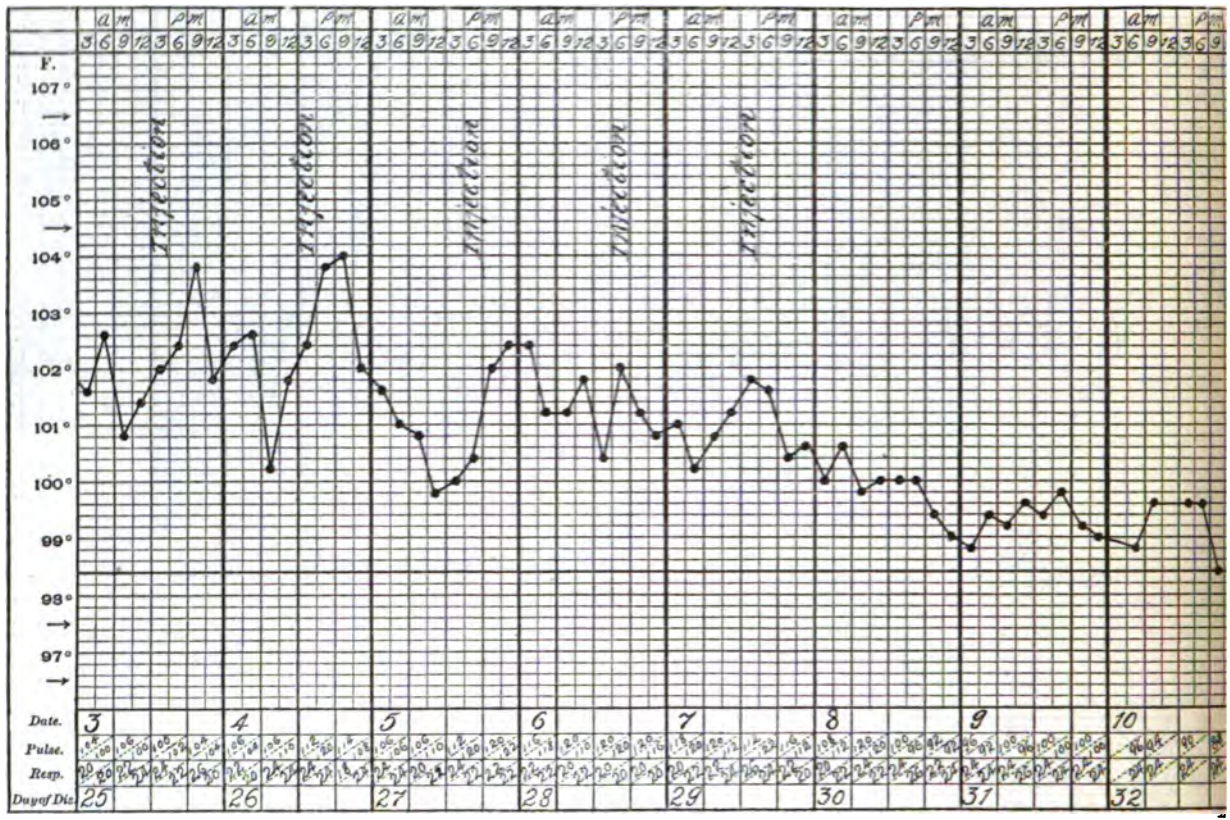


Case II (Second part).

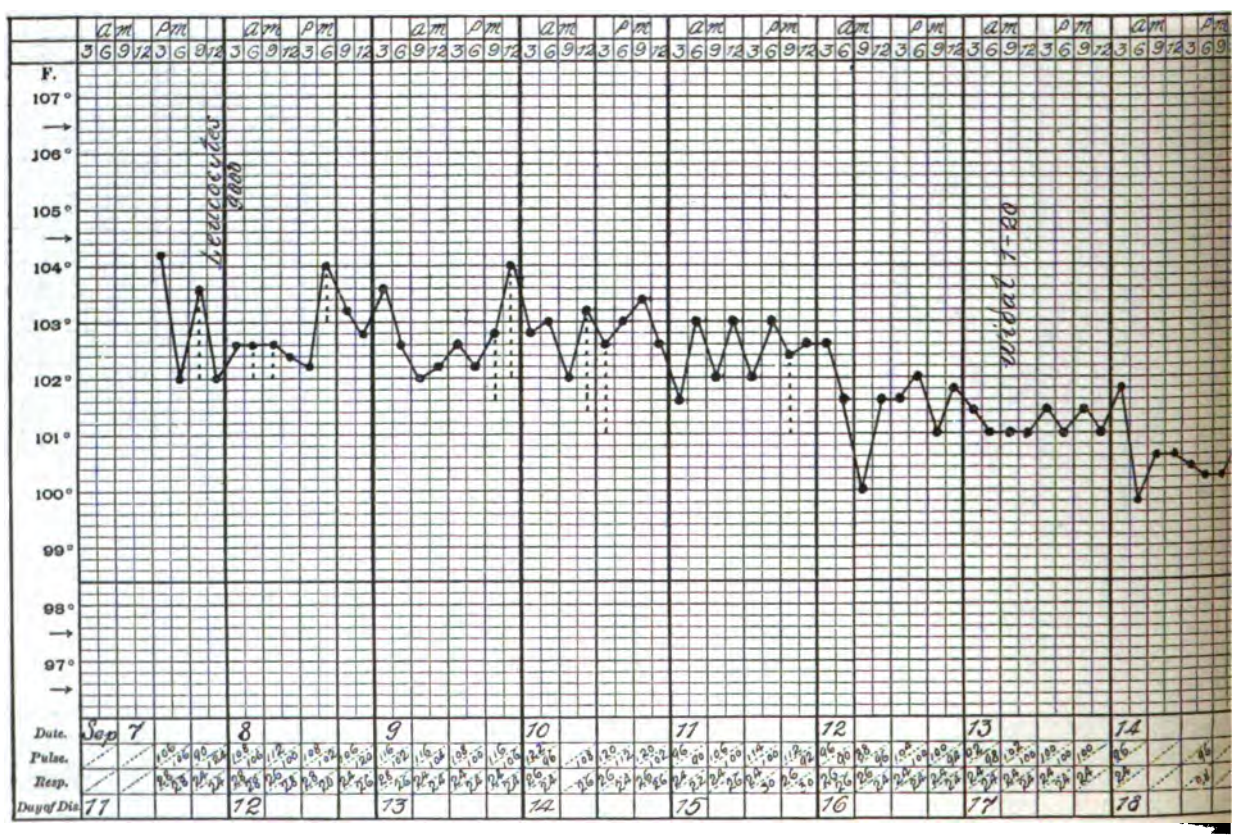
I chose for this treatment all medium, grave, and severe cases of typhoid fever which were observed in the hospital. Light cases of typhoid fever

were not subjected to the serum treatment. The number of patients treated with the serum was ten. In all the diagnosis of typhoid fever was certain. Seven gave a positive Widal reaction, whereas three showed no agglutination, but gave, otherwise, all positive signs of typhoid fever (enlargement of spleen, roseola, etc.). I may be permitted to put all cases treated with the serum into a table (page 81) and to give three histories with temperatur curves in a more detailed manner.

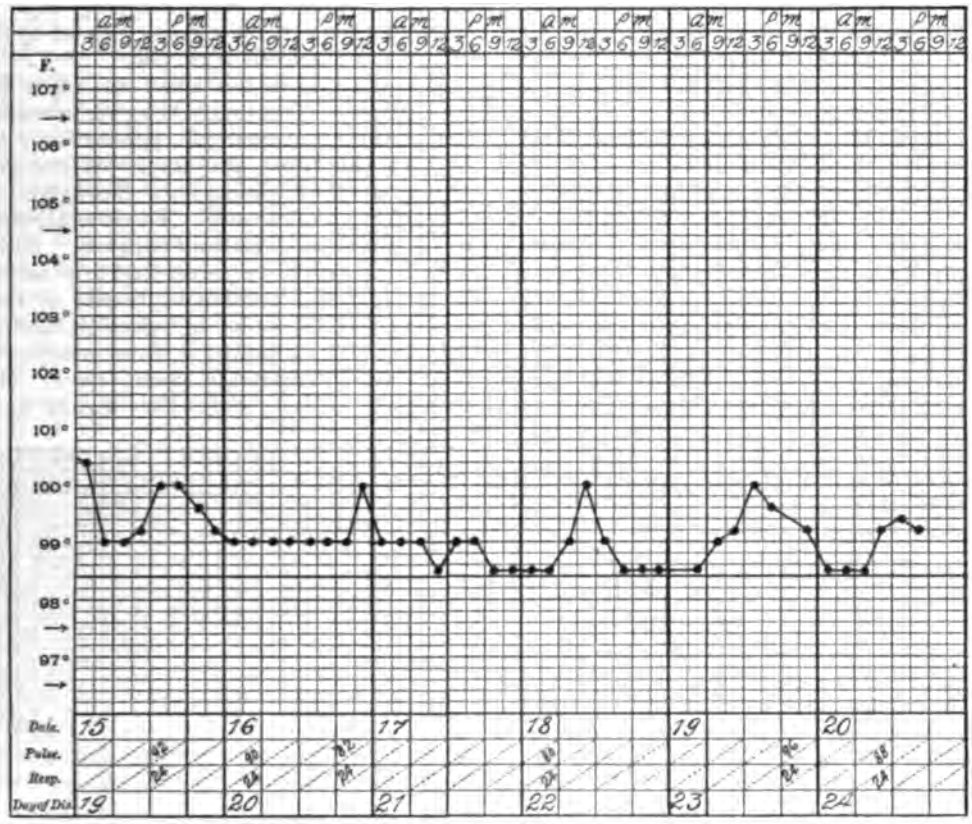
CASE I.—Nathan C., nineteen years old, admitte October 11, complains of chilliness, fever an weakness, headache and diarrhœa. Tongue mois and coated. Lungs negative, heart action vigorous sounds not quite clear. Liver normal. Spleen can not be palpated. Upper dulness at eighth rib



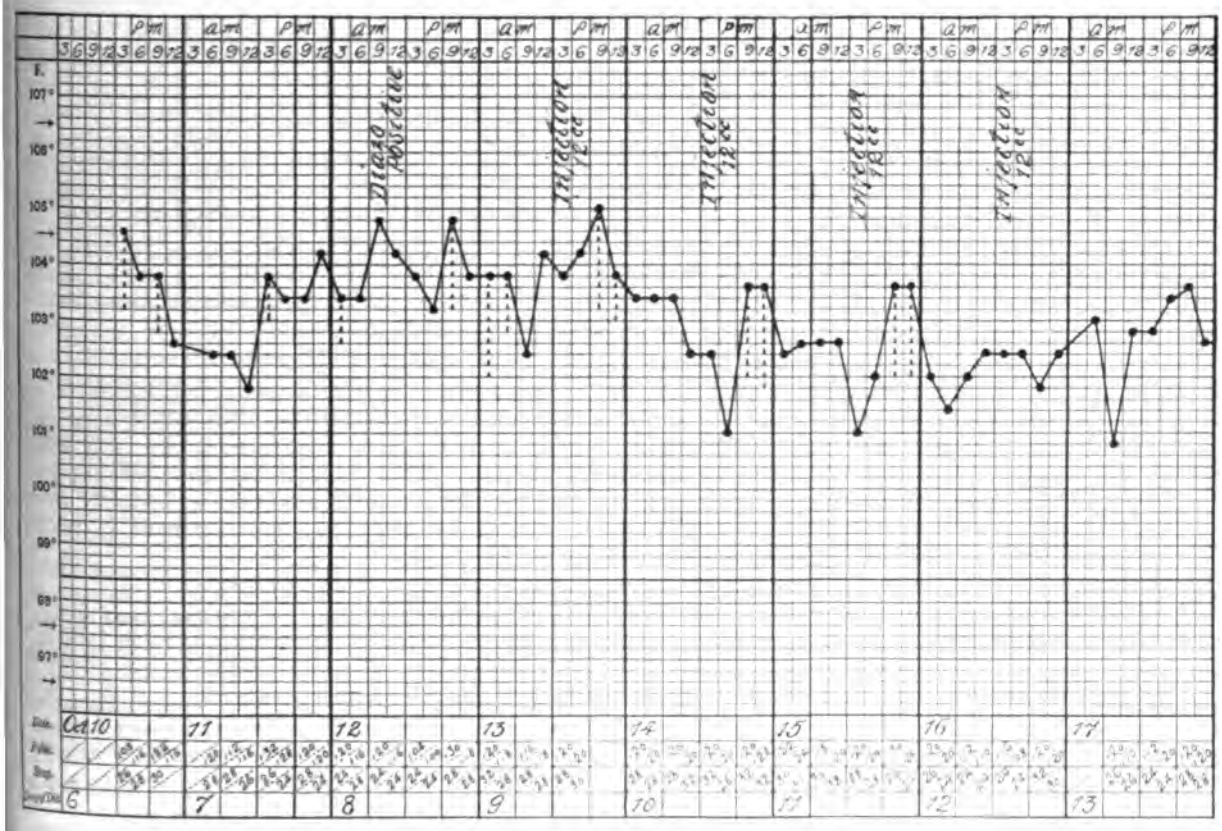
CASE II (Third part).



CASE III. First Period (First part).



Case III. First Period (Second part).



Case III. Relapse (First part).

serum treatment and a marked crisis on the twenty-first day of the disease, with subnormal temperature, lasting a few days.

Case II.—Meyer W., twelve years old, admitted September 17, has been complaining for the last eight days of headache, fever, and diarrhœa.

Status præsens: Apathetic. Purulent discharge from both ears. Heart and lungs negative. Spleen can be palpated. Roseola on abdomen and chest. Widal positive, 1–20. Red blood cells, 5,000,000. Leucocytes, 10,000. Hæmoglobin, 85 per cent.

Abdomen soft, not tender. Suspicious red spots over abdomen and chest. Leucocytes, 10,000. Red cells, 4,000,000. The temperature curve showed very steep remissions immediately after beginning

September 20. Condition unchanged, injection of serum.

September 25. Spleen hardly to be felt, roseola fading.

September 27. Spleen again palpable, fever higher.

October 1. Roseola reappears.

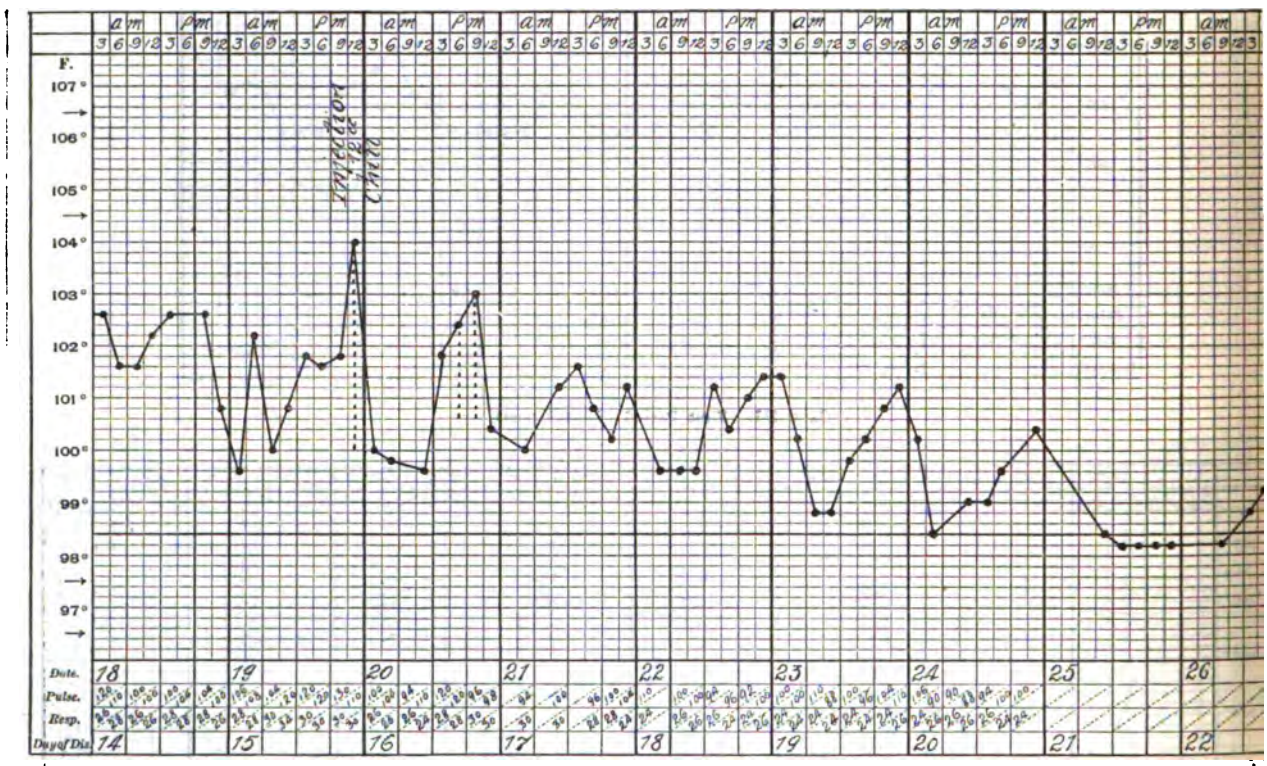
October 6. Left mastoid tender on pressure, roseola less.

October 9. Temperature normal.

CASE III.—Anna B. had typhoid fever twice this fall in the Beth Israel Hospital.

During her first illness serum was not used; during her second period of illness it was applied. The temperature curves of the first and second typhoid period in the same patient can well be compared, and thus allow us to recognize more easily the influence of the serum. We will therefore report this case in detail:

Anna B., sixteen years old, admitted September has been complaining for ten days of chilliness,



CASE III. Relapse (Second part).

fever, weakness, headache, slight cough, lack of appetite, and constipation.

Status præsens Spleen one and one-half inches below margin of ribs, roseola present, no diazo-reaction. Widal positive, 1–20.

September 20, dismissed. Returned on October 10, with 104.5° fever. Diffuse erythema of skin, large spleen, diazo-reaction present. Widal positive, 1–20; leucocytes, 7000.

October 26, dismissed.

In perusing this table and the histories we may draw the following conclusions with regard to the serum treatment of typhoid fever:

1. In most cases the disease does not seem to have been materially shortened.

2. Either on the day after the first or on that after the second injection a marked reduction of fever usually occurs; this is about 1 to 2 degrees lower than previous remissions and lasts longer. The general condition, especially the sensory and nervous symptoms, are much improved, so that some grave complications, such as sleeplessness, headache, restlessness, delirium, disappear nearly entirely.

As may be seen from the table the serum treatment of our cases was begun rather late, usually from the ninth to the fifteenth day. We may expect the results to be still better, if these injections can be practised still earlier. Chantemesse is certainly right in recommending injections, even in cases that are only suspicious of typhoid fever before the diagnosis is certain.

My material is too small to allow far-reaching conclusions. This much, however, we can assert, that the serum treatment of typhoid fever temporarily reduces the fever and improves the general condition, so that patients go through a more rapid and safer convalescence. The injections do not seem to be connected with any dangers. With the many injections given we never had any serious trouble; in two cases a passing erythema of the skin was observed at the point of injection, and in one case chills used to follow for from one-quarter to one half hour. Abscesses were never observed. We therefore believe that the serum treatment of typhoid fever is now already of decided value. There is no doubt that we shall soon have more potent sera, with which we may obtain more favor- able results. At all events the treatment originated by Chantemesse certainly means a lasting progress in the treatment of typhoid fever.

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80 EAST SIXTY-THIRD STREET.

THE RÖNTGEN OR TRI-ULTRA-VIOLET RAYS, THEIR NATURE, APPLICATIONS, AND DERMATOLOGICAL EFFECTS.

By FRANCIS LE ROY SATTERLEE, Jr., A.M.,

DIRECTOR OF THE PHYSICAL AND X-RAY LABORATORIES, NEW YORK COLLEGE OF DENTISTRY.

In the latter part of the year 1895, Prof. Wilhelm Konrad Röntgen, while experimenting with a Hittorf tube of high vacuum covered with black cardboard, noticed that a screen "washed" with barium-platino-cyanide crystals gave forth a fluorescence in a darkened room. This accidentally discovered phenomenon was the nativity of what is now known as the ultra-ultra-ultra-violet or Röntgen ray, but which was then called, from the modesty of its discoverer, the "*x*" or unknown ray.

Before proceeding to narrate the course of investigations that followed this new development in the realm of science, it would be well, in order to have a clear understanding of the subject, to review some of the earlier researches with tubes of varying degrees of exhaustion made by Faraday, Geissler, Crookes, Goldstein, Hittorf, and Lenard.

Michael Faraday was the pioneer in these investigations; as early as 1838 he conducted a series of experiments with an electrical discharge through rarified gases, and invented the terms anode and cathode for positive and negative electrodes. He was followed some time later by Gassiott whose ideas were afterward carried out by Geissler of Bonn, the first to construct the tubes that now bear his name.

Up to this point the investigations proved but of little importance beyond the fact that any rarified gas gave forth a peculiar light or phosphorescence when subjected to an electrical discharge. Air produced a pale violet glow, hydrogen a red, and carbon dioxide a steel blue shimmer.

It remained for Professor Hittorf, the celebrated electrician of Munster, to experiment with a Geissler tube of higher degree of vacuum. He noticed an increasing resistance to the coefficient of rarification. He also observed that the glow proceeded in straight lines from the negative electrode, casting a shadow of an interposed object upon the opposite wall of the tube and furthermore disclosed the fact that these rays were capable of deflection by a magnet.

Mr. Crookes, afterward Sir William, was the next investigator to enter the field of research, and in 1878 made some interesting announcements that did a great deal toward popularizing the subject. He experimented with the rectilinear rays of the Hittorf tube, and devised the theory that the rectilinear path was caused by the current attaching itself to freely moving molecules of gas as it left the cathode and proceeded in parallel lines with great velocity and bombarded the opposite side of the tube, or other intervening object, with terrific impact. He also succeeded in focusing these rays of rapidly moving molecules by curving the cathode, thus giving it the form of a concave mirror, and thereby projecting the rays to a common point, instead of in parallel lines. Objects placed at the focus of these rays were heated to even whiteness and this was supposed by Dr. Crookes to be caused by the "bombardment" from the enormous quantity of projected molecules.

Simultaneously with this announcement by Sir William Crookes, M. Goldstein came forward with the theory that the phenomenon was caused by a transmission of energy and not by the bombarding with actual particles, but he could not give any definite explanation of his "transmitted energy."

Professor Weidemann of Leipsic, in 1883, was the first to ascribe to the "cathode rays" the possibility that they were in reality light waves of extremely short wave length at the remote end of the spectrum, far beyond the violet light. Paul Lenard, a pupil of the famous Professor Hertz, also believed in this hypothesis, and in a series of experiments conducted at Bonn, proved conclusively that there was not only evidence of cathode rays outside the generating Hittorf's or Crookes' tube, but that furthermore, the rays even penetrated a thin sheet of aluminum foil, a fact that none of the investigators previous to this had so much as dreamed of.

Prof. J. J. Thompson of the Cavendish Laboratory, Cambridge, by an ingenious method afterward succeeded in actually measuring the velocity of these "cathode rays," as they began to be termed, and this velocity he approximated to be 200 kilometers, or about 124 miles a second. It might be well to mention in reference to Professor Thompson, that he advocated still another hypothesis in regard to the nature of the cathode rays similar to, yet differing from, that of Crookes, namely, that the molecule of electrically charged gas, or atmosphere, splits up into two or more "ions." This term, meaning traveler, was so named by Faraday, who has added largely to the nomenclature of electrical science and which has long been used in connection with such electrically charged portions of matter as were known to exist in the passage of a current of electricity through a liquid.

After a long period of dormancy following the assertions of Paul Lenard, the world was once more aroused by the proclamation of Prof. Wilhelm Konrad Röntgen in the year 1895, that he had discovered an entirely new ray differing from any of the cathode rays that had formerly existed.

The strange fluorescence of platino-barium-cyanide crystals, on exposure to what Professor Röntgen had considered to be cathode rays, led this scientist to continue his investigations along new lines and to experiment more specifically with the fluorescence with most surprising developments. He found that his fluorescence still continued even when a book of 1000 pages was interposed between the screen and the source. He also found that this fluorescence had an actve influence on a photographic plate. Professor Röntgen next proceeded to experiment with objects of varying transparencies which led to the discovery that a human hand interposed between the generating tube and a photographic plate disclosed on development all the bones of the hand, since the ray had penetrated the flesh more easily than the denser bone.

This revelation was received by the scientific world with amazement, and the enthusiasm of the medical profession was henceforth enlisted.

In Professor Röntgen's original communication to the Wurzburg Physico-Medical Society, dated December, 1895, he describes some of his experiments and the conclusions that he deduced from them. Among other things, he showed that the rays were not polarizable, nor could they be reflected, consequently he found that they could not be concentrated by lenses. He also found that the transparencies of different bodies under the influence of the *x*-ray depended entirely upon their density.

This law he based on the following experiments (to quote from his communication):

"Sheets of platinum, zinc and aluminum were rolled until they appeared to be of almost equal transparency" (by the photographic plate). "The following table gives the thicknesses in millimeters

the thicknesses relative to the platinum sheet, and the density:

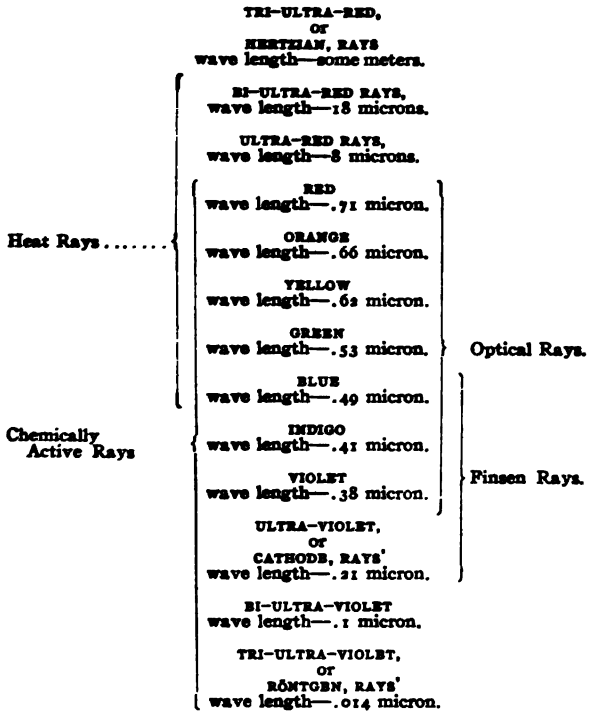
Thickness	Relative Thickness	Density
Pt. 0.018	1.	21.5
Pb. 0.05	3.	11.3
Zn. 0.10	6.	7.1
Al. 3.5	200.	2.6

"It is to be observed in connection with these figures that although the product of the thickness into the density may be the same, it does not in any way follow that the transparency of the different metals are the same. The transparency increases at a greater rate than this product decreases."

Professor Röntgen concluded his paper with the hypothesis that the *x*-rays were perhaps due to longitudinal vibrations of the ether.

Since that date there has been a large number of investigators in the field, many of whom have advanced some hypothesis or another concerning the exact nature of the Röntgen rays, but the old theory that Professor Weidemann brought forward in 1883, in reference to the cathode rays, was applied to the Röntgen radiation and is now the only explanation that has survived the critics of the scientific world.

In the accompanying diagram I have prepared a practical presentation of the Weidemann theory, showing the relative arrangement.



Note—One micron=one-millionth of a meter.

Starting at the very lower end of the spectrum, we have the Röntgen rays or, as I have called them, the tri-ultra-violet rays with an estimated wave length of .014 micron. The next step I have called the bi-ultra-violet or Bequerel rays, consisting of the rays given off by such radioactive substances as radium uranium salts, polonium, and the like, with a wave length of .1 micron. Next, we have the ultra-violet radiation known as the cathode rays of Weidemann. Crookes, and Lenard, of about .21 micron in length. Above this come the violet, indigo, blue, green, yellow, orange, and red rays with their estimated respective wave lengths, and still beyond these are ultra red and, as I choose to call them, the bi-ultra and tri-ultra-red rays. Between the last named and the bi-ultra-red division of the spectrum there exists a gap which is accounted for by the difference in the wave length of the two rays. What occupies this gap we have been so far unable to discover. The tri-ultra-red rays consist of the electromagnetic or Hertzian rays, now utilized for wireless telegraphy.

I have been for some time past investigating the relations of these Hertzian rays with those of the ultra and bi-ultra-red rays with a view to establishing a classification of the rays that occupy the gap. It is my earnest conviction at the present time that these unknown rays are of an electrical nature. I believe that in this space we have the gradual descent from the known electromagnetic rays of tremendous wave length through the different shades of magnetic and electrical phenomena of shorter wave length, down to the thermoelectrical rays and the known thermal rays that compose the ultra and bi-ultra-red rays of about 1 to 18 microns in length. I am, I believe, the first to promulgate this hypothesis, and I hope that in the near future I may so complete my investigations that I can then offer to the scientific world the proof that is now lacking to my theory.

Let us now consider the methods of producing the Röntgen rays. This can be done in three ways—by means of the static machine, the Tesla coil, or by the induction coil. The first two are now seldom used, since with the induction coil of the present time we have the ideal method.

When Professor Röntgen's discovery was first made known, the physicians and other scientists resorted to the static machine as the generating source of electricty to a great extent, but this apparatus gradually gave way to the induction coil, since with the latter a more powerful and energetic ray was produced, consequently diminishing the length of exposure to a minimum.

The Tesla transformer, or coil, was also used by some, but although very powerful rays were generated in the vacuum tube, the potential of the current was very high and frequently resulted in the puncture of the tube.

An induction coil has been recently constructed especially for Röntgen-ray work, which has proved to be far superior to any that have hitherto been used. This instrument when used in connection with a special form of interrupter will generate rays that have never been equaled either in intensity or quantity. It will light up any tube that is made. These coils are known as the Wappler coils.

The interrupter must be of the electrolytic order and capable of making 250 breaks a second.

To complete this apparatus we should have a suitable rheostat, a commutator, and a supply of vacuum tubes. The latter requisite is really the most important in *x*-ray work, since even with the best coil and outfit poor results will be obtained if the operator has not a good tube.

There are many kinds of tubes, and it might be well to give a little space to their construction and theory.

Röntgen ray tubes may be said to be divided into three classes, namely, the non-regulating vacuum tube, the adjustable vacuum tube, and the self-regulating tube. A simple form of the first class consists of a glass tube with two elongations into which are introduced two electrodes. The negative electrode has an aluminum concave disk mounted at the end, while at the positive electrode we have a flat disk of platinum placed at an angle of about 45 degrees. The tube is exhausted to about a millionth of an atmosphere. The induced current enters the tube through the cathode by means of a wire, and cathode rays are formed. These rays fall upon the anode disk, and some of them are transformed into Röntgen rays and are diffused in all directions on the side of the anode facing the cathode. The electrical current passes

through the anode and thence through the wire back to the induction coil. This form of tube is called a simple-focus tube, from the fact that the cathode is concave and tends to focus the cathodic stream upon the anode, which is placed at an angle, thus acting as a reflector to the rays.

Tubes of the second class consist of adjustable-focus tubes of the anticathode type. In this tube we have a primary and secondary anode. The former is called the anticathode and is identical to the anode of class one, while the real anode acts as an auxiliary electrode to catch any of the overflow cathodic stream that might pass the anticathode and to convey off the surplus electricity. The two anodes are connected by a wire. A regenerative attachment to renew the gas supply to the tube when the vacuum has been raised by continued use. consists of a platinum wire fused into the neck and, like most of the metals of that group, has the property of giving up its occluded hydrogen, upon the application of heat. A protecting glass cover or cap fits over this attachment. It follows therefore that when the cap is removed and the wire heated in a spirit or Bunsen flame to a cherry redness, the occluded gas will be given off in the tube, thus lowering the high vacuum that exists.

The third class is composed of tubes of the self-regulating vacuum type. A small bulb containing a gas is directly connected with the main tube and is surrounded by an auxiliary tube which is of low vacuum. The anode of the small tube is opposite the discharge bulb, while the cathode is connected with the anode of the main tube. An adjustable rod is connected with the minor anode and acts as a spark-gap regulator. The main tube is of high vacuum, and when a current is passed through it, it will take the course of least resistance through the low-vacuum auxiliary tube. This will send cathode rays toward the protective platinum tip of the discharge bulb, and at the same time generate heat which will liberate some of the confined gas into the main tube till the vacuum is so lowered that the current will easily pass through it. When the tube again reaches the stage of very high vacuum through continued usage, the same operation is automatically repeated.

It would seem from this description that the last class of tube is superior to all others; but there is a drawback from using this type of tube, and that is the tendency it has to liberate too much gas and reduce the vacuum in the main bulb unduly.

On the whole, I have found the second class of tube the most satisfactory in the long run. This tube is made in several forms in which the anode has some cooling attachment. A great disadvantage with most Röntgen-ray tubes is that the platinum anode sometimes becomes overheated and even melts. To remedy this difficulty, tubes have been constructed with platinum anodes mounted on cast-iron bases that extend back into the neck of the tube. With this contrivance the danger of overheating is minimized, since the iron core conducts the heat away from the platinum disk. Another form is where the anode is mounted on the end of a glass tube of about one-half to one inch in diameter fused into the bulb. This tubular anode contains water, which acts as a cooling agent to the platinum. A wire running through the water tube connects the disk with the electrode terminal.

Of all the tubes that are made, I think that the Mueller tube, of Hamburg, is perhaps the most reliable and satisfactory. The gold medal was awarded them by the Röntgen Society.

Before leaving the subject of *x*-ray tubes I wish to call the reader's attention to a comparative table of tubes of high and low vacuum which I have prepared:

High-Vacuum Tubes.	*Low-Vacuum Tubes.*
One millionth per cent. vacuum.	One thousandth per cent. vacuum.
Hard tubes.	Soft tubes.
Small volume of rays.	Large volume of rays.
More penetrating rays.	Less penetrating rays.
Giving off more electricity.	Giving off less electricity.
Less contrast in radiograph.	More contrast in radiograph.
Bones white with fluoroscope.	Bones black with fluoroscope.
Less danger of dermatitis.	More danger of dermatitis.

The original fluoroscopic screen used by Professor Röntgen was composed of platino-barium-cyanide crystals.

This was superseded very shortly by the discovery of Mr. Edison that a screen coated with tungstate of calcium crystals exceeded in fluorescent qualities the platino-barium cyanide of Dr. Röntgen. Since then many experiments have been made with fluoroscopic screens, with the result that Mr. C. A. F. Kahlbaum of Berlin has placed upon the market a screen which has proved far superior to any hitherto manufactured. He has, like Professor Röntgen, made use of platino-barium-cyanide crystals, but they are of a better grade and are somewhat larger. His discovery lies entirely in the method of making the crystals. A good tube, a Kahlbaum screen, and a Wappler coil, would make as perfect a Röntgen-ray outfit as any operator could desire.

To operate the Röntgen ray successfully, the operator must have, besides the above-mentioned apparatus, a suitable laboratory, a photographic dark-room and its accessories, and a lead-lined chest for storing plates and films. The last-named may be omitted if the plates are kept sufficiently far away from the laboratory, as the rays have a very great penetrating power.

I have spoiled a supply of plates that were inclosed in an iron chest, the walls of which were a quarter of an inch in thickness, and which was over thirty feet from the operating tube.

The laboratory should be a large room that can be made absolutely dark. It should have dark-colored ceiling, walls and floor. A rack should be made on one of the walls to hold six or eight tubes. There should be a firm table with a drawer and casters upon which to place the coil, rheostat, and commutator; a shelf underneath the table should hold the interrupter; an adjustable tube holder, that stands about three or four feet from the floor, and a suitable operating table with chairs, and an extra table or desk should be added to the laboratory and to complete the furnishings, a curtained-off corner should be available for a dressing room. If the operator is going to do dental work as well, a dentist's chair will be found very useful.

To operate: the coil, rheostat, commutator, and interrupter must be connected with the electric-lighting circuit (or storage batteries may be used) in series; next, the two terminals of the coil should be connected with the two electrodes of the tube by means of wire. I have found that the ordinary ten-ampere fuse wire is the best for the purpose. The current is then turned on with plenty of resistance in the rheostat. If there is a number of moving circles of green light in the tube, the polarity is inversed and the commutator must be shifted; if there is an even greenish-yellow light in the tube proceeding in a hemisphere from the anode disk, the polarity is correct. If the light is very weak and intermittent, there is too much resistance in the rheostat, but care must be taken not to throw out all the resistance till the tube has been used for some time, as there is a great danger of puncturing the glass wall of a new tube. The light in the room can now be extinguished, and after waiting a few minutes for the eyes to become accustomed to the darkness, the hand may be held in front of the tube

and the fluoroscope can then be used to examine the bones. If the shadow of the flesh appears very black and the bones hardly visible, the tube is either too low or there is too much resistance in the circuit. If on the contrary the flesh is hardly visible and the bones appear very white, the tube is too high, and must be lowered for radiographic work unless the operator wishes to take a picture of the pelvis, hip, or thorax. In a tube suitable for fluoroscopic examination or for general radiographic work, the bones of the hand should appear quite dark and well defined, while the outline of the flesh should be very distinct.

When the picture is to be taken the patient should remove all clothing from the part to be taken, and (if any part of the body but the hand or forearm) should lie upon the operating table.

This table consists of a stretcher made of canvas and mounted on four firm legs with casters. Over the canvas are three boards that slide along the frame work of the table. The patient lies upon the boards, with the part of the body to be radiographed resting lightly upon the canvas. A photographic plate, suitably wrapped first in black and then in yellow paper, is placed under the body with the sensitized side touching the body. The tube is then adjusted in the tube-holder so as to be directly over the part of the patient to be taken, the surface of the anode being parallel to the part to be radiographed. The current is then turned on and the lights extinguished. When turning off the current, care must be taken not to remove the plate for two or three minutes after the light in the tube has completely disappeared, or else a blurred picture will be the result, due to the residual rays left in the tube.

Before taking the picture, the part to be exposed should first be viewed with the aid of a fluoroscopic screen, if possible, in order to ascertain if the tube is in good condition and the picture shows sufficient contrast.

Very little can be said about the length of the exposure, since every tube and every coil has its own time standard, which the operator must ascertain by experiment.

The average time required with the improved apparatus now upon the market is only from two to six minutes for the pelvis or thorax, while radiographs of the hands, teeth, and forearms are made in a few seconds.

It has been proven by some operators that if a fluorescent screen be interposed between the plate and the body, the time of exposure can be materially lessened. This is true; but the resulting picture is very poor in detail and has a granular appearance that renders it useless for diagnostic purposes.

Soon after Professor Röntgen made his announcement in 1895, scientists all over the world took up the subject and started a campaign of investigation; and in the course of these experiments many persons were subjected to the direct exposure of these unknown rays. It soon began to be noticed that when a patient or subject had been under the influence of the *x*-rays for any length of time, an acute attack of skin inflammation or dermatitis was the result. This unlooked-for phenomenon was at first attributed to some other cause, till at length the increasing number of cases convinced physicians in general that it was the *x*-ray itself that was the seat of all the evil. Naturally, this was the theme for many a newspaper article, and in fact such a furor was set up that many operators ceased their experimenting entirely. This state of affairs lasted for some time, increasing at every new case that was recorded of "*x*-ray burns," and "Loss of hair and finger nails," and even "Gangrene resulting from *x*-ray burns." This new development did a great deal toward discouraging the use of the Röntgen rays as a special branch of surgery, and indeed came near inflicting upon the wonderful discovery its death blow. But such was the case, and if it were not for a few faithful followers, the Röntgen rays would have drifted into the sea of oblivion.

The cause for these burns was for a long time thought to be the electricity given off from the tube, and it was not till Dr. Robert Keinbock of Vienna began a series of investigations that the real source of the damage was discovered. He submitted a large number of people to tubes of very high vacuum. The exposures were from ten to fifteen minutes' duration. After eighty sittings few effects were noticed beyond a slight irritation of the epidermis, which healed simultaneously with cessation of the sittings. He then substituted low vacuum tubes for the high ones, and after comparatively few exposures the patients were all suffering from intense inflammation of the skin.

Dr. Keinbock then formed his conclusion that the electrical discharge was not active on the skin, but it was the action of the rays themselves that produced the dermatological effects. His theory was based on the fact that a low vacuum tube was far richer in Röntgen rays than the high ones, and that the hard tubes were capable of giving off more electricity than soft ones He further proved this hypothesis by submitting a rabbit to the rays of a low tube which was so arranged that the surface of the anode was perpendicular to the body of the animal. He found that dermatitis was set up on the skin of the rabbit, starting from the projection of the anodic surface and extending toward and beyond the projection of the cathode. This seemed a most conclusive proof, since the tube was equally charged with electricity on one side of the anode as the other, and the greatest intensity of the rays was in a direction perpendicular to the surface, and decreased as the cosine of the angle of obliquity in any direction. At this rate there would be practically no rays in a direction at right angles to the axis of generation or in the axis of the ordinates.

This theory is now looked upon as the correct solution of the mystery, although the exact dermatological transformation that goes on is still unproven. It is supposed to resemble a sunburn in its pathological effect.

A theory was brought forward sometime ago that minute particles of platinum were thrown off and imbedded in the skin, thus causing the irritation. This was absolutely disproved by Professor Gilchrist, who had a section of skin from a very bad case of dermatitis chemically analyzed, and it was found to contain not the faintest trace of platinum.

No means have so far been discovered to prevent the development of dermatitis, if the patient is exposed any length of time, or if the sittings are often repeated.

Since the advent of the new and approved Röntgen ray apparatus there is no necessity in exposing the patient to the rays more than a few minutes at any one time (unless the ray is being used as a therapeutic agent), and therefore it is only the carelessness of some inexperienced operator that will allow a patient to become burned.

The only precaution that an operator need take beyond not exposing a person to the ray for more than twenty minutes in the aggregate, unless a period of two or three months intervenes, is to cover all the portions of the body that are under

the influence of the rays and are not necessary for the operation, with heavy pieces of lead foil, thus cutting off all the rays from unnecessarily penetrating the rest of the body.

A case of dermatitis once developed, it is very hard to make it yield to any treatment, and it will require at least several months for the lesion to subside. However, in the course of experimenting, I have found that the prescription, an application of one part of carbolic acid in eight parts of rose-water ointment made to the inflamed parts on retiring, will tend greatly to reduce the irritation. This formula was the discovery of my father, Dr. F. LeRoy Satterlee of New York City, who has used it in his practice for many skin irritations for the last thirty years or more, with most satisfactory results.

It was at his suggestion that I applied it, with excellent results, to a case of dermatitis on my own hands, brought on by constantly being around the discharge tube and often interposing my hand between the tube and fluoroscope to judge the definition of the ray.

The Röntgen ray has many applications in science, and even in the arts we have some uses for its peculiar properties. It is unnecessary for me to dilate here upon its general applications, since they have been discussed in almost every magazine or journal all over the country. I will, however, bring up some of its special uses and recent applications.

There is an impression now among a great many scientists that the Röntgen ray is a positive agent for diagnosis. This idea is decidedly erroneous, since distortions so frequently occur in the radiographs. A proof of this is the fact that where formally radiographs were used quite often in the courts, they are now seldom admitted as evidence, for the reason that radiographs of a fracture, for instance, can be manufactured where the fracture never existed.

This does not, however, detract from the general usefulness of the rays as an important factor in surgical diagnosis, since by its use a physician or surgeon can operate with the greatest certainty in regard to the supposed abnormality or condition.

In dentistry the Röntgen rays have become a necessary adjunct. By their aid, non-erupted teeth may be at once located, deformed and abnormal roots can be followed in their sockets, diseases of the pulp canals examined, broken instruments, and foreign bodies and fillings can be outlined, as well as abscesses of the alveolar process and necrosed conditions of the maxillæ.

For purposes of instruction in some branches of science the rays present a practical and unique method, as, for instance in physiology, lantern slides can be made from actual radiographs of the stomach during the several stages of digestion, the subject first having taken subnitrate of bismuth (or some other harmless substance opaque to the Röntgen rays) mixed with the food. This will outline the organ and its contents, showing in a most beautiful and realistic manner the seven different phases of digestion.

In anatomy, radiographs of the bones and joints can be converted into lantern slides and present to the student far better and truer pictures than can be made from woodcuts or observations of an articulated skeleton. Also, Röntgen ray clinics can be made of practical value to the student.

As a therapeutic agent the Röntgen rays seem likely to become more serviceable to humanity than even its application in surgical and medical diagnosis.

The rays have been used with unquestionable success in treating some of the most formidable diseases that afflict the human race, among which can be numbered: Lupus vulgaris; lupus erythematosus; carcinoma, external, scirrhus and epithelioma; enlarged glands, scrofulous or otherwise; sycosis and favus; molluscum contagiosum; phthisis, pulmonary and laryngeal; rodent ulcer; hypertrichosis; pruritus; neuralgia; chronic eczema; acne; warts, etc.

In many cases it may be necessary to produce dermatitis in order to heal the more serious lesion, while in others, comparatively, a few treatments will suffice to bring about an effective improvement of condition.

A great deal has been said on the permanency of the cures achieved by the Röntgen rays, but there are many cases on record in which a chronic condition has been completely removed and no reappearance had developed in two or three years. Of course beyond that time we cannot tell what may happen, but it seems very probable that in the majority of cases the cure is permanent.

In Röntgen ray photography the resulting picture is called by a variety of names, as a radiograph, radiogram, skiagraph, skiagram, cathode photograph, shadowgraph, electrograph, skotograph, and Röntograph.

In a radiograph, unlike a photograph, no camera is used, but the plate, properly wrapped in light-proof paper, is exposed to the generating Röntgen ray tube with the object to be taken interposed between the two and touching the film side of the plate.

A radiograph differs from a photograph mainly in the fact that the former is a shadow of the object taken, whereas the latter is a reflected image. This difference serves in some ways to reverse the general ideas in photography governing the development of plates. A "plate," as it is called either in photography or radiography, consists of a piece of glass coated with a solution of gelatin and either silver chloride or silver bromide (usually the latter). A plate thus prepared is sensitive to all light, since the action of the actinic rays decomposes the silver bromide AgBr. into the sub-bromide of silver Ag_2Br. This chemical change does not visibly affect the plate, but when it is subjected to the action of a reducing agent, as a "developer," the sub-bromide of silver is again partially changed to metallic silver. Now the plate is immersed in a "fixing" bath, which finishes the reduction of sub-bromide to metallic silver and makes it permanent and dissolves off all of the silver bromide unaffected by the light. This constitutes the technique of photography. The same changes take place in radiography, except that the image is a protected portion of the plate and remains after exposure to silver bromide, while the part of the plate not occupied by the image is converted by the action of the Röntgen rays, as of ordinary light, into the sub-bromide of silver.

Thus we have a finished negative with a dark background, while in photography the background is generally light. The treatment of the radiographic negative is practically the same. A very slow developer—that is, a weak solution—is desirable, since there is but little detail to be had compared with the photographic negative and slow development is necessary to bring it all out. A plate may be "developed up" so that the image is apparently entirely obliterated and it will reappear with good intensity in the "fixing bath."

A developer that is recommended for *x*-ray plates is the "Ortol Normal." I have used it with very good success in my radiographic work, and have found that it brings out the detail well. I have found that a developer of hydochinon and

metol for contrasts used in conjunction with the above gives excellent results.

A practical scheme for numbering plates and films simultaneous to the taking of the radiograph, devised by Dr. F. VanWoert of Brooklyn, is to stamp the numbers in a thin strip of aluminum and then fill in the indentures with red lead. Those numbers are then cut from the strip in small squares and are laid inverted upon the envelope of the film or plate to be taken (on the sensitive side). A gummed label is then placed over the number to keep it in place. Now when the plate is exposed the image of the number appears on the negative, since the rays penetrate the aluminum more easily than the red lead.

There are many other suggestions that might be added to the radiographic notes, but they border on pure technique of an elementary nature which I have striven to eliminate from this dissertation.

It is now just seven years since the Röntgen ray was made known to the world, and in that time its development has gone on uninterruptedly, except for a short time when the public were up in arms at its dermatological "offences." But it was this very "offence" that gave to the scientific investigators the impetus necessary for the discovery that the rays were rich in curative as well as damaging effects. The outcome of which is that thousands of persons are now perfectly well and strong who prior to this time had been suffering from chronic disturbances. Who can tell what the future of such an all-powerful agent is to be? Was it not many years after the actual discovery of electricity that the benefits began to be felt? Is not electricity still in its infancy? If such is the case, what are we to think in regard to the development of the Röntgen ray?

The tri-ultra-violet rays of the future will undoubtedly disclose rare and unique wonders to the never tiring delvers in the vast field of science.

148 East Eighteenth Street

X-RAY DERMATITIS AS INFLUENCED BY IDIOSYNCRASY.

By A. D. ROCKWELL, M.D.,
NEW YORK.

While it is yet too early in the use of the *x*-ray to enunciate positive and unalterable rules of technique, yet to avoid injury and accomplish good several important points must be considered.

No one wishes to produce a violent dermatitis; yet it is the easiest thing in the world to do this, and occasionally it is not very easy to prevent it.

To be forewarned is to be forearmed, and the beginner in *x*-ray work ought thoroughly to appreciate the fact that susceptibilities to *x*-ray effects vary as widely as to other physical influences. We do not question the existence of idiosyncrasies in relation to the direct action of the sun's rays. to various external and internal methods of treatment, to psychical influences and even to the food we eat for the preservation of life. Nevertheless, it has been frequently stated that idiosyncrasy is a negligible quantity in the use of the *x*-ray both in diagnosis and therapeutics.

Unpleasant and unsatisfactory results are too often ignored in many an elaborate clinical report. Failures as well as successes, injuries inflicted as well as the good accomplished, should be frankly told.

In this way and in this way only can any medical or surgical procedure be perfected, with conservation of the best interests of both physician and patient.

While the condition and position of the tube and the time of exposure are the essential features *x*-ray treatment, yet, with every ordinary p caution, cases are sometimes met which defy th all, and a violent dermatitis suddenly breaks fo As an interesting and instructive illustrative c I refer to a patient sent to me for *x*-ray treatm by Dr. V. P. Gibney. Miss M. had suffered l and severely from a constitutional tuberculous c dition chiefly affecting the spine. Her pain a deformity had been greatly relieved by orthope treatment, but subsequently the glands of the n became permanently enlarged. With a tube medium penetrating power and a shield protect the surface surrounding the two enlarged glan the treatment was begun January 27, 1903. distance of the tube was eight inches and the ti exposure five minutes.

This treatment was repeated on the 31st i and on February 3 and 7, resulting in not the sli est symptom, objective or subjective. A new t of somewhat greater penetrating power now placed the old one, and in order to bring the lo part of the face, which was distinctly nodular a hard, within the field of exposure, the shield dispensed with. On February 12 the treatment of five minutes' duration, at a distance of six inch February 15, time, eight minutes, same distan February 19, time, ten minutes, same distan February 24, time. ten minutes, distance f inches.

With the exception of some slight itching, symptoms had been observed. but on the morni following the last application, an intensely acti and painful dermatitis suddenly developed.

This did not go on to the stage of actual necros but there was widespread destruction of epiderm associated with profuse watery discharge. Th corium itself was evidently somewhat involved, that when perfect healing took place after t lapse of two or three months, the new skin form tion was distinctly lighter in color than the ol which was perceptibly tanned. It remains to s that even this brief treatment was more or le effective in reducing the local pathological co dition. The deposits along the angle of the low jaw entirely disappeared, while the glandular e largements decreased perceptibly in size.

Aside from indicating a marked susceptibili to the effects of the *x*-ray, this case is a stro argument in favor of the cumulative theory *x*-ray action.

In no other way, it seems to me, than by this co bination of idiosyncrasy and cumulative action, c we explain the fact, that after carefully conduct *x*-ray exposures extending over a period of o month, with no preliminary symptom of itching burning worthy of mention, a violent and persiste dermatitis appears with hardly a note of warning.

Although a number of slighter burns have occurr in the personal experience of the writer—and, inde in a large proportion of cases it is quite impossible succeed without exciting more or less surface redn and irritation—this is the only case in which, wi every ordinary precaution, there was so severe after-result. However rare such cases are, yet th do occur with sufficient frequency to demand c stant watchfulness. Better far prolong the tre ment than to run even a remote danger of an act necrosis.

Above all, never fail to interrogate each patie as to any special idiosyncrasy, such as to sunbu to ivy poison or to any external application. a recent article on "The *X*-ray and the Finsen Lig in the Treatment of Lupus,"* I alluded to a case

*Medical Record, April 11, 1903.

such unusual susceptibility that the patient was compelled to abandon *x*-ray treatment for the actinic rays of light.

In this case, even when no appreciable dermatitis was evident, the slightest exposure caused most unpleasant sensations of burning and itching. In that article, however, I neglected to say that this patient told of a susceptibility quite as marked to the influence of the poisonous ivy. I afterward learned that she had been three times poisoned in this way, and on two of these occasions she had not even been in contact with the ivy leaves or vines.

I agree with Freund, that in every case, without there are most important reasons for haste, there should be an interval of rest after the first two sittings. I would suggest that these first two sittings be three days apart, with an interval of ten days before the third sitting, one week before the fourth, and four days before the fifth. If, in one week from the last exposure, there is no severe reaction, it will, I think, be perfectly safe to give treatment every other day and perhaps daily.

This method may to some seem an unnecessary precaution; but if the usual precautionary measures even occasionally fail, unusual ones, while perhaps burdensome, cannot be called unnecessary.

Especially are they not unnecessary—if interrogation on the points already alluded to shows evidence of any special idiosyncrasy. "A burnt child dreads the fire," and in all cases of superficial non-malignant skin diseases, at least in acne, in eczema, in favus, in sychosis, in hypertrichosis, etc., extreme precaution should be the beginning and end of *x*-ray interference.

The treatment of advanced malignant conditions is quite another matter. A burn, even of some severity, may be of small account relatively; but in simple, uncomplicated skin affections of a benign character, a pronounced dermatitis of the second or third degree might be regarded as worse than the disease itself.

35 East Forty-fourth Street.

LIQUEFIED AIR.*

By A. CAMPBELL WHITE, M.D.,
NEW YORK.

Only quite recently the writer gave a clinical demonstration of the treatment of an inoperable intrauterine carcinoma with liquefied air at one of the hospitals of this city before a number of physicians. I was not only impressed by the lack of knowledge displayed by almost all of those assembled as to the uses to which liquefied air might be applied in medicine and surgery, but was astonished to find such complete ignorance of the physical properties of the liquid itself. Hardly anyone present had ever even seen liquefied air before. Many had heard of its successful use in treating carcinoma and lupus, but did not appreciate that it had any possibilities in combating other more benign and more frequent lesions the body is subject to.

I am impressed with the fact, through association with physicians socially and in hospital and private practice, that this destitution of knowledge as to the physical properties and possibilities of liquefied air is not peculiar to the body of men before whom I gave the demonstration on the intrauterine carcinoma, but that only a very limited number of our profession understand or have ever seen this wonderful product.

There are many reasons why liquefied air is not generally better understood, why it has been considered dangerous, and why it has not been given a more extensive use in the alleviation of diseases. It would be infringing upon time and space to describe these reasons here. But the writer believes this an opportune time (now that liquid air can be obtained in sufficiently large quantities to be of general service) to give a brief description of the method of its manufacture, its physical properties, and to what uses we can put this agent with and without the aid of the Röntgen and ultraviolet rays, in the practice of medicine and surgery.

At a certain temperature and with a certain amount of pressure exerted upon a gas, this gas will enter into a liquid state. This temperature at which a gas can be liquefied is called the critical temperature of that gas, and the amount of pressure which is required to liquefy the gas at its critical temperature is called the critical pressure of that gas. Pressure alone does not reduce air to a liquid state, neither does a low degree of temperature alone make a gas a liquid. The critical temperature and critical pressure of air must be attained, then the air, a mixture of two gases, nitrogen and oxygen, becomes a liquid. The critical temperature of nitrogen, which is about three-fourths of the weight of the air, is 231 degrees below zero. The critical temperature of the mixture of these two gases (air) is 220 degrees below zero, therefore when air has been reduced to 220 degrees below zero, if the critical pressure is placed upon it, the air will liquefy. The amount of pressure required is from 1,500 lbs. to 2,000 lbs. to the square inch. To obtain the requisite amount of pressure is a simple task, but to obtain the required low temperature, 220 degrees below zero, has always been the stumblingblock to success.

It is well known that gas is cooled by expansion and upon this principle depends the success of the so-called Tripler and Linde methods of liquefying air. The natural air is compressed to the extent of 2,000 lbs. to 2,400 lbs. to the square inch. This is allowed to escape and pass through small openings, each protected by its own valve, into tubes which coil upon themselves over and over again, thus continually cooling off more and more the air as it enters the liquefier. These coils of tubes are what constitute the liquefier. This compressed air, now reduced to an extremely cold temperature, is allowed to escape into a vacuum, where it can readily be seen an extreme and sudden expansion must result. In this way the two necessary conditions are obtained, critical temperature and critical pressure. The result is that the liquefied air pours from the liquefier just as water does from a faucet; and, by the way, the method of drawing the air from the liquefier is just the same as turning the water on from an ordinary faucet, and the appearance of the liquid as it comes from the outlet is almost identical to that of hot water drawn from an ordinary faucet.

Sometimes natural air is cooled to 32 degrees below zero before entering the liquefier. This is not done to assist in reducing the temperature of the air so much as to freeze all the moisture in the atmosphere in order that ice will not form in the liquefier itself, which would tend to interfere with the proper action of the delicate valves which play so important a part in the reduction of the air to a liquid condition.

I have mentioned that the liquid air as it comes from the liquefier looks like hot water. Under nearly all conditions as we look at liquid air it appears hot, *i.e.* boiling. Why should it not boil? It is 400 degrees colder than anything with which it is likely to come in contact. The temperature of liquid air is 312 degrees below zero and the temperature of any receptacle we may pick up to contain it is about the temperature of the room, something over 70 degrees above zero. This makes

*In all mention of temperature in this article the Fahrenheit scale is referred to.

the receptacle about 400 degrees hotter than the liquid which enters it; the liquid therefore quickly boils away, thus entering into its original gaseous condition, the air we breathe, minus probably all of its former impurities.

Upon the boiling point of liquid air and the difference in the boiling point of its two ingredients, nitrogen and oxygen, undoubtedly depend a great deal of the usefulness of this product in medicine and surgery. On account of this difference in the boiling point the nitrogen and oxygen become largely separated as the liquid evaporates or boils. The boiling point of liquid nitrogen is 317 degrees below zero. The boiling point of liquid oxygen is 295 degrees below zero, and of liquid air 312 degrees below zero. Therefore the nitrogen must first boil away, leaving behind almost pure liquid oxygen. By apparatus based upon this principle the two gases can thus be separated, although there are other methods of separating them, and either gas or both combined, used at the discretion of the physician.

An interesting and simple experiment well illustrates this fact. If fresh liquid air is poured into an ordinary cut-glass tumbler and a lighted match is dropped into the liquid, the match will only burn as in the ordinary air, whereas if the liquid is allowed to boil for a few minutes, a steel needle to which a lighted match is attached when dropped into the liquid, will melt into a small ball which can be crushed into almost nothing between the fingers. As the steel is melting it gives off brilliant and noisy sparks, thus proving the residue of the liquid in the glass to be nearly pure oxygen.

When we consider it requires approximately 2000 degrees of heat to melt steel it seems impossible to believe that these two extreme temperatures, 2000 degrees above zero (melting steel) and 312 degrees below zero (liquid air), can exist at the same time in the same glass. Nevertheless it is true.

If it were impossible to prevent in some way this rapid boiling away of liquid air, as soon as it is made, its use from any practical standpoint would be limited to almost nothing. To confine it by main force would require cylinders of such strength and thickness as to be prohibitive, and the liquid would be confined under such great pressure that it would be impossible to withdraw it in the form of a liquid, the expansion being so great. Thus the only means of controlling the liquid was found to be by keeping its temperature just below its boiling point. To do this of course it was necessary to prevent radiation of heat, and as glass and a vacuum are both poor conductors of heat, both the glass and the vacuum are used for this purpose and in the following way: Two glass bulbs are made, one within another, the hermetically sealed space between the two bulbs being a vacuum. The surface of the inner and outer bulbs is also silvered, thus preventing the entrance of light and stopping further radiation of heat to some extent. The opening of the bulb can be closed with a felt stopper, allowing only slight evaporation of the air. Such a bulb is called the Dewar bulb. The Dewar bulb to give satisfaction should have a capacity of from four to five quarts, and the vacuum should be as nearly perfect as possible. No American manufacturer has yet succeeded in making these bulbs so as to keep the air any length of time, but the Dewar bulbs, imported from Germany, frequently are found to be so perfect as to contain the liquid without any boiling whatever, simply a slow evaporation, and I have seen air thus kept for many weeks. The Dewar bulb is the main factor in rendering liquid air of practical utility in hospital and private practice. Without it, or something to take its place, liquid air would be of little, if any service to us.

It is so universally considered that liquid air i an explosive that something should be said upo the subject. Liquid air is just as much an explosiv as steam, and no more so. If steam were confined if there were no safety valves to the boiler, it woul explode. Under the same conditions liquid ai would explode. Liquid air in an open vessel is n more likely to explode than steam is likely t explode in a teapot on the stove. In fact, liquid ai can be put in a teapot and placed upon a red-ho stove with as much impunity as water.

A lighted match dropped into liquid air cause no explosion. An electric spark can be passe through liquid air and no explosion results. I fact I know of no way of making liquid air explod other than could be used in making steam explod Alcohol frozen by liquid air is a violent explosive If frozen by any other means it would be equall as violent an explosive. It was an explosion o alcohol frozen by liquid air which caused seriou injuries to some people a number of years ago in public house, which probably did more than any thing else to propagate the idea that liquid air wa an explosive.

It is proper, also, to mention that any substanc soaked in liquid air is highly inflammable until th oxygen has entirely evaporated.

Liquid air at rest in a transparent Dewar bul has the appearance and color of the atmosphere i the distance on a clear day. Its weight and specifi gravity is approximately the same as that of wate and it obeys all the laws of fluids.

Possibly I have not emphasized sufficiently th fact that liquid air contains positively no moisture Of course, no moisture could exist in liquid ai without immediately being converted into a bod more solid and dense than ice. This fact is of n little importance to us in considering its use. It i hardly necessary to state that liquid air properl brought in contact with the tissues of the bod immediately freezes those tissues, the extent of th freezing depending upon the force with which i strikes the parts, the amount of liquid air comin in contact with the tissues, the degree of approx imation to the tissues and the duration of exposure The amount of slough consequent upon its applica tion varies from none whatever to as much as i desired, depending upon the previously mentione conditions of freezing, and whether or not the part frozen are incised. After an incision even sever freezing is not followed by a slough, for reasons whic will be given later.

If liquid air freezes the tissues, it goes without say ing, that it must be a local anæsthetic, yet I am fre quently asked whether it is or not. It is not onl a local anæsthetic, but as much or as little anæsthesi as is desired can be produced in three seconds' time The anæsthesia lasts longer and is followed by les slough than obtained by any other freezing mixtur because of its perfect freedom from moisture. I can be applied either with a swab or by a spray and limited to any area desired. When the liquefie air is applied to the skin it becomes perfectl anæmic. This is usually followed by a blush du to secondary congestion. This redness will be th nearest approach to sloughing following an applica tion, providing an incision is made, as an incisio relieves the congestion. If no incision whatever i made, the frozen part becomes elevated and look like an urticarial spot, and also resembles urticaria in that it becomes somewhat itchy. If the freezing has been sudden and severe this spot develops into a painless and non-sensitive bulla.

There is no pain attending the application as an anæsthetic, and the anæsthesia due to the paralysis of the nerve endings lasts from thirty to forty minutes. After the degree of anæsthesia desired has been obtained, a minute or more, depending upon how much the parts have been frozen, should be allowed to elapse before cutting, as the tissues are frequently too hard for satisfactory operative procedure immediately after being frozen. If the local anæsthesia is applied preliminary to the opening of an abscess or pus cavity of any kind, this delay in cutting should always be allowed, and after thorough incision and evacuation of contents of abscess it is well to spray into the cavity, particularly if a bubonic abscess, some liquid air which has been standing for a few moments. This spray, being almost pure oxygen, has a particularly salutary effect, and this freezing of the inner walls of the abscess promoting slough, making curetting of the cavity unnecessary.

It seems hardly necessary to go into detailed descriptions of the abnormal conditions of the skin and subjacent structures to which liquid air applications can be of service; for if we thoroughly understand the physical properties of this fluid the mere mention of the lesion to which it can be or has been applied, suggests a successful result. With such a competent knowledge of the physical properties of liquid air and its component parts, nitrogen and oxygen, we know it must have the power to accomplish at least the following results:

(1) Produce local anæsthesia, because it freezes. (2) Reduce inflammation: whenever cold is indicated, and in this case either the vapor or vessels containing the liquid, or the liquid air itself, can be used, depending upon the degree of cold desired. (3) Produce inflammation, and therefore local stimulation by producing a perfect localized anæmia, which is always followed by congestion. (4) Produce a slough, by causing an obliterating endarteritis and destruction of the nerve supply in a growth, by repeated freezings. (5) Antiseptic; although liquid air does not destroy pure and virulent culture of germs, it aborts their activity for a time, and with the assistance of the local congestion of the parts following the use of liquid air, nature easily overcomes and destroys their activity. (6) Produce oxygen—either in liquid or vapor form.

Any inflammatory process, where cold applications in any form is a desirable part of the treatment, can be administered to more satisfactorily and pleasantly with some method of liquid air in application than in any other way we have at our disposal. For example, an inflamed knee or other joint can be exposed to the cold dry vapor emanating from a vessel of boiling liquid air, and any degree of temperature can be given, and the temperature of the joint or part being treated, can be reduced to any desirable point. Another method, quicker in its after effects, is to soak a towel in the liquid and apply quickly and intermittently to the joint until it has been thoroughly chilled. A glass bulb filled with the liquid and rolled over the surface of the joint is another efficient means of accomplishing the same result. This latter method is particularly applicable in endeavoring to abort acute adenitis, periostitis and other inflammations. A current of air can be sent through the ice coil, providing there is protection between the coil and the skin, to great advantage when cold is a desirable adjunct in the case of acute abdominal troubles, such as appendicitis.

To produce an inflammation or stimulating effect the liquid air must be applied directly and intermittently to the skin. The best example of this effect is seen in chronic indolent ulcerating surfaces, when by spraying here and there over the surface, just sufficient to freeze for a second only, a good, healthy granulating surface will be obtained after only a few treatments of this character.

It can readily be understood that any foreign growth upon the skin or within reach of operation can be destroyed by liquid air. It may take two, three, or more applications. The only dangers to be avoided are excessive freezing, which results in inflammation which, though simple, can be much more than desired, and even result in more slough than wanted. The air inflammation subsides quickly and responds readily to hot boracic acid or carbolic fomentations. If such a growth as a nævus or any birthmark or fibroid tumor is treated judiciously it can be removed much more quickly and with less pain than by any other method. If not done too rapidly, no scar whatever is left to show its former location. The same applies to almost anything from an acne pustule to hæmorrhoids within reach of the spray tube. And here it might be mentioned that not even in extremely vascular nævi or hæmorrhoids need there be any fear of subsequent hemorrhage. I have removed a large scirrhus inoperable carcinoma of the breast with liquid air applications. This patient suffered from very severe hemorrhages as frequently as two and three times a week. From the time of the third application of the air there has never been a sign of a hemorrhage, and the same can be said of all other growths thus treated. I believe this is due to an obliterating endarteritis due to the treatment. In many of these growths I have found a discreet use of the Röntgen ray of undoubted assistance, particularly where the slough is likely to cover a large surface.

I believe liquid air must assist nature in overcoming a localized infection in somewhat the manner mentioned before, for in the treatment of carbuncles not too far advanced, not more than three inches in circumference, liquid air seems to act as a specific. In all the cases treated under this size, activity has been aborted apparently within one hour after a thorough freezing. In cases covering a larger area, it has been deemed desirable to incise crucially after it has been frozen, and then the cavity thoroughly sprayed with liquid oxygen. In those cases not incised, there have been natural openings through which the contents of the abscesses oozed freely during the stage of congestion following the freezing. This stage of congestion is exceedingly painful and lasts from twenty to thirty minutes, and should be alleviated by giving at least one-half grain of morphine previous to freezing.

If liquid air could be of service to the medical profession in the treatment of no other form of disease than carbuncle, its success in the treatment of this one lesion would be a sufficient reward for its discovery.

Almost as much can be said in favor of the utility of liquid air in the treatment of lupus, particularly lupus vulgaris. In the treatment of the vulgaris form of the disease, the liquid should be used freely and in the form of a spray. Here some inflammation is expected and desirable, the object being to transform the tubercular ulcer into a simple healthy ulcer, which is amenable to ordinary treatment. The Röntgen-ray treatment is neither a desirable nor necessary adjunct in the treatment of this form of lupus, but in the erythematous variety I believe the ray is of much benefit, applied not so frequently as to cause a burn. Here the liquid air should be applied moderately, and only to an

extent sufficient to cause gradual desquamation. By this method of treatment, although much slower, an excellent result is obtained without any resultant scar tissue.

To describe what has already been done, and the possibilities of the future, in making practical use of the vapors given off by boiling liquid air, opens up a broad field for study and deserves separate consideration. It can readily be seen of what great value a stream of cold, dry liquid oxygen, carrying with it any medication desired, would be in the treatment of such diseases of the air passages as hay fever, laryngitis, bronchitis, asthma, etc.; and again there is no reason why a liquid-air bath could not be given for the reduction of temperature in febrile conditions, and at the same time increasing or diminishing the percentage of oxygen according to the amount of stimulation desired.

To recapitulate: In liquid air we have the nearest approach to absolute zero ever obtained, excepting liquid hydrogen, which is many degrees colder and is liquefied by the assistance of liquid air. If there is any therapeutic value in cold we certainly have it in liquefied air, 312 degrees below zero, and from this we can obtain any desired temperature above that point. If there is any therapeutic advantage in having a dry cold, we have it in liquid air, for in anything colder than 32 degrees below zero no moisture can exist. That moist cold is more destructive to the tissues than dry cold, is an accepted fact. If it is desired to produce a local anæsthesia by cold, we have no means of obtaining the result equal to liquid air, for it is dry, rapid, thorough, clean, and under perfect control. That circulatory changes can be produced by the extremes of temperature, that of liquid air and the human body, is self-evident, and experiments in this direction have demonstrated its therapeutic value both in the production and reduction of inflammation, according to the method of its use. Being nothing but the air we live in, reduced to a low degree of temperature, and free from the usual pollutions of the atmosphere, it surpasses all other applications previously in use for the removal of all growths of benign or malignant character, because its application is practically painless, its action more rapid than electrical methods, and there is no systemic effect whatever following its local use.

If there is any value in the therapeutic use of oxygen, we have it in its most concentrated form in liquid air, from which it has been demonstrated we obtain liquid oxygen, and oxygen of much higher percentage and purer quality than obtained in any other way.

As I have mentioned before, if the medical profession really understood what liquid air is and what physical properties it displays, its therapeutic value would at once appeal to them. To understand thoroughly just what liquid air is, remember steam is water or liquid at any temperature below 212 degrees above zero, so is air a liquid at any temperature below 312 degrees below zero. If steam had been known to us before water, water would have been called liquid steam. As we have always known air as a gas, in its liquid state we call it liquefied or liquid air. It is the air we breathe, in a liquid form, just as water is steam in a liquid form.

537 Fifth Avenue.

To Exterminate Malaria in Austria.—The Austrian Government has undertaken to exterminate malaria on the coast of Istria. Several stations have been established at which quinine is furnished free and patients are carefully screened so as to prevent mosquitos from spreading the infection.—*The Evening Post.*

A CASE OF PRIMARY CARCINOMA OF THE LUNG DIAGNOSED FROM THE EXPECTORATION.

By FREDERICK F. C. DEMAREST, M.D.,
PASSAIC, N. J.

On March 18, 1903, Mr. C. W. called at my office, complaining of hemorrhage from his throat and pain in the right side of his chest. The patient was forty-two years old, well-nourished, weighed one hundred and fifty pounds, was five feet nine inches high, had a normal temperature with a pulse of eighty, and respirations of twenty-eight per minute.

Physical examination showed practically a normal condition of his nose, throat, and larynx, with a pool of blood lying in the trachea, at its bifurcation.

There was an area of consolidation corresponding to the upper one-third of the right lung.

Patient gave the following history: Denied all history of syphilis; appetite and digestion were good. He said the hemorrhage from his throat had occurred daily for the last nine months to the extent of about a tablespoonful of pure blood in twenty-four hours. He had been examined two years previously, at which time he was advised that his temperature was normal and that there were no bacilli in his sputum; but he had an area of consolidation at the apex of his right lung, and he was instructed to go to the Adirondacks, which he failed to do.

On March 20 he came to my office and handed me a glass jar, which contained a tablespoonful of clotted blood, and a lump of tissue about a half of an inch in length and a third of an inch in thickness, which he stated he had "just coughed up." This specimen, a slide of which is now in my possession, was taken to Dr. H. T. Brooks, and pronounced by him to be typical squamous-celled carcinoma.

I advised my patient that his trouble was a fatal one, and that the only possibility of relief in his case was that connected with *x*-ray treatment, but that I did not think such treatment would effect any cure. He, however, insisted that the treatment be tried. The patient being a merchant, who had Chicago connections, he decided to go to Chicago to make some business arrangements, and then return to me for the *x*-ray treatment.

On April 9 he returned from Chicago to me for his first treatment, at which time I noticed he exhibited a slight lack of coördination connected with his right arm and leg, *i.e.* metastatic involvement of the left side of his brain. I gave him fifteen-minute exposures at twelve inches every third day over his right lung until May 21, at which time his leg and arm became so unmanageable that I considered it unwise to have him brought to my office any longer for treatment. His hemorrhage had decreased until he expectorated only about a drachm of blood in twenty-four hours; all pain had left his right side, and the fluoroscope showed only one-third of the shadow which was seen on April 9, and his temperature was still normal.

I saw him at his home until his death from paralysis of the heart on July 2, during which time he expectorated daily a small quantity of bright blood and shreds. He ate three meals a day and digested them perfectly and suffered no pain, dying suddenly after a very comfortable day. No autopsy was secured.

This case is reported on account of its peculiar features, viz., chronic hemorrhage for nine months, continued normal temperature, absence of emaciation, and because I believe it to be the second case on record in which carcinoma of the lung has been diagnosed from the expectoration.

29 Academy Street.

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PREVENTION OF TYPHOID FEVER.

IN most of the larger municipalities of this country typhoid fever is to-day an endemic disease. In our smaller cities and rural districts its epidemic appearance is not of infrequent occurrence. These facts have been the occasion of considerable comment both in the lay and medical press. Without doubt they are worthy of careful consideration. Since contaminated milk or water supplies are the chief avenues along which the infection of typhoid fever is transmitted, municipal and State authorities, in their fight against this disease, have principally directed their attention toward safeguarding these channels against contamination. When we consider the country at large there can be no question but that the measures thus instituted have been in a marked degree effective. If this were not so the frequency of typhoid fever would equal or exceed that of any other bacterial disease with the possible exception of tuberculosis. If, however, when taken collectively the work of the authorities in this direction deserves praise rather than criticism, it is, nevertheless, true that at times typhoid epidemics develop in communities in which these preventive measures have not been properly put into execution. Such epidemics usually occur in our smaller cities and rural districts. In many of these the health and other official departments are incompletely and insufficiently organized. They are therefore unable to put into operation means which have proved efficient in large municipalities where organization is much more complete. If this is true, and it can be substantiated by careful investigation, the blame for the contaminated milk and water supplies is not so much to be attached to the individuals in office as it is to the conditions under which they are forced to perform their work. It follows, therefore, that the greatest need at the present time is a thorough reorganization in the smaller cities and rural districts of the departments under whose direction these measures of prevention must be carried on. Only in this way is it possible to bring them up to the requirements and place them in a position where they can be reasonably expected to exercise the degree of vigilance which is necessary.

After all has been said upon this phase of the subject which can be said, the fact still remains that the cause of the prevalence of typhoid fever, either in its endemic or epidemic form, is not to be found in a contamination of the water, milk, or other food supply. These are usually the avenues along which the infective agent is conveyed. The cause lies back of this. It is none other than the failure to destroy the causative bacillus as, by various routes. it leaves the bodies of those suffering from the disease, Measures directed toward this end lie essentially outside the province of officials and come directly within the sphere of the medical practitioner. It cannot be doubted but that the medical profession realize this necessity, and in the majority of instances institute such measures so far as they understand them and so far as the circumstances which surround each case permit It has recently been said that the institution of such measures is usually a farce. Any such statement as this is not only untrue, but it is a direct libel upon the honesty and intelligence of the medical profession. If this statement were true the dissemination of typhoid bacilli would be so great that the prevalence of the disease would necessarily be greater than it is. And this would be so in spite of the most careful action of the authorities in safeguarding the avenues of infection. All admit that the disinfection which accompanies a case of typhoid fever is usually insufficient, but this is very different from saying that it is a farce—which means that it is a ridiculous sham. Nor do we believe that this insufficiency of disinfection in typhoid fever is due to the widespread use by the medical profession of any patented brand of disinfectant which is lacking in bactericidal power. For if such a disinfectant were in widespread use the results of its employment would be *nil*. This would mean a much greater dissemination of typhoid bacilli than can be reasonably supposed to take place. In looking for the routes by which the typhoid bacillus leaves the body we find that they are principally two: the fæces and the urine. The bacilli are most abundant in the fæces at the height of the disease. From this time on they become reduced in numbers. At the time when convalescence is reached they are usually absent. Exactly the reverse holds true for the presence of the bacilli in the urine. Here they usually first appear during defervescence. In convalescence they reach their greatest numbers. In many cases they are present in the urine for weeks after recovery. The disinfection of the fæces has received time-honored consideration. That it is efficiently carried out in the majority of cases of typhoid fever cannot be doubted. The disinfection of the urine is of more recent occurrence. Investigation will show that at the present time if the urine is disinfected at all this is only practised during the disease or at the best only until convalescence is established. There is no doubt whatever but that in many instances those who have recovered from typhoid fever go about voiding urine which contains typhoid bacilli and that this is by far the most frequent means of the dissemination of these organisms from these patients. The realization of this condition and the institution of the proper means for combating it by the medical profession is the crying necessity.

The prevention of typhoid fever at present, therefore, requires the consideration of two factors: (1) The destruction of the causative bacillus as, by various routes, it leaves the bodies of those suffering from the disease. (2) The safeguarding of the avenues of infection. The first and most important is to be accomplished by the physician. The second requires the attention of the authorities. Neither

of these objects is to be accomplished by slander or incrimination. Education and organization are rather the watchwords.

THE LATEST VIEWS ON CANCER.

THE greater part of the issue of the *British Medical Journal* of December 12 is given over to a consideration of the cancer problem. The matter is threshed out more or less thoroughly by some of the most eminent British authorities on the subject.

The first original article in the journal referred to, is the Bradshaw Lecture delivered this year by Mr. Henry Morris. Among other reasons which the lecturer gives for choosing cancer as his subject is that "the premature publication of immature and disputable conclusions, and of crude and impossible theories has unfortunately aroused false hopes, and has attracted the impatient and somewhat credulous attention of the general public to everything connected with the word 'cancer.'" It would be well, Mr. Morris thinks, if it were possible to allay these consequences.

The various theories as to the origin of cancer, both carcinoma and sarcoma, are then reviewed. The theory, however, that the author himself believes destined to be accepted as the true explanation of the genesis of malignant new growths is that which was put forth by Durante of Rome about the year 1874, and a year or two later by Cohnheim. Mr. Morris deems this theory more consistent than any other with all that we know about malignant diseases, and which fully explains the origin of the very many non-malignant tumors.

Cohnheim's view was that the origin of carcinoma was due to the proliferation, not of mature but of embryonic epithelial cells. He held that all tumors originate from a matrix of embryonic cells which during fetal life are cut off from their proper connections, remain in an undeveloped state, are surrounded by developing and ultimately developed tissues, and thus become, so to speak, "embryonic inclusions."

The deficiency of this theory, according to Mr. Morris, is that it does not explain the formation of malignant new growths in scar tissue, in immature callus, in unabsorbed inflammatory products, and in parts after injuries and operations of various kinds. To meet this deficiency Senn added the following corollary: "The tumor matrix may be composed of embryonic cells, the offspring of mature cells which have failed to undergo transformation into higher tissue, and which may remain in a latent, immature state for an indefinite period of time, to become, under heredity or acquired exciting causes, the essential starting point of a tumor.

Mr. Morris examines separately, the evidence in favor of the separate parts of the "tumor germ" theory, namely: (1) The existence of congenital matrices of embryonic cells. (2) The existence of matrices of post-natal formation. (3) The continuance of these matrices for a time in a dormant state. (4) The causes which arouse the matrices into activity. The lecturer accomplishes his task with much success and presents a strong case for the tumor-germ theory. He also places his finger upon the weak spot in the investigations as to the cause of cancer which have been carried on for the past ten or fifteen years. These researches have been too exclusively directed to microbes and too little to cancer. It short, Mr. Morris is of the opinion that the microbic theory of the origin of cancer is decidedly losing ground.

The parasitic theory of the etiology of cancer is excellently set forth and championed by Mr. H. G. Plimmer. Among other strong evidence in support of this theory he mentions Behla's view that cancer is frequently conveyed by uncooked infected vegetables. Dr. Lyon's figures with regard to cancer in Buffalo for a period of twenty years are also quoted as confirmatory of this idea. Statistics showed that roughly for the same population, the cases of cancer in the German wards of Buffalo were double the number of those in the native, due, in Dr. Lyon's opinion, to the fact that the Germans were in the custom of eating uncooked vegetables.

Many other points tending to substantiate the parasitic theory are advanced by the writer.

Mr. G. Lenthal Cheatle, who contributes an article in which he discusses the behavior of cancer within nerve and trophic areas, is almost confirmed in the truth of a suggestion he put forward some time ago. That a possible direct or indirect nervous influence is the chief agent in directing the areas occupied by cancer, and is responsible for its spread. His reason for this belief among others, is that it is impossible to omit the subject of irritation from among the etiological factors of cancer.

Dr. Arthur Newsholme, in his article, endeavors to trace the possible association of the consumption of alcohol with excessive mortality from cancer. The following figures are given of death rates in Great Britain in support of this view. The death rate from all causes in the three years, 1891, 1986, and 1901, was 17.13 among the abstainers, and 23.52 per 1000 lives at risk among non-abstainers; while the death rate from malignant disease was 0.95 among the former and 1.32 per 1000 among the latter. In other words, if the death rate among non-abstainers in each instance be stated as 100, that of abstainers from all causes was 72.8, and from cancer was 72.0. Notwithstanding these statistics Dr. Newsholme concludes "that evidently, however, if alcohol exerts an irritating effect, this is only one of a number of conditions favoring cancer, and alcohol cannot be elevated to the position of a primary cause."

Dr. Dawson Turner and Dr. John Macintyre contribute papers on the physiological action and therapeutic effects of radium in the treatment of cancer, and Dr. Lovell Drage gives the results he obtained from the injection of a solution of sodium cinamate in glycerin.

The series of papers in the *British Medical Journal* illustrate in an extremely vivid manner both the extent of our present knowledge and of our ignorance regarding cancer, and especially as to its origin. Little headway has been made within the past twenty years, in spite of the time spent on the subject and the efforts put forth to solve the problems in connection with this deadly and loathsome disease—in unveiling its mysteries. The chief hope that this object may be accomplished lies in the fact that scientific men of all countries, spurred on by the interest taken in the question by rich and poor alike, are bending all their energies to the task in hand.

The X-rays and Radium in the Treatment of Cancer.

The Annus Medicus of the *Lancet* refers especially to the therapeutics of cancer, quoting from a paper published in the first volume of the "Archives of the Middlesex Hospital," by C. R. C. Lyster, the medical officer in charge of the electrical department of that institution. In writing of the effect which the *x*-rays have upon cancerous growths, the author says "that a very large number of cases have been relieved of pain, and that in a certain number the growth has undergone a definite retrogression; of all the new growths the rodent ulcers have been by far the most satisfactory to treat. The cases that have been under treatment have varied from those exhibiting small recent spots to the most extensive and old-standing lesions. They have all shown a great tendency to improve; the more recent ulcers have quickly healed, leaving a healthy scar, and there had been no recurrence up to the time of publishing the report. In cases of rodent ulcer of long standing, and with considerable loss of tissue the tendency to heal has been remarkable, but after a time, recurrence is not unusual, and this seems to be more difficult to deal with than is the original ulcer. Of other growths, experiments so far seem to show that the best results are obtained in cases of mammary carcinoma, especially in the recurrent forms. Sarcomata are not so amenable to treatment as are carcinomata. The cases which are apparently the least benefited are the epitheliomata, and this is more especially the case after secondary infection of the lymphatic glands has occurred. With regard to the use of high-frequency currents in malignant disease, it is believed that the good results claimed for this therapeutic measure are due more to the tonic action of the rays than to any direct action on the growth itself. Cases of rodent ulcer and epithelioma were submitted to the action of radium and also to pitchblende, the application of the latter substance being of particular interest, as it is far more easy to obtain than radium; the results of the treatment have not yet been published."

The *Lancet*, in reference to radium in the treatment of cancer, says: "Full of theoretical interest as the discovery of radium is, its remarkable property of radioactivity has already met with practical application in the treatment of disease, but its real value in this regard, as in the treatment of cancer and lupus, cannot yet be determined. The radio emanations are undoubtedly powerful to produce chemical change, but it remains to be seen whether they will be effective in checking the advance of a morbid process, or of destroying, or of restoring to a healthy state, diseased tissue."

The Vienna correspondent of the *British Medical Journal* of December 26 states that Exner and Hozknecht have used radium in the treatment of carcinoma and sarcoma with satisfactory results. The conclusions reached by these investigators are as follows: "Radium rays irritate the cells of the skin less vehemently than cells of cancer and sarcoma. The last named are brought to necrosis before the other tissues suffer severely from the effects. The radium dermatitis is very similar to the Röntgen rays dermatitis." The experience then of the majority of medical men who have used *x*-rays in the treatment of cancer is that in some forms of the disease they have proved decidedly beneficial. As to radium, its use has been too limited and the period in which treatment has been effected by its means has been too short to warrant the passing of a definite opinion with regard to its efficacy as a therapeutic agent in cancerous growths.

Typhoid Fever in Pittsburg.

Recent accounts give rise to the fear that Pittsburg may be on the verge of a serious epidemic of typhoid fever. During the past few weeks a large number of cases have been reported, and it would certainly appear as if the disease were making considerable headway. The mortality is also said to be high. As to the manner in which the malady has been conveyed to Pittsburg nothing is definitely known, although the assumption that there is a close connection between the epidemic at Butler and the occurrence of typhoid fever in Pittsburg is reasonable. The proximity of the two places, and the fact that many residents of Butler sought refuge in Pittsburg renders it extremely likely that the infection was thus carried. Be this, however, as it may, one point stands out with especial prominence, that immediate and adequate efforts must be put forth, both to drive out the disease from the infected cities, and to prevent the epidemic from spreading further. The field in that part of Pennsylvania is wide, and the soil is fertile for the propagation of typhoid fever, and unless prompt measures be taken, the results may be disastrous. In these days of enlightened and improved sanitation, it should be regarded as a crime to allow the dissemination of such a disease as typhoid fever. The means of preventing it are known, and a community has the right to view, with a certain amount of distrust, boards of health who are unable to safeguard its members against an epidemic. It is to be hoped that vigorous steps will be taken to protect uninfected districts from an outbreak of the disease. The lesson—that a pure water-supply and good sanitation generally are essential to preserve in health the inhabitants of cities and towns—has been so often taught in this country, and the results of neglect have been so terrible, that the indifference exhibited by the population, with regard to the matter, cannot but be characterized as remarkable. If the epidemics of typhoid fever now raging in the United States should have the effect of arousing its citizens to a sense of their danger, and of inducing them to insist upon proper sanitary regulations, the most dosirable of all reforms will be effected.

The Jubilee Number of the "Albany Medical Annals."

The Albany Medical Annals has celebrated its twenty-fifth anniversary by the publication of a "jubilee number." The issue is a notable one and reflects great credit on all concerned in its make-up. The articles therein contained are with no exception excellent, both in matter and composition. Drs. Frederic C. Curtis and Willis G. Tucker contribute a sketch of the inception and development of the journal. The first number of the *Annals* was sent out in 1880, the first editors and committee of publication being: Drs. F. C. Curtis, A. Vander Veer, J. B. Stonehouse, Lorenzo Hale, and J. D. Featherstonhaugh. Up to 1888 the *Annals* was conducted as a medical society journal, when the Albany Medical Library and Journal Association was founded, and it passed into their hands. In 1891 the *Annals* became a journal of the Alumni Association of the Albany Medical College, and as such has continued up to the present time. In 1897 the journal took on its present form.

In the current number are articles by Drs. Albert Vander Veer and Edgar A. Vander Veer, on "Four Cases of Gangrene"; by Dr. Samuel B. Ward, on "Lipoma of the Intestine:" by Drs. Henry Hun, George Blumer, and George L. Streeter, on "Myasthenia Gravis"; by Dr. Hermon C. Gordinier, on "Acute Ascending Paralysis of the Type of Landry";

by Dr. Joseph Craig, entitled "A Consideration of the Efficacy of Antitoxin in the Treatment of Diphtheria"; by Dr. Andrew MacFarlane, on "Nervous Dyspepsia"; by Dr. Richard Mills Pearce, on "The islands of Langerhans in Congenital Syphilitic Pancreatitis"; by Dr. H. Judson Lipes, entitled "A Study of the Changes Occurring in the Endometrium During the Menstrual Cycle"; by Dr. Arthur W. Elting, on "The Pathology and Treatment of Tetanus"; by Dr. Spencer L. Dawes, entitled "A Plea for the Rational Administration of Chloroform as a Routine Measure in Labor"; by Dr. Clement F. Theisen, on the "Etiology and Diagnosis of Ozena and Its Relation to Pulmonary Tuberculosis"; by Dr. Henry Larned Shaw, on "Starch Digestion in Infancy;" by Drs. Herbert D. Pease and Henry L. Shaw, on "The Etiology of the Summer Diarrhœa of Children and of Dysentery of Bacterial Origin"; and by Dr. Alvah H. Traver, on "Cysts of the Mysentery."

As said before, the contributions to the Jubilee number of the *Albany Medical Annals* are exceptionally good, and prove that themedical college, in the past and present members of its staff, possesses writers of no ordinary ability. The *Albany Medical Annals* has, in its twenty-five years of existence, amply justified the wisdom of its founders, and has shown that a local medical journal can be in its own sphere as useful and valuable as the national ones. Indeed the Albany publication enjoys now more than a local reputation, and may be termed one of the best monthly medical journals published anywhere.

News of the Week.

The Tuberculosis Congress Situation.—An informal meeting of American physicians and hygienists interested in the tuberculosis problem will be held in Baltimore on January 28, 1904. The object of the meeting will be to form a national committee to represent the American medical profession at the International Congress on Tuberculosis to be held in Paris in 1905. It is announced that there will also be a free discussion of the rival congresses on tuberculosis, that is to be held in St. Louis under the leadership of Mr. Clark Bell, and the other to be held in Washington in 1905 under the leadership of Dr. Daniel Lewis. All communications relating to this meeting should be addressed to the secretary, Dr. H. Barton Jacobs, 11 Mount Vernon Place, Baltimore, Md.

A New Journal.—The first issue of a new journal called *The Journal of Infectious Diseases* recently appeared. The new magazine is devoted to the publication of original investigations dealing with the general phenomena, causes, and prevention of infectious diseases. It has been established in connection with the Memorial Institute for Infectious Diseases, founded by Mr. and Mrs. McCormick in memory of their son, who died of scarlet fever. It is estimated that the annual cost for publishing this journal will aggregate $15,000.

Dr. Chas. F. Sanborn has recently been appointed Medical Inspector and Examiner by the Equitable Life Assurance Society, for the territory included in Minnesota, North and South Dakota, Wyoming and Manitoba, his residence being in St. Paul.

The American Society of Tropical Medicine held its first formal meeting in the auditorium of Houston Hall at the University of Pennsylvania on the evening of January 9. Dr. James Carroll of the United States army delivered an address entitled "The Etiology of Yellow Fever." Dr. Carroll was a member of the Army Medical Commission sent to Cuba a few years ago to study the causes and the mode of transmission of yellow fever, and as a result of whose investigations it was established that the disease is conveyed solely by the mosquito—stegomyia fasciata. This commission was composed of Dr. Walter Reed, surgeon U. S. A., Dr. Jesse W. Lazear, Dr. James Carroll, and Dr. Aristides Agramonte, contract surgeon. Of these the last alone was immune. Dr. Carroll and Dr. Lazear submitted to inoculation and both had attacks of yellow fever, from which unhappily the latter died. It was definitely determined that the bacillus icteroides of Sanarelli has no etiological relation to yellow fever, being merely a variety of the hog cholera bacillus. So also, the microorganism found by Finlay is an accidental and indifferent parasite. It was demonstrated that the disease is not conveyed by fomites, the only demonstrable medium of communication being the stegomyia that has sucked the blood of an infected person within the first few days of the disease, though only after an interval of twelve days and from that time so long as the mosquito may live. The period of incubation in man is about twelve days. The disease may be transmitted by means of the blood of infected persons directly, even after passage through a porcelain filter, but if the blood be heated to 55° C, it loses its infectivity. The evidence seemed to show that the blood-serum of convalescents from the disease has both prophylactic and curative value. As a result of the work of the commission of which Dr. Carroll was a member, yellow fever has been practically exterminated in Cuba. The rôle of the mosquito in the transmission had been previously suggested by others, but it remained for the commission to make its demonstration. The identity of the hypothetical microorganism is yet to be established. The officers of the American Society of Tropical Medicine are as follows: *President*, Dr. Thos. H. Fenton; *Vice-Presidents*, Drs. James C. Wilson and James M. Anders; *Secretary*, Dr. Jos. McFarland; *Treasurer*, Dr. E. Baldwin Gleason.

Assault on a Health Officer.—Dr. Thomas S. Faucette, Acting Superintendent of Health of Alamance County, N. C., was assaulted last Saturday at Haw River, N. C., while inquiring into the disinfection of houses that had contained smallpox patients. He was struck on the head with a rock by a man whose premises he was to disinfect.

The Taylor Memorial Hospital at Pao-Ting-Fu, China, erected by the Class of '82 of Princeton in memory of G. Yardley Taylor, who was killed in the "Boxer" uprising in 1900, has been entirely completed and is now ready for the reception of patients. The building covers a lot 54x28 feet, and is three stories in height.

Threatened Scarcity of Camphor.—One result of the imminence of war between Japan and Russia has been that the world's supply of camphor has been cut off, and in the event of war will probably remain so for an indefinite period. Practically the entire supply comes from Japan and Formosa, and about six weeks ago the Japanese Government placed an embargo on its shipment. The result has been a sharp advance in price, and while the scarcity has not yet been felt to any great extent, it undoubtedly will be as soon as the period of greatest consumption begins, in April. The reason for the embargo by the Japanese Government is that camphor is one of the necessary ingredients in the manufacture of smokeless powder.

A Health Commission to Tahiti.—Drs. H. Louvan, F. Cassian, and Grosfellez, members of a commission appointed by the French Government, recently sailed

from San Francisco for Tahiti, where they will endeavor to check the ravages of disease, especially leprosy and elephantiasis, among the natives.

Smallpox in West Salamanca, N. Y.—Upward of thirty persons at West Salamanca are suffering from a disease which has been diagnosed as smallpox. The health officials of Salamanca have established quarantine between the two villages, while the West Salamanca health officer is quarantining all cases. Scores of people have been exposed. In all but three or four cases the disease is in a mild form.

Typhoid Fever in Western Pennsylvania.—Grave fears exist that Kittanning, Pa., may have an epidemic of typhoid fever. On the first of December there were but four cases reported, but on January 4 there were one hundred cases, and the disease is increasing rapidly. So far the death rate has been small.

Dr. Sachs's Treatise on "The Nervous Diseases of Children" has been translated into Italian by Dr. Luigi Colombo of Varese, and a French translation of the same work is also in press.

Ohio Nurses to Organize.—A movement toward organizing a State Society of Trained Nurses, with the ultimate object of securing legislation for the advancement of the nursing profession, will take on tangible form at the convention which is to be held in Cincinnati, January 27–28. In addition to independent nurses all alumnæ associations, nurses' clubs and schools are expected to send delegates. The meetings will be held in the City Hospital amphitheater.

Dr. W. O. C. Harding of Elmwood Place, Ohio, has been reappointed Big Four surgeon for this district of the road. This is Dr. Harding's ninth year as surgeon to this railway.

War on the Spitting Nuisance has been declared by the new Health Commissioner of New York. Officers have been sent to the ferry-houses where the offence is most flagrant, and a number of the law-breakers have been arrested.

For United Action against the Plague.—A despatch to the *New York Times* from Berlin states that Great Britain, France, and Germany have sent official communications to Washington urging the United States to accept the results of the recent Sanitary Conference in Paris with a view to the prevention of the plague. The United States and Turkey were the only important countries not represented at the conference.

A Tuberculosis Exposition will be held in McCoy Hall of the Johns Hopkins University, Baltimore, during the week beginning January 25. The opening meeting will be held at 8 o'clock in the evening of that day. An address will be delivered by Dr. E. L. Trudeau of Saranac Lake. At 5 o'clock each afternoon after the opening day there will be a lecture upon one of the various aspects of the tuberculosis problem. The speakers will be Dr. Mazyck P. Ravenel of Philadelphia, Dr. S. A. Knopf of New York, Mr. Frederic Hoffman of Newark, N. J., Mr. Ernest Poole of New York, Dr. Vincent Y. Bowditch of Boston, Dr. George J. Adami of Montreal, and Dr. Lawrence Flick of Philadelphia. The exposition is organized under the joint auspices of the Tuberculosis Commission, the State Board of Health, and the Maryland Public Health Association.

"Illustrated Review of Physiologic Therapeutics" is the title of a new journal, the first issue of which is dated January, 1904. The editor is Dr. S. H. Monell and the publisher Mr. E. E. Peltor of this city. The present number is chiefly striking because of the number of well-executed pictures of apparatus, some good, some of questionable utility. There are a number of articles, some quite old, reproduced from other journals without editorial comment, but no abstracts from home or foreign periodicals. The claim is made that this is to be "a medical journal devoted to a review of the work of each month in the clinical uses of all electric currents, radiant energy, mechanical apparatus, heat, water, *x*-rays, the various rays of light, etc.," but the initial number hardly substantiates that claim.

The First French Congress of Climatotherapy and Hygiene of Towns will be held at Nice during the Easter vacation, April 4 to 9, 1904. Professor Chantemesse has been named president; the vice-presidents are: Drs. Renaut of Lyons, Grasset of Montpelier, Calmette of Lille, and Balestre of Nice. The discussions will bear on five questions: (1) "The climate of the French Mediterranean coast." (2) "Adaptation of the individual to climate." (3) "Influence of the French Mediterranean coast climate on tuberculosis and tuberculous patients." (*a*) "Clinical and critical discussion on the special conditions required in order to benefit by this influence;" (*b*) "Treatment of such patients at their home;" (*c*) "Treatment of such patients under supervision: Sanatoria for patients in easy circumstances;" (*d*) Establishments for the treatment of poor patients suffering from scrofula or pulmonary tuberculosis. (4) "The influence of climate on the French Mediterranean coast on rheumatism and on those subject to rheumatism." (5) "Disinfection of towns." Reduced rates on the railways will be granted to members of the congress and their families. The hotel prices at Nice will also be reduced in their favor. Particulars may be obtained from Dr. Hérard de Bessé, Secretary General of the Congress, Beaulieu-sur-Mer, France.

The Philadelphia Neurological Society.—The twentieth anniversary of the organization of this society will be celebrated on Tuesday, January 26, 1904. Papers will be read as follows: "The Metaphysical Conception of Insanity," by Dr. James Hendrie Lloyd; "The Mental Processes by Which the Rest-Treatment Was Developed," by Dr. S. Weir Mitchell; "The Surgical Operations Applicable in Insanity," by Dr. J. Chalmers, Da Costa; and "Mystic Medicine," by Dr. Francis X. Dercum.

College of Physicians of Philadelphia.—At a stated meeting, held January 6, Drs. David L. Edsall and Albert A. Ghriskey presented a communication entitled "Concerning the Transmission of Pneumonia, with a Report of a Small Hospital Epidemic." They reported a group of cases occurring in a series of patients who had occupied the same bed, or beds in close proximity, and some of whom, following the first case of pneumonia, also had pneumonia, while others had a general pneumococcic infection without pulmonary localization. Some of the latter cases occurred in patients already suffering from typhoid fever and cerebrospinal meningitis, and the general infection was discovered accidentally in the course of examinations made for other purposes. As soon as the epidemic character of the disorder was recognized, prophylactic measures were instituted, and there were no further cases after thorough disinfection with formalin. It was pointed out that pneumonia may be transmitted in three different ways: (1) By widespread aërial convection, a large number of cases occurring in widely separated portions of a community or district simultaneously without any other common channel of communication. (2) Through local infection, as, for example, the dissemination of sputum from one or more primary cases of pneumonia. (3) Direct contagion, in which infection occurs by immediate contact between a patient suffering from pneumonia or other pneumo-

coccic infection and the individual subsequently attacked. In view of the possibility of the epidemic spread of the disease, the recommendation was made that cases of pneumonia be included by boards of health among the list of notifiable diseases. Also steps should be taken in the individual case to secure isolation of the patient and disinfection of the discharges. Dr. Thomas R. Neilson exhibited a specimen of intussusception of the vermiform appendix. It was obtained from a child two and one-half years old that presented symptoms suggestive of intestinal obstruction. A diagnosis of recurrent appendicitis was, however, made, and operation performed. Dr. Joseph McFarland referred to a specimen of similar character that had been submitted to him for examination. It came from a child that had presented symptoms of appendicitis, the family declining to permit operative interference. After a while a large quantity of purulent material was discharged from the bowel, and in its midst was found a mass that on investigation was found to be the appendix in a state of intussusception. The following officers were elected for the ensuing year: *President*, Dr. Arthur V. Meigs; *Vice-President*, Dr. James Tyson; *Secretary*, Dr. Thomas R. Neilson; *Treasurer*, Dr. Richard H. Harte.

Vital Statistics of Philadelphia.—According to the annual report of the Philadelphia Board of Health, the death rate per thousand of population was 18.82 for the year 1903. The total number of deaths was 25,947, as compared with 23,847 in 1902. The greatest increase in the number of deaths is attributable to typhoid fever, to which 957 deaths were due, 372 more than in the preceding year. This increase is ascribed to pollution of the water supply and infection of the milk supply. Pneumonia was responsible for 3,180 deaths, as compared with 2,976 in 1902; pulmonary tuberculosis, 3,053, as compared, with 2,845 in 1902; smallpox, 278, as compared with 231 in 1902. The death rate was lower in the following years: 1902, 17.67; 1901, 18.26; 1899, 18.78; 1897, 18.72. There were reported during the year 8,650 cases of typhoid fever, 3,200 of scarlet fever, 3,043 of diphtheria, and 1,637 of smallpox.

A Dinner to Dr. S. Weir Mitchell was given on the evening of January 6, in Philadelphia, by the members of the Franklin Inn Club, in celebration of the anniversary of the birth of the namesake of the club, Benjamin Franklin. Dr. Mitchell is the president of the club.

Measles and Typhoid Fever in Cincinnati.—The number of cases of measles and typhoid fever in Cincinnati are increasing steadily. Health Officer Clark W. Davis reports for the week ending January 1, 171 new cases of measles, with 1 death, and 31 new cases of typhoid fever with 5 deaths. For the week ending January 2, 1903, only 2 cases of measles with 1 death, and 14 of typhoid fever with 3 deaths, were reported. Diphtheria, scarlet fever, whooping-cough, and varicella show a decrease over last year.

Dr. Charles Whitney Dabny has accepted the offer of the presidency of the University of Cincinnati. He will take up his new office on September 1 next, and is to receive a salary of $8,000 a year. A handsome residence will be immediately built for him on the University campus. The University has an annual income of a quarter of a million dollars. Dr. Dabny will, as president, also be at the head of the Medical College of Ohio and the Cincinnati Law School, these being respectively the medical and law departments of the University.

Gift to Jewish Hospital.—Mr. Joseph Joseph, a wealthy iron manufacturer, has given $15,000 to the Jewish Hospital of Cincinnati, to be used in building a new dormitory for nurses. Other supporters of the institution have donated $5,000 to be expended on the necessary furnishings for the dormitory. It is also proposed to build upon the grounds a power-house for supplying heat and light.

The Cincinnati Hospital.—The Board of Medical Advisers of the Cincinnati Hospital reorganized Tuesday, and the following officers were elected: *President*, Dr. A. B. Isham; *Vice-President*, Dr. Louis Schwab; *Secretary*, Dr. Byron Stanton. A resolution was passed commending Dr. C. R. Holmes, resigned, for his faithful service.

Obituary Notes.—Dr. CORNELIUS E. BILLINGTON died at his home in this city on January 8 at the age of sixty years. He was a graduate of the New York University Medical College in 1863. He served for a time in the Union Army during the Civil War, and at the close of the war began the practice of medicine in this city. He was a member of the New York Academy of Medicine and of the Medical Society of the County of New York. He was the author of a work on diphtheria, which was regarded as authoritative for many years.

Dr. MARGARET PRESTON BUCKMAN died in Trenton, N. J., on January 7, from scarlet fever contracted while caring for her own child. She was a graduate of the Woman's Medical College of Philadelphia.

Dr. GEORGE H. HACKENBURG died at his home in Austin, Tex., on January 8 at the age of eighty years. He was born in Union County, Pa., and was a graduate of the New York University Medical College. He practised medicine in this State for many years, but removed to Texas in 1873. He was credited with being the originator of the idea of the telephone, having published, in 1864, in *Godey's Ladies' Magazine* an article on the principles of the telephone, which were afterward practically applied.

Dr. STUART H. REED died of pneumonia at his home in Madison, N. J., on January 6. He was born in South Carolina in October, 1854, but passed his boyhood days in New York State. He was graduated in arts from Williams College in 1878, and in medicine from the College of Physicians and Surgeons in this city in 1881. He had practised in Madison since September, 1882. He was for a number of years health board physician of Chatham Township, and was an active member of the Morris County Medical Society.

Dr. JAMES FRANCIS FERGUSON died at Central Valley, N. Y., on January 7. He was born in New York City in October, 1839, and was graduated from the New York University Medical School in 1860 and from Bellevue Hospital Medical College in 1861. He served in the Union Army during the Civil War, was wounded in the first battle of Bull Run and was confined for a time in Libby Prison. After his release he entered the service again as major and surgeon of the One Hundred and Sixty-fifth New York Volunteers. He served with General Banks in Louisiana, was present at the battle of Plain Stores, and at the siege of Port Hudson was in charge of a field hospital. He was afterward Provost Surgeon in New Orleans and served in the campaigns in the Teche country, and was discharged at Franklin, La., in 1864. He was brevetted Lieutenant Colonel of New York Volunteers. His professional appointments were as follows: Attending surgeon Bellevue Hospital, Outdoor Department, 1870-71; visiting surgeon to the Blackwell's Island Hospital, 1872-92; visiting physician to the Hospital for Nervous Diseases, 1886-92, and consulting physician of the Charity (now City) Hospital, since 1892. He was a member of the Society of the Alumni of Bellevue

Hospital, Medical Society of the County of New York, New York Academy of Medicine, and the New York Neurological Society.

Dr. FRANK W. SHAW died in Brooklyn on January 8, at the age of thirty-eight years. He was born in Lockport, N. Y., and was graduated from the Medical Department of the New York University in 1885. After a term of service on the house staff of the Presbyterian Hospital he entered on the practice of his profession in Brooklyn. He was a member of the Kings County Medical Society and of the Hospital Graduates Club of this city, and was assistant attending physician to the Methodist Episcopal Hospital, Brooklyn.

Dr. EDWIN FREEMAN, a prominent eclectic physician of Cincinnati, died in that city on January 4 at the age of seventy years. He was born in Nova Scotia, and was graduated from the Eclectic Medical College of Cincinnati in 1856. Until the outbreak of the Civil War he was professor of anatomy in that school. He then entered the Union Army as surgeon and served through the war. Later he came to New York and helped to organize the Eclectic Medical College in this city. On returning to Cincinnati he resumed his professorship of anatomy, later taking the chair of surgery, which he held until compelled to retire on account of failing health.

Dr. J. H. VANTINE died at Catawissa, Pa., on January 3 at the age of sixty-eight years. He was a graduate of Jefferson Medical College in the class of 1858, and during the Civil War served as surgeon to the One Hundred and Thirtieth Pennsylvania Volunteers.

Dr. HENRY J. BOWERS died at Myerstown, Pa., of diabetes on December 31 at the age of sixty-two years. He was graduated from Jefferson Medical College in the class of 1862.

Dr. CHAS. G. FROWERT died in Philadelphia on January 9 at the age of fifty-four years. He was graduated from the Medical Department of the University of Pennsylvania in the class of 1874.

Stomach Lavage without the Tube.—N. R. Gordon believes that in catarrh of the stomach and in nearly all forms of dyspepsia, especially the atonic variety connected with dilatation, washing out the stomach is the most valuable treatment that can be used. Most forms of gastric indigestion are accompanied by dilatation of the stomach to a greater or less degree. The greater curve of the stomach is increased, forming a bag, which serves as a receptacle for the prolonged retention of a portion of its contents. The downward extension of the stomach is frequently increased from ten to twelve inches over the normal. Thus the stomach is not able to expel through the pylorus all of its contents without some artificial assistance. There is a continual residue of stomach contents, consisting of food and secretions, which remain to ferment and contaminate the fresh supply of ingesta. The writer gives the following method for washing out the stomach: Soon after rising in the morning the patient should sip a pint of warm water containing a little salt; he should then lie down on the back and turn from one side to the other rapidly from ten to fifteen times; then turn on the left side and draw up the knees slightly; then make a voluntary contraction of the diaphragm and recti muscles. Repeat this from ten to fifteen times with a few minutes' rest between every three or four contractions. Then turn to the right side, repeating the same operation. Rest on the right side from forty to sixty minutes, giving time for the entire stomach contents to pass out through the pylorus into the duodenum. Many cases of dyspepsia can be cured by this process. The diet must be simple, and the patient should never eat until he is hungry.—*The Alkaloidal Clinic.*

Correspondence.

CONSOLIDATION OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK AND THE NEW YORK STATE MEDICAL ASSOCIATION.

To the Medical Profession of the State of New York:

THE Sub-Committee of the Joint Committee on Conference presents the following plan of consolidation of the Medical Society of the State of New York and the New York State Medical Association for the information of the medical profession of this State.

The plan is the result of much labor, legal investigation, and careful thought and attention on the part of the committee; and the organization recommended for the consolidated corporation is one which is now in successful operation in thirty-two States of the United States. It is based upon the form of Government of the United States and care has been taken not to interfere in any way with the autonomy of county organizations, or with their property or other vested rights.

We respectively urge the members of the profession to promote by all proper means the passage by the Legislature of the proposed act prepared by counsel for the committee, authorizing the consolidation of the Medical Society of the State of New York and the New York State Medical Association. The proposed act will be introduced in the Assembly or Senate in due course, and, if passed, will authorize the consolidation upon terms to be agreed upon by the two corporations. The consolidated corporations will be known as the Medical Society of the State of New York.

Before the agreement for consolidation under the proposed act will become operative or effective for any purpose, it must be authorized or ratified by the vote of each corporation at an annual meeting, or else at a special meeting of each corporation called to vote upon the agreement, and it must also be approved by the county medical societies in affiliation with the Medical Society of the State of New York.

The agreement to be recommended by the committee for adoption in accordance with the terms of the act will contain provisions for giving effect to the following stipulations:

First: All assets and liabilities of the New York State Medical Association shall be transferred to and vested in and assumed by the Medical Society of the State of New York, at the time of consolidation.

Second: Expert accountants shall be employed to ascertain the assets and liabilities of each corporation, and their reports shall be submitted with the agreement for consolidation.

Third: All members of the New York State Medical Association in good standing at the time of consolidation shall be admitted to membership in the Medical Society of the State of New York.

Fourth: All members in good standing of the county medical societies now in affiliation with the Medical Society of the State of New York shall be admitted to membership in the Medical Society of the State of New York.

Fifth: All members in good standing of the New York State Medical Association shall be admitted to membership in the county medical societies for the counties in which they respectively reside.

Sixth: All members in good standing of the Medical Society of the State of New York shall be admitted to membership in the County Medical Societies for the counties in which they respectively reside.

Seventh: The plan of organization, constitution and by-laws of the New York State Medical Association, with such modifications as have been agreed upon by the Committee, shall be adopted as the plan of organization, constitution and by-laws of the Medical Society of the State of New York.

Eighth: The following proposition shall be submitted by referendum to the vote of the members of the consolidated corporation, namely:

The principles of medical ethics of the American Medical Association, being suggestive and advisory, shall be the guide of members in their relations to each other and to the public.

Ninth: The Medical Society of the State of New York will petition the Legislature for the passage of such further enabling Act as may be necessary, if any, to carry the consolidation agreement into effect.

"AN ACT

"TO AUTHORIZE THE CONSOLIDATION OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK AND THE NEW YORK STATE MEDICAL ASSOCIATION.

"*The People of the State of New York, represented in Senate and Assembly, do enact as follows:*

"SECTION 1. The Medical Society of the State of New York, incorporated by or pursuant to chapter one hundred and thirty-eight of the laws of eighteen hundred and six, entitled 'An act to incorporate medical societies for the purpose of regulating the practice of physic and surgery in this State,' and continued by chapter ninety-four of the revised laws of eighteen hundred and thirteen, passed April tenth, eighteen hundred and thirteen, entitled 'An act to incorporate medical societies for the purpose of regulating the practice of physic and surgery in this State and the New York State Medical Association, incorporated under chapter four hundred and fifty-two of the laws of nineteen hundred, may enter into an agreement for the consolidation of such corporations, setting forth the terms and conditions of the consolidation and the mode of carrying the same into effect.

"Each corporation, party to the agreement, may petition the Supreme Court for an order consolidating the corporations, setting forth in such petition the agreement for consolidation and a statement of all its property and liabilities and the amount and sources of its annual income. Before the presentation of the petition to the court, the agreement must be approved by a majority of the vote lawfully cast at an annual meeting of each corporation, separately, or at a meeting of each corporaton separately and specially called pursuant to its by-laws for that purpose, and a certificate of such approval, verified by the president and secretary of the meeting shall be annexed to that petition.

"On presentation of the petition, the certificate of approval and the consolidation agreement, and on such notice to interested parties as the court may prescribe, and after hearing such interested parties as desire to be heard, the court may make an order for the consolidation of the corporations on such terms and conditions as it may prescribe.

"When the order is made and duly entered, the corporations, parties to the agreement, shall be one corporation under the name 'Medical Society of the State of New York,' which shall not be deemed to be a new corporation, but to be a continuation of the Medical Society of the State of New York, incorporated in eighteen hundred and six. A certified copy of said order shall be filed in the office of the Secretary of State. All the property belonging to the corporations so consolidated shall vest in the said Medical Society of the State of New York, which shall have all the powers, rights, and privileges possessed by either corporation at or immediately prior to the consolidation, and which shall be subject to all of the liabilities of each corporation.

"SECTION 2. This Act shall take effect immediately."

Respectfully submitted,

A. JACOBI,
GEORGE RYERSON FOWLER,
E. ELIOT HARRIS.

A PLEA FOR UNIFICATION AND UNIFORM ORGANIZATION OF STATE AND COUNTY SOCIETIES.

To the Medical Profession of the State of New York:

AFTER correspondence on the subject with members of the Joint Conference Committee, and others, more especially on the society side, I have been requested, as chairman of the committee which has had this work in charge from its inception, to prepare for publication an explanation of the plan of organization for State and County societies which has been so generally adopted in the last two or three years. As the plan was prepared and is recommended for universal adoption, is already in satisfactory operation in thirty-two States and in over 1,500 counties, and is likely to be adopted in nearly all of the other States as soon as their annual meetings occur, as the subject is one of interest at this time to every member and well-wisher of our profession, and more especially as the preparation of the plan for general adoption makes my committee as responsible to you for anything wrong in it as though we were members of your County and State societies, it seems entirely proper that the request should be complied with, and an attempt will be made to place beyond question the truth of the following propositions:

1. That existing professional conditions and estrangements are useless and senseless, that they are hurtful almost beyond calculation to both the profession and the public welfare, and that they are remediable.

2. That the plan of organization is based upon our system of civil government, that it was prepared with much care and unselfishness, and that it contains nothing untried, experimental, or impracticable.

3. That the county society is not only the unit of the organization, but the source of all authority and power in both the State and national bodies through a representative delegate system, and it is also the only portal of entry to the entire society system.

4. That coincident membership has been an old and perfectly satisfactory method in many States, is essential to complete organization, and that it is just and right. It would be as unfair to permit a physician to become a member of his county society and enjoy all the benefits arising from the labors of the State society, as to permit one to become a citizen of Ithaca or Troy without becoming a citizen of the State of New York and bearing the burdens and responsibilities of the same.

5. That amendment of any part of the plan is purposely made easy and is controlled by delegates from, and responsible alone to, the county societies.

6. That the time has come for unification, and that, while union under a defective plan, which the joint body could modify and improve for the common good, would be far preferable to a continuation of existing conditions, the one now proposed has been found excellent and practical after full trial in other States, and, having been prepared away from New York contentions and controversies, it offers a basis for compromise honorable alike to both factions and to neutrals.

In order to establish these propositions clearly and satisfactorily, a brief history of this reorganization movement is necessary. From the very outset the magnitude of our task grew upon us. Although in name medical societies—city, district, State, and national—existed without number, and medical machinery and high-sounding official titles were provided sufficient for the civilized world, membership in most of them was small and little more than nominal, and, outside of a few States and localities, the profession was so torn with dissensions that it was in chronic disgrace in its own and the public estimation, and in a large measure robbed of its power, by legislation or otherwise, to help either itself or the public, for whose benefit it was supposed to exist. Into a profession already so overcrowded that there was less room and remuneration for the average man than for clerks and skilled laborers, commercial medical colleges were annually turning loose thousands of new graduates, many poorly equipped for intelligent modern practice, and all of them without an hour's training in professional conduct, business methods, the importance of society membership, in which all should have been drilled with the care due to subjects to become of so much importance as soon as they come to serve the public, and face the problem of earning an honorable livelihood.

As a result, largely, of such lack of training, we found that of the 120,000 registered physicians in this country, only about 30,000, one in four, had ever been members of any kind of society, local, State, or national. Most cities were little better organized than the country districts, a large submerged element being often found within an easy walk of imposing medical and post-graduate schools, libraries, and hospitals, who had long lost hope of advancement, looked upon their profession only as a doubtful means of support, while those in the higher ranks wrangled and slandered each other, and brought odium on all, and Christian science, and other forms of bald, naked quackery took the cream of a patronage which a united, self-respecting, and honored profession would have deserved and received.

It was soon found, however, that these conditions, deplorable alike to the profession and public, were not universal. In Alabama, for instance, under a model plan of organization and resulting united profession, with over 1,500 of the 1,700 physicians members of the county and State societies, medical opinion was sought for the guidance of law-makers, executives and courts, the profession was honored and independent, and quackery was unknown. Kentucky, striving for the same ends under less perfect methods, had had no itinerant or advertising doctor within her borders for ten years, and the profession was aspiring to its rightful place as a directing force in public affairs. In a dozen cities, also, usually of the lesser rank in population, under similar influences, harmony, coöperation, and measurable prosperity prevailed, and was increasing.

Inquiry soon demonstrated that the personnel of the profession was much the same everywhere, and the difference in the conditions found was apparently entirely due to difference in methods of organization. After all proper allowance for personal equation in rulers, governments are liberal or despotic as determined by their organic laws, and, probably quite as much as with a nation, the constitu-

tion and by-laws of a medical society will set the compass and shape the policy which will largely determine the future for both itself and its individual members.

Influenced by such belief and considerations, my committee began its work four years ago by grouping those provisions for State and local societies which had resulted in the most effective organizations, and with great care made our first draft of a constitution and by-laws for submission to, and discussion by, conferences of leading men in the various medical centers where there was a reasonable degree of harmony. Later, the improved draft was published in the medical press and in pamphlet form and given the widest possible publicity. As we were performing an important, unselfish, and gratuitous public service for the common good, advice and frank criticism were cordially asked from all, and these came freely and helpfully, especially from the better organized States and cities.

With such assistance, and in the light of such criticism, keeping always in mind that the plan should be democratic and conform to our methods of civil government, with local self-government by the county societies as the central idea, a simple but comprehensive system was gradually evolved, almost ideal in its outline and possibilities, which, after full trial under the most diverse professional conditions has proven entirely practical, being so flexible that it could be as easily adapted to the Cook County Medical Society at Chicago, with 1,800 members, as to sparsely settled counties in North Carolina or California with ten members. Under its operations in one year in Michigan the membership increased from 560 to 2,100; in Kentucky from 390 to 1,600, in Tennessee from 300 to over 1,000, in Missouri from 400 to 1,500, in Arkansas from 190 to 703, and in like proportion in every other State adopting it.

It is a thoroughly democratic and American plan, using those much-abused terms in their broadest and best sense. As has been said, the county society is made the broad foundation and source of authority for everything, as well as the portal of entry to both the State and national bodies. If a physician stands well enough at home to secure membership in his county society, he is eligible for membership and for any position of honor or trust in the State and national bodies, and, if he loses membership at home, subject to the right of appeal, he loses out everywhere.

The house of delegates, the legislative and business body of the State society, like the general assembly of a State, is composed of representatives from the county and district societies, and such delegates are freed from political influence so far as possible by making them ineligible for any of the offices within their gift, and they are responsible alone to the constituencies electing them. As they are in session but two or three days, in order to make the transaction of business possible, unlike senators and representatives, they sit as one body. This gives a body small enough for deliberative work, and yet gives county societies remote from the place of meeting, and all others, an equal and only an equal voice, in all business affairs, if only the delegates are in attendance.

Carrying out the same principle of local self-government, this house of delegates, made up directly from county and district societies, elects from the general membership the delegates which, in turn, compose the legislative body of the American Medical Association. As in the house of delegates of State societies, this being a small body, with its members carefully selected and made ineligible for any other position, with the terms of half the members expiring each year so as always to have men of experience in it, and which can remain in session, if necessary, after the general meeting adjourns, it was hoped to provide a body in which the interest of the profession and of scientific medicine might be considered and promoted in the broadest way.

The question of coincident membership in county and State societies is one which should require little explanation in New York. It has given satisfaction in the association, and has, of course, been under the observation of the society people. You have also had ample opportunity to observe the results of it for years in the neighboring states of New Jersey and Connecticut, where it has been in operation for years. It has been long the practice in Alabama, with the result that about 90 per cent. of the profession are permanent members, as well as in Massachusetts, Pennsylvania, and Indiana, and recently in a total of thirty-two States. It is only one feature of the work, but it is so important that any complete or systematic organization of the profession is impossible without it. Besides, the justice of it is beyond question. It would be as obviously unfair to permit one to join his county society and enjoy all the benefits of the State society, arising from its legislative, educational, and other expensive and responsible labors, without assisting in its support, as it would be to permit a man, if one could be found so foolish and selfish as to ask it, to become a citizen of Buffalo, Syracuse, or Rochester, and enjoy all the benefits and protection of the State government, without becoming a citizen of New York.

It is true that in nearly every State where this plan of organization has been proposed, as was natural and to be expected, academic and purely theoretical objections have been made to some feature of it, usually to the council, the house of delegates, or to coincident membership. Such objections have always been made in advance of a trial of them, and they have been confined almost entirely to States which have been practically without organization heretofore. Conditions in Iowa illustrate this point well. The county society at Dubuque, which has reorganized and applied for a charter within the last ten days, raised many such theoretical objections to the plan before they had tried it, while eighty-eight counties in the same State, organized under it, and realizing its practical benefits, are loud in praise of the very provisions to which their worthy neighbor at first objected. It is a source of much encouragement that this has been the experience of over 1,500 counties which have reorganized.

It would be pleasant to comment on each provision of the plan in detail if space permitted. Suffice it to say that it was intended only as the foundation and framework for a broad and comprehensive system to be recommended for universal adoption, that nothing was included except for what appeared the best of reasons, and that it is susceptible of infinite elaboration and improvement in detail as the profession of any State or county develops under the catholic and coöperative spirit which it inculcates, and which is so much to be desired.

Attention is called to the fact, also, that much contained in the by-laws, where a wide departure is made from the brevity and compactness of expression adhered to in the constitution, is suggestive and educational in character, much of which would not be necessary if such an organization as is contemplated was already in existence. We thought it as important, under existing conditions of discord and demoralization, to furnish incentives to this work, to give practical and detailed information as to how it was to be done, and to put the reasons for it all within the reach of all those whose duty it would be to discuss the subject and do the work as to furnish the framework of which, as the result of years of devoted labor, they were to make a complete edifice occupied by a united and harmonious, or at least a decently coöperative and self-respecting, profession. For many reasons, too, amendment to the plan is purposely made easy. If after trial in any State anything is found obsolete or impracticable, it can be easily eliminated or replaced by something better adapted to existing needs, by the house of delegates, subject to instructions from the county societies, at any regular meeting, after such amendment has lain upon the table for one day.

Unification in New York has been so long the dream and hope of its own profession, as well as of the entire country, that now, when this seems about to be realized, it may be that a majority of you will consider mere methods and details of organization important only in so far as they are likely to hasten or delay the union. In part, this view of the matter is both natural and correct. A cordial union under a defective plan, which could be modified and improved to meet the needs of the joint body, when there would be unity of purpose and interest for the common good, would certainly be far better than to perpetuate the two bodies, even with model organizations or both, with the strife, discord, and loss of public respect inseparable from such conditions anywhere.

Still, if it can be shown, as the writer believes will appear upon the most critical investigation of what is now proposed, that it furnishes ready to your hands a plan of organization to which you may build and add with confidence in the results, and which will at the same time hasten unification by furnishing a basis of compromise between factions so long divided that suspicion and jealousy have become so much mental habits that neither will be willing to accept what the other proposes, it should, and I am sure will, receive respectful consideration at your hands.

In the era of good feeling and enthusiasm which must follow unification under such a broad, liberal, and comprehensive plan, which would give an equal voice and power to the individual doctor in every county, organization should and would make rapid strides, and the possibilities opened up to your profession, and then to your people, would be almost beyond conception. In the face of such possibilities, standing upon the threshold of such accomplishments, petty prejudices and personal interests appear so insignificant that they should find no place in large minds.

Then, as New York would be in perfect alignment with her sister States, with proper education and effort, everything desirable would, in time, be brought within reach

of the united profession of the entire Union. The complex and difficult problems before the profession of this country incident to our unprecedented advance in population and civilization, and which must be solved by it, if they are to be solved, will tax its highest intelligence and energies at its best. Provision can then be made for continuous scientific research, and for systematic collective investigation into the causes and prevention of disease, upon the large, generous lines demanded by the vast interests involved. The vexed problem of medical education can then be taken up with confidence and justly and wisely solved. Reciprocity in licensure and membership between States can then be discussed from the standpoint of the common good and settled upon some equitable basis. Constructive statesmanship can be substituted for the narrow, time-serving political methods of the present in municipal, State, and national public health affairs, and our great profession, great even now in spite of its divisions, united, elevated, and ennobled, would come to occupy its rightful place as one of the greatest of modern forces for the guidance and protection of our people. It would be an honor, even to New York, to lead in a reform promising such results, and to set an example in complete organization, which less favored and weaker States would imitate with both pride and profit. First of all, leading to all, and above all, in the words of your victorious commander, greater in magnanimity even than in war, "Let us have peace." J. N. McCormack, M.D.

Chairman of the Committee on Organization of the American Medical Association.

OUR LONDON LETTER.

(From Our Special Correspondent.)

CHRISTMAS RECESS—THE LEAGUE OF MERCY AND THE KING'S FUND—KING'S COLLEGE HOSPITAL—UTERINE FIBROIDS—THE HEART IN ABDOMINAL OPERATIONS—MEDICO-LEGAL SOCIETY—SUBSTITUTION: THE "TABLOID" JUDGMENT—BALLACHULISH SETTLEMENT—TYPHOID IN OYSTERS AND WATERCRESS—OBITUARY NOTES.

London, December 26, 1903.

This being Christmas week there is but little going on about medical matters except in the quiet way of private practice. Just as the boarding schools have closed for a vacation and the boys and girls returned home for a holiday, so the students in the medical schools are enjoying their Christmas recess, and the medical societies where practitioners meet and talk are silent for a brief period.

Still there are a few items of temporary interest to gather while we put aside the graver questions, until the new year opens, when most of us hope to return to work after as much relaxation as urgent duties shall have permitted.

The treasurer of the League of Mercy has paid £10,000 to King Edward's Hospital Fund. The League collects small contributions in shillings and pence. This year the amount so raised has largely increased from the seventy-eight districts where the collection is made—nearly 50 per cent. over last year's contributions. The object of the League is to afford the humblest residents to contribute their mites to the work of the hospitals.

The removal fund of King's College Hospital has been promised £10,000 by the trustees of the Lunz fund, with the intimation that when the new buildings are open a further sum may perhaps be contributed to maintain the "Annie Lunz ward." On the other hand the City Council of Westminster has resolved to oppose the bill for removal unless the interests in a charity founded in 1687 for the benefit of Westminster be properly safeguarded. For some years King's has received £600 annually from this charity.

At the Gynæcological Society Dr. B. Fenwick showed a uterus containing fibroids which he had removed from a patient who had suffered for six years, was quite blanched from the continual loss, wasted and exhausted. Her first cardiac sound at the apex was fairly good, clear and distinct, for which reason he operated. He stated that he was much guided by the state of the heart in deciding the question of operating for abdominal tumors. When the first sound is distinct and clear he said there was not much, if any, fatty degeneration of the walls of the ventricle—the one particular degeneration which is often associated with long-standing abdominal tumors and causes the sudden death that occurs in these cases. The patient recovered well, although numerous adhesions made the operation a very severe one, taking nearly one and one-half hours to carry out. The case, he thought, also illustrated the suffering and danger too many women undergo through the archaic superstition that their fibroids will disappear at the monopause.

Sir W. J. Collins presided at the Medico-Legal Society when he urged the importance of medical jurisprudence and hoped it would receive more attention. The society might with advantage pay attention to such subjects as coroner's law; secret remedies; the position of doctor's in reference to professional secrecy; and other residual topics which have been too long neglected by both lawyers and doctors. Mr. Troutbeck afterward read a paper on juries for inquests, in which he discussed their qualifications. He thought seven or nine jurymen a good number for these inquiries.

The question of substitution having occupied the High Court for a week in connection with the great "Tabloid" case, judgment was reserved and has now been given. Messrs. Burroughs, Welcome & Co. have won all along the line, and so completely established their exclusive right to the use of the word "Tabloid" as their trade mark. We shall probably, therefore, hear of no further infringement, and the judgment will tend to make all kinds of substitution too dangerous to indulge in.

The Ballachulish dispute, about which I wrote to you, has at last been settled by the managers giving way before the determination of the quarrymen. You will remember these men were determined to choose their own doctor and refused to recognize the right of the masters by any clause of the agreement to dismiss him. No one can say the desire to choose their doctor was not reasonable, and even if the masters had a legal right to select or dismiss, it seems surprising that they could not see that this was so and acquiesce in the retention of the doctor who had won the esteem of the men—particularly as the men paid him. It came at last to an acquiescence or a strike and, of course, the men won on such a point.

A recrudescence of the oyster scare is threatened. A seizure of one quantity led to an examination by Dr. Klein, who reported that the sample was distinctly sewage-polluted. The case was brought before the Lord Mayor and adjourned for further investigation by Dr. Klein. The danger of watercress, about which I lately wrote to you, has also been rendered more obvious and disquieting by a statement in the County Council by the chairman of the Health Committee that twelve acres devoted to the growth of this vegetable are in close proximity to an adjacent sewage effluent.

The death is announced of Col. Sir George Thomson, M.D., K.C.B., formerly of the Indian Medical Service. He had a distinguished career, his services including the Afghan war, the Chitral relief force, and the Tirah expedition. He had also been P. M. O. in the Lahore District. He graduated at Aberdeen in 1843, and received the K. C. B. on his retirement to England in 1898.

Dr. Theophilus Trend, formerly physician to the Royal Hants Infirmary, died on the 7th inst. after a brief illness. Earlier in his career he was surgeon-major of the Hampshire Volunteers. For the last ten years he has been a J. P. and an active member of the Southampton Bench.

Donald McLeod died on the 5th inst. at Hawick, where his jubilee of practice was celebrated by his numerous friends in 1899 and he was presented with a silver tea service and a purse of money. He was in his seventy-seventh year.

Dr. Langton Philip Mumby, Major Royal Army Medical Corps, died on the 1st inst. He took part in the Tochi expedition was mentioned in despatches and awarded the medal. During the campaign symptoms of his fatal illness began, and though he struggled on until peace, he then had to be invalided for it—tuberculosis of the bladder extending up to the kidney.

Is It Necessary to Continue in the Prophylactic Isolation of the "Carriers of Bacilli" in the Epidemics of Diphtheria.—C. M. F. Sinding-Larsen has for three years, as a result of his own personal experience, expressed his doubts as to the possibility of accomplishing, at least in general practice, prophylactic isolation of the "carriers of bacilli" (in latent cases) in the course of epidemics of diphtheria. Now for the first time he defines his ideas on this subject. He admits that the latent cases may be contagious, but he suggests as a substitute for isolation, prophylactic injections of serum as less expensive and less irksome, as well for physicians as for the public. His hospital experience with scrofulous children during an obstinate epidemic of diphtheria has demonstrated to his complete satisfaction that the bacteriological proof is extremely uncertain in the absence of clinical symptoms. He believes that the time during which many individuals, especially those who are very tuberculous, can retain in the throat the diphtheria bacilli is to a certain extent indefinite. In consequence he believes that isolation is impracticable.—*Norsk Magasin for Laegevidenskaben.*

CONCERNING THE LACRYMAL DILATOR.

To the Editor of the Medical Record:

Sir: In the Medical Record of December 19, 1903, Dr. J. Wilkinson Jervey of Greenville, S. C., describes the treatment of lacrymal obstruction by means of his dilator. No doubt the idea of using the instrument was original with the Doctor. I am sure, however, that this method of treatment is an old one—how old I cannot say. In the *Ophthalmic Review*, Vol. I (1882), page 363, in an abstract of an article written by Galezowski of Paris, which was published in *Recueil d'Ophthalmologie*, August, 1882, describing a new treatment of the lacrymal passages by a dilator. I will quote from the abstract: "The instrument employed is a dilator, the blades of which, when closed, form a smooth, round probe, equal in thickness to Bowman's No. 4. When the blades are together the handles are separated. The closed blades are passed into the duct like an ordinary probe. The handles are then pressed together, and the blades, in separating, produce an effect equal to that of Couper's largest probe; at the same moment the instrument is withdrawn." From this description, I should judge that Jervey's instrument is similar to that used by Galezowski over twenty years ago. Probably Galezowski was not the first ophthalmic surgeon to use the lacrymal dilator.

James Moores Ball, M.D.

St. Louis, Mo.

Progress of Medical Science.

The Boston Medical and Surgical Journal, Dec. 31, 1903.

Acute Flexion of the Gall-bladder as a Cause of Biliary Colic: Its Relief by Operation.—A. T. Cabot reports two cases in which characteristic attacks of biliary colic seem to have been caused by the acute flexion of the gall-bladder at about its middle. In all such cases when there are adhesions it is difficult to recognize on the operating table the exact condition which is responsible for the colic. As a rule the operation is done between attacks, thus in many cases the mechanical obstruction or drag is not in action at the time of operation. It is probable when the stomach or colon is united to the gall-bladder or the gall ducts by adhesions, that the drag of these viscera is responsible for the distortion which causes the colic. This drag may be very much increased when these viscera are loaded, and may amount to but little when they are empty. The writer considers cholecystectomy as the better operation in these cases under discussion. He has had excellent success with this method of treatment.

The Boston Medical and Surgical Journal, Jan. 7, 1904.

On Some Questions Relative to Extrauterine Pregnancy, with Especial Reference to Tubal Abortion.—Malcolm Storer has operated upon seventeen cases of extrauterine pregnancy, and has diagnosed correctly quite a number more which were sent to others for operation. In several of his cases the correct diagnosis was not made until the abdomen was opened. In very few of these were even a majority of the classical symptoms present. But there were a large number of cases having most of the classical symptoms in which a laparotomy showed other conditions. According to the writer's opinion, the symptoms which seem of chief importance in tubal abortion are pain and anomalous escape of blood from the uterus. The pain is often accompanied by nausea without vomiting. As a rule more or less protracted metrorrhagia takes place. The further advanced an ectopic is, the easier is the diagnosis. Ectopic pregnancies are far more apt to occur in multipara after a protracted secondary sterility. This is not always strikingly so; 41 per cent. of the writer's cases were primiparæ. As to treatment, the writer first discusses the question of delay in operation when a case is seen immediately after rupture in collapse and acute and profound anæmia. The writer does not advocate the waiting policy, but prefers to operate at once. He also believes that a reasonably probable diagnosis of unruptured extrauterine pregnancy implies an immediate operation. In cases of tubal abortion, a month or so before the patient is seen, the mortality of the cases treated by operation is practically the same as that of the cases treated expectantly, but in the former the convalescence is far shorter. The writer prefers the abdominal route. He believes that there is great hope that an extrauterine pregnancy may be followed by a normal one.

Typhoid Fever in Children.—Adolf Baginsky gives as the chief diagnostic signs of typhoid fever, the general appearance of the patient, the characteristic remittent fever, gastric disturbance, diarrhœa, condition of the tongue, enlargement of the spleen, roseola, and the diazo-reaction. The differential diagnosis between typhoid fever and miliary tuberculosis is often difficult. In many cases we must wait for the appearance of meningitic symptoms, irregular pulse, vomiting, constipation, and finally general convulsions before we can be sure of the latter condition. Repeated blood examinations will undoubtedly greatly assist in differentiating pneumonia and typhoid fever. In pneumonia there is generally an increase of the leucocytes, while in typhoid fever they exist in diminished numbers. Frequent physical examination will reveal the pneumonic center in the lungs. The prognosis of typhoid fever of children is, as a rule, favorable. The writer has observed eighty-eight cases in the hospital, five of which died, a mortality of 5.6 per cent. In his private practice he has been more successful. The most insignificant and shortest forms of typhoid fever often occur in children, and are but a weak reflex of the typical illness. The prognosis of this disease depends very materially upon the treatment and the period at which it is begun. Moderate antipyretic treatment with a consideration of the complications improves very considerably the prognosis, undoubtedly. Proper diet and careful nourishment decide the prognosis in many cases. Pneumonia, parotitis, or other infectious disease, or even noma, as a complication seriously affect the prognosis. Even in the light epidemics of typhoid fever the strictest prophylaxis must be exercised. Children should be protected from the use of infected water and food, particularly milk. Everything coming in contact with the patient should be disinfected. The antipyretic method of treatment has the same importance for children as for adults. The two great groups of remedies are: (1) The bath and the cold pack. (2) The internal administration of antipyretics. Each case must be dealt with according to its individual needs. Children with typhoid fever cannot stand very cold baths. The younger the child, the more care must be taken in this regard. Children bear the cold pack very well. The permanent lukewarm bath, according to the method of Riers, is apparently to be recommended. Success in the treatment of typhoid fever depends largely upon the proper nursing of the patient. Bouillon, wine, yolk of egg with water and wine, milk, cornstarch preparations, plasmon and somatosa are among the foods that may be given. All solid food is forbidden. The organs of respiration require particular attention. Narcosis must sometimes be resorted to to quiet restlessness. During convalesence it is particularly important to watch carefully the digestive organs.

Journal of the American Medical Association, Jan. 9, 1904.

Shall We Operate on Deformed Septa in Cases of Atrophic Rhinitis?—K. W. Baldwin gives an affirmative answer to this question stating her views as follows: After a careful study of the cases and a few thorough cleansings, operate. Operate first on the sinuses of the roomy side if they are involved. As completely as possible, correct the septal deflections, removing only the thickenings necessary to bring the septum into the median line. Later smooth up the septum as the individual case may demand. The tissues have not the recuperative power of normal nasal tissues, and much care must be used in the operation, not only to remove as little tissue as possible to gain the desired correction, but to make no undue or unequal pressure, especially on the cartilages. Change the splint frequently and continue its use the shortest time possible. Never use a pin in an atrophic septum. A pin will of en cause perforation in twenty-four hours and, once formed, the conditions are not favorable to its closure. Stimulate all cut edges to secure an over, rather than an under, inflammatory reaction Excessive granulation tissue can easily be removed. With these precautions she is confident that operative interference will hasten the cure of atrophic cases.

Typhoid Fever: Some Unconsidered Hindrances in Its Prophylaxis.—J. S. Fulton calls for a more careful study of this disease. He is convinced that of all mortality changed in the South to malaria, half perhaps is really due to typhoid fever. The latter disease is far more common than has been generally supposed. It has at the present time and in this country, a heavier incidence on small communities and rural districts than on the larger cities. From a careful study of census statistics and mortality reports, Fulton is convinced that the typhoid reported in the United States is not more than 65 per cent. of that actually occurring. A very large majority of the deaths attributable to malaria is due to causes in which the latter malady does not even participate. The infection is more heavily seeded in smaller communities and the propagation is in general from the county to the town rather than in the opposite direction. Prophylaxis consists essentially in defence against excremental contamination and precisely as the barriers are more or less remote from the sources of infection, is the defence less or more effective. Fulton believes that to set up at the gates of a city, expensive works for the purification of the public water supply as a main defence against water-borne disease is literally a preposterous arrangement. It waives the choice of time,

place, and weapons, conceding all these advantages to the enemy. It assumes that the vices of rural insanitation are invincible, but they are not. If there is one direction in which, more than another, the political influence of great cities should be exerted, it is to bring rural districts and small communities under legal obligation to render strict account of deaths and the causes of death, and to take and give good heed to the preventable diseases at the time and place of their occurrence.

Medical News, January 9, 1904.

The Value of Climate in Genitourinary Tuberculosis.—W. H. Prioleau believes that as a general rule a moderate altitude, when it suits a case, is most desirable. When a patient regains his health at such an elevation he can return home with less likelihood of the disease reappearing. But if he regains his health at a very high altitude, it is questionable whether it is advisable for him ever to leave there. Climate is a most valuable adjunct to the treatment of genitourinary tuberculosis, but it cannot effect a cure by itself. Superalimentation most undoubtedly does harm in urinary tuberculosis. Instrumentation of the tuberculous genitourinary apparatus is seldom advisable.

Seasickness.—William F. Waugh likens the condition of seasickness to the state induced by snake venom—a paralysis of the abdominal vasomotors with accumulation of the blood in the viscera, and consequent anæmia elsewhere, especially in the brain. He advises the following treatment. To an adult is given atropine gr. $\frac{1}{1000}$ every ten minutes until slight dryness of the mouth is felt. The dose is then suspended, not to be repeated till the dryness begins to subside. Strychnine should be given in doses of gr. $\frac{1}{12}$ every ten minutes until the pulse has acquired normal tonicity, and after that, just often enough to sustain this effect. The mind should be kept diverted. Before the voyage, the alimentary canal should be cleared out. A salutary abstinence should be practised before and during the trip. The remedies here advised should be taken in a spoonful of hot water.

The Mortality of Appendicitis.—Frederic S. Dennis states that the mortality in appendicitis in all cases under medical treatment is about 16 per cent., with 30 per cent. of relapses. In diffuse suppurative peritonitis it is almost uniformly fatal. The mortality in appendicitis in all cases under surgical treatment is about 4 per cent., and with no relapses, and in diffuse suppurative peritonitis the mortality in the published statistics is from 31 per cent., the lowest, to 91 per cent., the highest. The mortality in the writer's eleven consecutive cases of diffuse suppurative peritonitis was zero. He believes from his study of all available recent statistics, that any case, after thirty-six hours, that is not improving in every way, should be operated upon at once. Fowler has demonstrated that with operation in forty-eight hours in 127 cases, 83 per cent. recovered. When the cases were left to the fourth day, 60 per cent. recovered; to the fifth and sixth day, 58 per cent.; to the seventh to eight day, 50 per cent.; to the ninth to tenth day, 33 per cent. The writer approves of allowing the simple catarrhal cases which are doing well after thirty-six hours to recover without immediate operation. They are classed as interval cases. The introduction of the interval operation offsets the tendency to indiscriminate operation. The writer believes that the mortality in appendicitis can be reduced only by a hearty, cordial coöperation of both physician and surgeon.

New York Medical Journal, January 9, 1904.

Radium: Induced Radioactivity and Its Therapeutical Possibilities.—S. G. Tracy finds that normal salt solution is one of the best media for the manifestation of induced radioactivity which may be tested by either the electroscope or a sensitized photographic plate. His method is thus described: Two hermetically sealed tubes of radium bromide are placed in the bottle of salt solution. One tube contains a small quantity of pure radium with the maximum radioactivity—1,800,000 the other, 10 milligrams of 950,000 radioactivity. The tubes remain in the solution for twenty-four hours, when they are removed and the solution is allowed to stand for twenty-four hours more. It is then found that the latter manifests considerable radioactivity, as is shown by skiagrams shown by the author. The experiment has been repeated a week later with the same solution and with the same result, thus showing that the radioactivity is not lost. But even though the emanations be lost, the "active matter" remains, and will continue to produce radiations for several hours afterward. The radioactivity of the normal salt solution may be stimulated by burning magnesium near it, or by exposing it to the spark from a Leyden jar or a static machine. Exposure to the ultraviolet rays will also stimulate it. Tracy states that this form of radioactivity possesses marked germicidal and autoseptic properties, and he suggests its employment in superficial malignant disease, skin affection, etc. The salt solution treated as above can be used internally, on dressings, as a spray, etc.

Some Observations on an Unusual Case of Scurvy.—The case is reported by J. Davidson, whose patient was a boy of seventeen years, whose symptoms were explainable on the theory of a multiple neuritis, recovery being sufficiently complete to leave no marked loss of muscular power, but leaving some evidences of muscular wasting and degenerative reaction. His symptoms included hæmoptysis and tendencies of nephritis and endocarditis, all of which were regarded by the author as of a scorbutic nature. Prompt recovery ensued upon the establishment of the usual autoscorbutic regimen. As differential points between the symptoms and those of spinal hemorrhage, the author mentions the following, suggesting a peripheral lesion: (1) The onset and development which were rather gradual; (2) the exact symmetry; (3) the exact and accurate limitation of palsy, atrophy, and particularly of sensory disturbance to distribution of ulnar nerve (all the other nerves involved having recovered, some entirely, some almost so); (4) the selection of the most terminal nerve branches to the exclusion of nerves nearer the center; (5) the recovery of median nerve and continuing palsy of ulnar nerve on the same side; (6) the absence of pupillary disturbance (and of bladder, rectum, and other spinal cord symptoms); (7) the absence of areas of sensory disturbance in strips along regions corresponding to spinal cord sections. Whether the multiple neuritis was caused by hemorrhages into the nerve sheaths or was of toxic origin cannot be positively stated.

American Medicine, January 9, 1904.

Tubism, the Lavage Habit.—C. D. Spivak describes the patient who has become addicted to the use of the stomach tube on all occasions. He states that not more than 20 per cent. of cases of gastric disturbances need lavage. When this treatment is indicated, two or three times a week is generally sufficient for all purposes. The writer uses the stomach tube in all gastropaths for purposes of gastric analysis, and finds that eighty will do well on a treatment of regulated diet, medicine, massage, physical culture, out-door life, and hydrotherapy. He concludes that lavage of the stomach is used by physicians without due discrimination. The stomach tube should never be allowed to be used by the patients themselves. To the many acquired vicious habits must now be added that of "tubism."

Observations on Uncinariasis.—Louis M. Warfield calls attention to a new species of parasite peculiar to our country, uncinaria americana. Whole communities in the South are infected. It is one of the commonest diseases, in that part of the country. It is the chief cause of anæmia in children especially, as they are the ones most liable to infection. Adults, if not too badly infected, seem to outgrow it, presumably through death of the worms. Ground-itch is intimately associated with uncinariasis, and infection most probably arises from contamination of the hands and later swallowing the embryos. Infection other than through the mouth is thought to be very improbable. While no adult worms were found in the cases described by the writer, the size of the eggs left no doubt that the infecting agent was unicaria americana. Prophylaxis rests with the country physicians, who should urge the building of latrines or privies that can be easily cleaned and disinfected, and which are closed below, so that barnyard fowls cannot get at the discharges, and so protected that rain cannot wash the discharges over the adjacent soil. Parents should then see that children use the privies, and do not defecate whenever they happen to be when they feel the desire. It is impossible to infect man with the uncinariaf of dogs or of other animals, so the problem of prophylaxis is simpler than it would otherwise be. Man is here his own worst enemy. This disease is the worst foe of labor that a community can have and a new era will dawn for the country districts in the South as soon as they are rid of this vampire.

Results of an Experimental Treatment of Epileptic Insanity.—J. W. Wherry gives his reasons for the treatment he has given in cases of epilepsy. He believes that epilepsy is a condition of autointoxication, producing a vasomotor spasm, from which the convulsion follows. The treatment was to be directed toward the vasomotor system instead of toward the brain. It was to be a combination of drugs, which would, if possible, prevent excessive vascular constriction and at the same time improve the general health. It was based upon the nitrites instead of upon the bromides, and its object was vasodilation rather than brain stupefaction. During this course of treatment no change was made in the diet of these patients, nor in their daily habits. Whatever benefits

were derived must have come from the treatment itself. The change in the patients has been remarkable. The quarrelsome and irritable disposition has practically been eliminated. With its exclusion the violent, vicious, and disorderly tendencies have disappeared. The decrease in the number of convulsions has been marked. Extending over a period of two years, there has been a reduction from an average of forty convulsions per month for each patient in May, 1901, to an average of three convulsions per month for each patient in April, 1903. The decrease in severity has also been marked. Only the most pronounced and confirmed epileptics were selected as illustrations. The writer started with the idea that the prime cause of epilepsy was a self-eliminated toxin, whose presence produced excessive constriction of the arterioles, and that the unconsciousness and the convulsion were the legitimate offspring of this unusual vascular spasm. The fundamental principles of the treatment are: A combination of vasodilating drugs with a saline cathartic and an alterative. The particular ingredients to be used in each case can be safely left to the judgment and discretion of the attending physician.

The Lancet, December 26, 1903.

On the Use of Pure Carbolic Acid in the Treatment of Smallpox.—J. T. Neech and J. F. Hodgson give their later experiences with this mode of treatment. Their cases number now 136, of which five died. The method consists essentially of applying the acid to the vesicles over a certain area of the body each day, commencing with the face and head until all vesicles have been treated. The applications are continued until the vesicles abort or dry up. Care must be taken to prevent the acid from running on to healthy skin. Carboluria was noted in only two cases, both belonging to the same family. The application of the acid caused very slight and transitory pain and relieved the intense irritation. The patients never complained or scratched themselves. The effect appeared to be local, the pustules rapidly shrivelled and scabbed, and the further development of the papules and vesicles was either prevented or, if not aborted, comparatively little discharge resulted. In fact, all the vesicles had formed into scabs in from five to ten days after treatment, according to the severity of the cases, and in from ten to eighteen days the scabs had fallen off, except, of course, those in the palms of the hands and the soles of the feet. The ulceration of the skin in the pustular stage was practically prevented, so that dermatitis with cutaneous and subcutaneous œdema was lessened, and the tendency to the formation of scars was not nearly so great. The offensive odor from the eruption was entirely absent and to a certain extent the application kept the patients clean. The absorption into the system of septic material from the pustules is either prevented altogether or is only very slight. This along with the lessening of the process of ulceration abolishes the secondary fever or renders it very mild. The temperature generally kept at a low level after the appearance of the pustular stage, and was never much above 102° F. even in confluent attacks in unvaccinated persons, and was normal long before it usually is in untreated cases. Delirium was very infrequent and the pulse was not markedly increased, as is usually the case when the pustular stage is reached. The risk of infection by aërial convection is also, we consider, much lessened, and we can discharge a patient with a greater feeling of safety a week or a fortnight before the usual time, as the treatment cuts short the disease to that extent at least. There was an entire absence of complications, such as multiple abscess, etc. The early removal of the scabs was effected by means of carbolic oil, bread poultices, and antiphlogistic applications which tended to prevent the formation of small superficial abscesses.

Deutsche medicinische Wochenschrift, December 24, 1903.

The Scarlatiniform Rashes Appearing after the Injection of Diphtheria Antitoxin.—Oberwinter, using a material comprising 200 serum injections, found that true serum rashes of exudative type occurred in only 2½ per cent. Owing to the prevalence of a scarlatina epidemic at the time of making the observations, considerable difficulty was experienced in determining the true nature of other much more numerous scarlatiniform rashes. It was found that those diffuse punctate rashes developing within three to five days after serum injection (or admission to the hospital) were to be regarded with the greatest suspicion, and that in most cases these revealed themselves as true scarlatina. The fact that the rash begins at the site of injection is not at all positive evidence in favor of a benign nature, for scarlatina may begin in the same way. The author furthermore believes that true double infections with scarlatina and diphtheria occur, and that many of the scarlatiniform eruptions occurring in hospital diphtheria cases are due to such double infection outside.

Arsenic Habituation.—Hausmann was led to make some observations on the action of arsenic on animals, particularly to test the immunity to the drug supposed to be produced on long taking. His results are somewhat at variance with the time-honored beliefs, for he found that in cases on record doses much larger than those usually considered fatal had been taken by ordinary individuals without causing death, and that even the famed arsenic eaters of the Steiermark do not exhibit a very appreciable immunity, though it undoubtedly does exist to some degree. It is not certain, however, that they can take ordinarily fatal doses with bad results. The author used chickens as experiment animals and found that with them as with man, individual powers of resistance played a large part. It was possible in selected chickens to produce a slight degree of immunity, about equivalent perhaps to that of the Steiermark *habitués*. The ill results supposed to follow the sudden omission of the drug in those accustomed to it could not be observed in the experiment animals, and it is probable that when arsenic is taken for long periods therapeutically, suddenly stopping it simply allows the organism to relapse quickly to the condition for which the drug was first given.

Berliner klinische Wochenschrift, December 21, 1903.

The Acoustic Transformation of the Pulse.—Sommer has succeeded in producing an apparatus by which the beat of of the pulse is transformed into a sound, the different qualities of which indicate the nature of the pulse curve. The principle is that of causing the fluctuations of the arterial wall to lengthen and shorten the reed of a musical pipe which is actuated by a continuous blast of air and gives a steady note which is modified by the impulse of the vessel wall. In this way a very delicate method of observation is produced which has certain advantages over the ordinary sphygmograph. Its principle point of superiority lies in the fact that it can easily be used during long periods of time, so that in functional cases, for example, when irregularities and intermittences occur only with considerable normal intervals, protracted observations are possible, while the kymographic record is limited by the shortness of the piece of smoked paper which must be used. The method is also said to give more accurate conceptions of the nature of each individual contraction. Permanent records are readily made by using a phonograph in conjunction with the author's instrument.

Discharge of Bones Following Fetal Putrefaction after Missed Abortion.—Rosenkranz publishes a case differing, he says, from all others in the literature in the fact that the fetal maceration took place in the short space of nineteen days and that the symptoms produced were very slight. The patient was a xi-para, who last menstruated on February 6. On June 1 liquor amnii was discharged and the patient was confined to bed for fourteen days with a slight temperature. There was moderate bloody discharge and the size of the uterus diminished rapidly; the cervix was not dilated. At a vaginal examination on June 19, two small bodies were found in the vagina and proved to be a carpal bone and a rib. During the next two weeks a number of other bones were discharged in the same way without any dilation of the cervix. On July 5 a moderate flowing took place and the cervix was found slightly dilated. The cervix and vagina were packed and on July 7 the remaining bones and the placenta were removed manually. The operation was accompanied by an intense odor of putrefaction. The number of bones removed was thirty-two, and all of them were completely denuded of soft parts. The patient made an uncomplicated recovery.

Berliner klinische Wochenschrift, December 28, 1903.

Tuberculosis and Pregnancy.—Hahn says that the view that pregnancy exerts a beneficial effect on tuberculous patients, or at least is well borne by them has been exploded. Pregnancy must be regarded as a serious complication of the disease and gains in gravity the oftener it occurs in the same patient. The prevention of conception in tuberculous patients is therefore a vital point in the combat against the disease. If pregnancy has taken place, the patient should be kept under close observation, and if her condition is not satisfactory, an abortion should be induced after consultation with a colleague. In the later months, premature labor has no advantages over the normal termination of the pregnancy, and a healthy child may be born which, under hygienic conditions, may grow up without contracting the disease. Pregnancy is always a drain on the system, andin tuberculous patients requires especial care, so that the societies for the prevention of the disease should devote much attention to such women of the poorer classes. The plan advocated by Maragliano

and Hamburger of invariably interrupting the pregnancy in tuberculous women cannot be carried out.

Syphilis Inoculations in the Anthropoid Ape.—Lassar, actuated by the results of Metschnikoff and Roux, successfully repeated their inoculation of a chimpanzee with syphilitic virus. The animal was a vigorous male four to five years old. The patient from whom the virus was obtained was a young man who had contracted the disease through the use of infected tatooing needles, and the material used was taken from the primary lesion on his arm. He also undertook the care of the animal after the infection, a matter of some importance, since, if the experiment proved successful, any injury inflicted by the chimpanzee on his healthy attendants would be likely to have serious consequences. Bits of tissue and secretion from the patient's chancre were placed in pockets and punctures made under the skin of the forehead, the ears, and in the mucous membrane of the mouth. These various spots healed promptly and without reaction, and only two showed any later change. These were above the eyebrows, and on the fourteenth day began to show induration, which subsequently assumed the typical appearance of the lumen chancre. Still more important as evidence of infection is the fact that other lesions developed in the palms of the hands, on the soles of the feet, and about the anus. Similar efflorescences appeared on the arms, the forehead, and on the scalp, which gradually lost its hair. Microscopical sections also contribute to the view that the formerly accepted dictum that syphilis is non-transmissible to animals is erroneous and that the anthropoid apes are susceptible to the disease.

The Indications for Splenectomy.—Jordan says that 400 cases of extirpation of the spleen are now on record, and that it is an established fact that the loss of the organ entails no injury to the individual. The technique of the operation has been developed so that now it is proper to undertake it even on purely relative indications. Rupture of the spleen is an absolute indication for the operation, and thirty successful cases are recorded. In splenic cysts the older method of incision and drainage must still be considered; though eight cases have been treated by excision without a death, and of seventeen treated in this way for echinococcus cyst only two ended fatally. Sarcomatous growths can be temporarily checked by this measure and one case of permanent cure is recorded. Every effort to remove the leukæmic spleen has ended fatally and the pseudo-leukæmias also do not promise much in this direction. The malarial spleen may be considered operable as as well as cases of simple chronic hyperplasia without discoverable etiology. In ten recorded cases of the latter 100 per cent. of cure were effected. Fourteen cures have followed seventeen operations for Banti's disease. If a wandering spleen appears normal in itself, splenopexy should be done, if, as is usually the case, it is enlarged excision is indicated, particularly as the long pedicle renders the operation easy and safe. Seven extirpations for necrosis and perisplenitic suppuration have resulted successfully. The author has performed the operation seven times with one death.

Münchener medicinische Wochenschrift, December 22, 1903.

Tabes Juvenilis and Hereditary Syphilis.—Hartmann describes the case of a girl of twenty who had been suffering from spasmodic facial pain since her thirteenth year. At the age of seventeen she suffered a severe exacerbation of these pains so that she was confined to bed for eight weeks and at the same time she lost her sight almost completely. Subsequently vision improved somewhat, so that she could do coarse work. At the age of nineteen she had a premature labor at the seventh month, and during the nine months that have elapsed since then menstruation has not returned. The facial pains had become so severe that morphine was required to control them. The physical examination was negative except for marked flushing and heat of the face, which was the seat of intense neuralgic pains, though not tender to pressure; and the presence of well-marked Westphal's and Romberg's signs. The optic disk was atrophic on each side. The author concludes that this is one of the unusual early cases of tabes, probably due to hereditary syphilis, as there was a strong suspicion of maternal infection. An unusual feature is the prolonged stage of pain, localized in the face, which is rarely involved in tabes, without the development of parasthesia or atoxia. Nothing was accomplished by syphilitic or other treatment.

A Contribution to the Premature Separation of the Normally Situated Placenta.—Schickele has observed ten cases of this rare complication and gives their histories and treatment. In five the hemorrhage occurred suddenly without warning, sometimes before, sometimes at, and sometimes several hours after the onset of the labor pains. In the others the bleeding was more or less gradual and intermittent. It is the author's view that an internal hemorrhage gradually accumulating and finally bursting through the cervix, is the beginning of all cases, and that a certain amount of damming back always occurs, so that the hemorrhage is never purely internal or purely external. The number of previous pregnancies has no obvious relation to the production of the lesion. Variations in the manner and rapidity with which the placental separation takes place give rise to the different types of the complication observed, but the separation is always more or less gradual. It is a mistake to make the diagnosis of premature separation only when the placenta appears immediately after the child. The treatment must be adapted to the special indications of each case, and consists in emptying the uterus as rapidly and with as little injury as possible. The metreurynter forms the best measure for this purpose and the Bossi dilator is not advised. When the child is dead, as it often is, perforation and extraction are indicated; if it is in good condition and the uterus not so tense through accumulated blood in its interior as to make the procedure too dangerous, version affords a rapid method of completing the dilation and extracting.

The Organism of Actinomycosis in Man.—Doepke draws the following conclusions from his study of growths obtained from actinomycotic infections in man: The actinomyces fungus grows on all media, but best on glycerin agar at body temperature. At room temperature growth is less vigorous; the organism is both aërobic and anaërobic. The colonies are superficial, the size of a millet seed, elevated, yellowish, with a depressed darker colored center and radiab striations which show best on gelatin. Gelatin is slowly liquefied, bouillon is made cloudy, with a slight precipitate but no pellicle. To exclude possible contaminations, cultures should be made from the granules themselves and not from pus. The course of development of the organism from these granules to the fully developed rods is by a process of lengthening of the granules, which next subdivide and then grow out to form filaments. After two to three days these show branching and finally break up into rods. The fungus temporarily loses the property of staining with gram in the stage of filament formation, but regains it in the branched forms and the rods. Club-shaped forms with radial arrangement were observed in young cultures and stained with gram. Clubs obtained from fresh pus differed from those in artificial cultures through a straightened and more slender form, and in the fact that they are joined to the end of the filaments in a cap-like manner. They furthermore are negative to gram. The clubs from artificial cultures of human actinomycosis have the same form, method of junction with the filaments and reaction to gram as the clubs obtained from pus of bovine actinomycosis. Old cultures form crystals of carbonates and phosphates, which are deposited as a sediment in bouillon and are found on the surface of sugar colonies. In gelatin they are either in the sediment or just below the floating colonies. The larger mulberry-shaped calcareous masses sometimes found in old gelatin cultures contain the same salts, but have active germs in their interior. The organism has been detected in carious teeth, and this emphasizes the necessity of asepsis by dentists.

French and Italian Journals.

Cysts of the Thyroid Gland.—M. Tillaux reports two cases of tumors developed in this gland, and about the size of a hen's egg. No interference with deglutition, and no dyspnœa was developed, neither was there any sign of Basedow's disease. The tumors were not a part of the thyroid gland, but could be removed without affecting its integrity—they were, in fact, cysts of the thyroid. These inoffensive growths, by their mere presence, often torment the patients to such an extent that they become melancholic, and sometimes even develope suicidal tendencies. Their removal is easy and harmless.—*Journal des Praticiens*, November 28, 1903.

The Communicability of Cancer.—M. Isch-Wall has collected a number of instances which seem to point to the contagiosum of cancer. Some of them are the following: Three friends often met and went fishing in a boat. One of them contracted cancer of the tongue, but continued to go fishing, frequently expectorating into the boat. He finally died. In the following two years both of his companions died of cancer of the stomach. A mother and daughter sleep in the same bed. The mother has a cancer of the breast, and the daughter has also developed one. Four persons in one family, living together in the country, died of cancer—in three, the cancer was situated in the pylorus, in one in the liver. One of the writer's patients had leucocythæmia, with lymphosarcoma of the neck. A few years after his death, his wife died of abdominal cancer, which appeared to have started in the intestines.—*Journal de Médecine de Paris*, November 29, 1903.

Opotherapy.—In a discussion of the subject, Mr. Cassaët spoke of having used renal medication in a desperate case of renal suppuration following lithiasis. The patient had been practically given up by her physician. The urine was purulent, the kidneys were enlarged, and the patient had passed a large number of calculi. The author gave her raw kidneys to eat every day without interruption, for five or six months, without the slightest symptom of intoxication being observed. Fifteen days after treatment was begun, the urine was clear, and the patient eventually made an excellent recovery. While under treatment, she ate kidneys only, and could not tolerate any other meat.—*Gazette Hebdomadaire des Sciences Médicales*, November 29, 1903.

General Subcutaneous Emphysema.—Aldo Tozzi describes the case of girl of nine years who was suddenly affected with laryngospasm and severe coughing. The diagnosis was difficult, no cause for the attack being discoverable. Santonin and calomel caused the evacuation of many lumbricoids. The following day the child was in a state of prostration so extreme that a fatal termination was looked for at any minute. This condition improved, to be succeeded by an extraordinary enlargement of the neck, owing to air in the subcutaneous tissues. This swelling gradually extended to the chest and arms; the face, the whole body, in fact, down to the feet were enormously distended, and the condition lasted for days. The parents, convinced that the child was dying, would allow of no interference. By degrees, however, the emphysema disappeared, the heart became stronger, the cough vanished, and in a month the child was entirely restored to health.—*La Riforma Medica*, November 25, 1903.

The Treatment of Cancer with the Serum of Adamkiewicz.—M. Katscher of Budapest reports a number of cases successfully treated with this substance. His wife had had two operations for mammary cancer, and had lost the use of one eye from cancer, beside having metastases at the articulations of the lips, and in the ribs. In July and August she was given eight hypodermic injections of cancer serum, which resulted in the disappearance of the metastases and of the disease in the eye. Visual power increased. In November five more injections were made, with further increase of visual power, and gradual but total disappearance of all ravages due to cancer. In another case, the wife of a professor in the University of Bucharest, had suffered from relapses after operation, and had been given up by all her physicians; after six weeks of treatment with the serum of Adamkiewicz, she was cured, and for more than a year has remained in perfect health. Several other cases are described, and the author expresses his belief in the remedy.—*Journal de Médecine et de Chirurgie*, November 25, 1903.

The Effects of Seaside Treatment on the Nervous System.—Maurice Mendelssohn states that the immediate effect of this treatment on man or animals, both sick and well, has no direct bearing on the general condition and does not alter the reflex excitability of the nervous system; but that the change in the excitability of the nerves is a secondary result. This treatment stimulates metabolism and causes a peripheral stimulation which acts reflexly on all parts of the nervous system, fulfilling the two fundamental requirements in all nervous affections, namely, improvement of the nutrition and the regulation of nervous excitability. The treatment exercises not only a tonic, but also a sedative, influence. The symptoms of nervous excitability which some patients show at the commencement of the treatment are of psychical origin. The seaside treatment is indicated in most nervous affections, especially in those which cause poor nutrition, when a tonic effect is desired, and in all nervous affections requiring sedatives; but is contraindicated in convulsive or paralytic conditions. This treatment deserves a high position as the most effective of all in nervous diseases.—*Bulletin Général de Thérapeutique*, December, 1903.

Cerebrospinal Meningitis from the Staphylococcus in Two Typhoid-fever Patients (Possible Contagion).—Émile Sergent and Henri Lemaire report these two interesting cases. They believe that the cerebrospinal meningitis which occurred as a complication in these two typhoid patients was due to the staphylococcus—the staphylococcus citreus. It might be suggested that the microorganism isolated from the cerebrospinal fluid was not the chief cause of the meningeal lesion, but that it developed only after the disappearance of another microbe, which had been the true pathogenic agent (diplococcus of Weichselbaum, bacillus of Eberth). This is indeed possible, but it is nevertheless true that the staphylococcus appeared in these cases to be the chief agent of the terminal accidents, since it was obtained in pure culture not only from the cerebrospinal fluid but also from an abscess of the lung. Besides this, it was noted in two patients who lay side by side. This authorizes the hypothesis of contagion. These are not isolated observations. In the epidemic of 1898–99 four cases of meningitis with a pure staphylococcus were reported. One of the cases had developed in the course of typhoid fever.—*Archives Générales de Médecine*, December 8, 1903.

Two Cases of Placental Retention after Abortion, One of Which Was Treated by Antistreptococcic Serum.—Thirion says that the treatment of troubles consecutive to abortion, when the membranes have not been expelled has given rise to numerous discussions. He makes this report, not with the idea of over-emphasizing the importance of his observations, but in order to give the results of his experience. The more important case was that of a girl of seventeen years. There was nothing of importance in either personal or family history. She had not menstruated within the last month and believed herself pregnant. She had had a severe hemorrhage. This was followed by fever and she was brought to the hospital for treatment. She presented the symptoms of infection. Antiseptic injections were given and curettage was performed. After this, artificial serum, 750 grams, were ordered. The serum was repeated on the morning of the next day; as the condition was not improved in the evening, 20 c.c. of antistreptococcic serum were given. The general condition of the patient was unfavorable. She was covered with profuse perspiration. This treatment was continued for several days. The patient made a rapid recovery. About two weeks after coming to the hospital examination showed that the uterus was small and very movable and the cul-de-sac free and not painful. The writer believes that this case is worth recording.—*Journal des Sciences Médicales de Lille*, December 5, 1903.

Tumors of the Bladder.—Guyon describes the course of symptoms which are often noted in a patient suffering from tumor of the bladder. Blood is urinated, although at first the hæmaturia is not very extreme. There is neither tenesmus nor pain. When the hæmaturia ceases, and it sometimes stops spontaneously, the urine becomes limpid again. It does not contain pus. Just as the physician and patient begin to think that they have suffered from false alarm, the hæmaturia begins again. Every time this symptom recurs it becomes more and more severe. The diagnosis is not always easy. Sometimes a large kidney is observed, and it seems natural to attribute the bleeding to this phenomenon, but the kidney begins to diminish in size, and it is seen that there is only renal distention, not a renal tumor. A bloody clot compressing the opening of the ureter into the bladder prevents the urine from passing off—consequently the renal distention. The writer then describes a case which had come under his observation, the symptoms of which were about like those above. The patient, a man of sixty years, was brought to the hospital. He had first, about a year before, when in perfect health, observed a little hæmaturia. There was no pain, and after the bleeding stopped, the urine became perfectly clear. At the time he entered the hospital considerable blood was passed in the urine. Careful examination revealed a pediculated tumor of the bladder. The tumor was benign in appearance. The writer declares his intention of removing it.—*Journal des Praticiens*, December 12, 1903.

Experiments on Obliterating Fallopian Tubes.—I. Rousse has found that a ligature carefully applied, or, still better, a section of the tube and broad ligament between two ligatures, is sufficient to obliterate a normal tube. The rare failures which have been published can easily be explained by errors in technique (too thick a pedicle or too loose a ligature) or alterations of the tissues. During the last year he performed one or other of these operations on six women with positive results. He recommends the section of the tube and part of the broad ligament between two ligatures in cases in which sterility is desirable because of an operation on the peritoneum. Either method is rapid and has no special objection, but troublesome adhesions or cystic degeneration of the organs sometimes take place. For these reasons the operation should not be done without sufficient cause. If obliteration of the tubes following certain operations (cæsarean section in marked pelvic deformity, ventral fixation in exhausted women, or the many children, abdominal operations in tuberculous women, cardiac disease, etc.) are considered legitimate, he is absolutely averse to all procedures for the sole purpose of rendering thoughtless when carried to an unwarrantable length, and they are dangers, because they expose the woman to an abdominal operation. On the other hand, they would reduce the number of medical abortions, not to mention the criminal ones. But this slight advantage is far from being counterbalanced by the greater dangers. Medical abortion has no more risk. Pregnancy itself can be averted with almost absolute certainty by entirely harmless means.—*Annales de Gynécologie et d'Obstetrique*, December, 1903.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held December 17, 1903.

ANDREW H. SMITH, M.D., PRESIDENT.

THE scientific program was in charge of the Section on Genito-urinary Diseases.

Operative Relief of Symptoms Due to Senile Hypertrophy of the Prostate.—Dr. PAUL THORNDIKE of Boston read this paper. He said that the catheter was useful up to a certain point; after that its use became unnecessary abuse. There was a class of prostatic patients in whom the obstruction had reached a point at which it became necessary to empty the bladder one or more times a day, and yet it was positively impossible to establish a proper routine use of the catheter. Another class of patients was absolutely unwilling to enter upon catheter life. Both of these classes should offer very favorable opportunities for operation. There remained, however, a very large class of cases, many of them, obviously enough, subjects for operative measures, and all of them easily made comfortable for the time being by the routine use of the catheter. If such patients were properly supervised and cared for up to the time when the urethra and bladder had acclimatized themselves to the new conditions of catheter life, many of them would go through their lives with a sufficient degree of comfort and an ever-decreasing risk to the integrity of the bladder and urethra. When such conditions could be secured, the catheter became a proper means of palliation; but when, for any reason, these conditions were unattainable, one reached that certain point at which the use of the catheter ended and its abuse began. That was the moment when operative relief should be sought, and it should be given at once, and not after months of a struggle carried on at the expense of pain, deterioration of the affected organs, and a material reduction in the chances of a favorable outcome.

During the past fifteen years much progress had been made, and much valuable experience had accumulated. Prostatectomy, from being a slow, bloody, and inaccurate procedure, carried out by the aid of cumbrous instruments and, for the most part, in the dark, had come to be a quick and accurate operation. These technical improvements in the operation had been marked enough to lessen materially the mortality of the procedure, and yet surgeons had been so engrossed with the technique of the operation that cases for operation had been chosen many times with a lamentable lack of discrimination, with the result that they were, at the present moment, quite unprepared to state just what was the real danger of such radical operation in properly selected cases. The real problem at the present time was in the selection of the proper case rather than of this or that method of operating. Certainly, few elderly men were good operative risks. Prostatectomy no longer offered the former 15 or 20 per cent. of mortality which it did a few years ago, but it was, and always must be, a serious and dangerous procedure, and one to be offered only to patients who were fair surgical risks. There were prostatics whose obstructive symptoms developed at so early an age that operation became a necessity while they were still comparatively vigorous men in good physical condition. There were others, older men, who, in spite of advancing years, maintained the physical characteristics of men much younger than themselves. These were the cases for prostatectomy, and while it was very difficult to describe accurately just what cases came into this class, and while it was certainly impossible to take the age of the patient as a guide to this classification, the decision would be well enough reached in the individual case provided the surgeon always realized that he had another alternative, provided he did not wish to assume the risks of the radical operation. Prostatectomy should always be the method of choice when possible, because it was really the only operation which offered the prostatic a cure. There was a class of cases in which unjustifiable risks were taken simply because of the need for a general anæsthetic. Whatever might be the scope or degree of the Bottini operation, it was certainly a far safer procedure than the more radical operations. Personally, he had been formerly very skeptical as to its usefulness, but he had come to the conclusion that it had a sphere of usefulness in certain patients, demanding relief, who were not good surgical risks. The operation required no general anæsthetic, and convalescence was exceedingly rapid. While its results were less certain than those of prostatectomy, it offered the patient a prospect of being able to do without a catheter.

Best Radical Operation for Senile Hypertrophy of the Prostate Gland.—Dr. ORVILLE HORWITZ of Philadelphia presented a paper on this subject, based upon a study of 141 radical operations. The surgical world, he said, was of the opinion that the danger began as soon as it became necessary to resort to the catheter. He would urge the importance of having a surgeon in attendance as soon as it became necessary to resort to the catheter. One cause for the diversity of opinion among surgeons regarding the proper method of dealing with prostatic cases was the attempt to apply the same method of treatment to all cases. The fact was that every case was a law unto itself, and the method of treatment must depend upon a careful consideration of all the features of the case.

The Bottini Operation.—Of all the methods that had been suggested, but two had stood the test of experience, the so-called Bottini operation and prostatectomy. He had previously tabulated the results of the Bottini operation, viz., 896 operations done by 48 operators, with 84.3 per cent. cured or improved, and 10 unimproved, and with a mortality of 5.7 per cent. In his opinion, it would always be regarded as a valuable surgical procedure, which, in certain cases, was capable of giving relief without special danger to life. The genitourinary surgeon could no longer afford to treat this operation with contempt. His own personal experience with the operation comprised 93 cases. Out of this number, 3 died. All of them were old men. Two died of uræmia and one of sepsis. He had been able to follow 81 cases for a sufficient length of time to obtain some knowledge of the ultimate results. There were 22 operations done in persons between 52 and 63 years of age, and in whom catheter life had already existed for some time. Of the patients operated upon between the ages of 52 and 76, all obtained symptomatic cures. As a rule, the prostatic obstruction was due to a fibrous enlargement. There were 15 cases operated on between the ages of 61 and 81, all patients who had been using the catheter for many years, and who were suffering at the time from cystitis.

Prostatectomy.—No routine method was applicable to all forms of prostatic hypertrophy. His own experience with prostatectomy embraced 50 operations. Nine of the operations were done by the suprapubic incision, and of this number, 2 died. Of 34 complete perineal prostatectomies, 6 cases were lost sight of. Of the 21 remaining cases, 16 were cured, 4 were markedly benefited, and 1 was not improved. Perineal prostatectomy was evidently of great surgical value, and was the most satisfactory method of reaching the gland. The operation could be done rapidly, with little hemorrhage and little or no shock. The mortality ranged between 5 and 25 per cent., the usual estimate being 15 to 18 per cent. At the present time, in the hands of the experienced surgeon, the mortality, in selected cases, should not be over 5 to 7 per cent. In 90 per cent. of the cases the prostate could be reached by the median perineal incision. From the 145 operations, the following deductions were made: A routine method was not applicable to the treatment of prostatic hypertrophy. The dangers attendant upon daily catheterism were greater than those attendant upon prompt operation at the time when it became necessary

to resort to the daily use of the catheter. The Bottini operation was applicable to a large percentage of cases, and, in properly selected cases, would prove to be the best and safest method of relieving the obstruction. A complete prostatectomy was justified if performed early, before the individual was broken down in health and secondary complications had supervened. The recovery was usually rapid under such circumstances. A complete prostatectomy in old people, who were feeble and presented complications, yielded a grave prognosis, the mortality ranging between 15 and 18 per cent. In 90 per cent. of all cases the gland could be readily removed by means of a median perineal incision. A suprapubic prostatectomy was safer if combined with perineal drainage. The perineal prostatectomy was suitable in those cases in which the enlargement of the lateral lobes tended to progress toward the rectum, obstruct the urethra, or project backward into the bladder.

Dr. L. Bolton Bangs opened the general discussion of these papers. He said that his own view of this subject had been admirably stated by Dr. Thorndike. A broad discrimination must be made between hospital patients and the well-to-do intelligent private patients. In the former class, the primary retention should be the indication for radical treatment. It was not so difficult to choose the operation as to decide when and upon whom to operate. Primary retention was not a sufficient indication for the treatment of the individual. The patient should, of course, be kept under the supervision of the family physician or of a surgeon in order that the golden moment might not be lost when operation could be done with the best results. It should also be remembered that every man who had frequent nocturnal urination and some residual urine was not necessarily a victim of a serious and progressive enlargement of the prostate. He had had some experience with prostatectomy and with the Bottini operation, and he was inclined to think that prostatectomy was the operation of choice in properly selected cases. Nevertheless he would admit that the Bottini operation was applicable to a certain class of cases, but he could not, at the present moment, accurately define the cases in which it should be used. In some cases it would give a great deal of relief, and in others, a positive cure, with a minimum of risk. He thought the Bottini operation required a little more skill than the performance of prostatectomy, because the latter operation was within one's sight or feeling. The Bottini operation required a certain degree of actual experience as well as dexterity to do it satisfactorily. The speaker said he did not think enough stress had been laid upon the ultimate effects of operation. He had known some who, for the rest of their lives, had had to have sounds passed, or had suffered from more or less incontinence, or who had been annoyed by the absolute loss of the sexual function. There was also at times a certain amount of psychic change. He had observed some impairment of the sexual feeling after the Bottini operation also. Murphy had suggested that the incontinence or permanent impairment of the sexual function could be avoided by excising a portion of the prostatic urethra, thus reducing the caliber of this part of the urethra.

Dr. Willy Meyer said that, with many others, he considered prostatectomy the most radical, as well as the most surgical, procedure; in fact, it was the ideal operation for dealing with senile hypertrophy of the prostate gland. It was known that prostatic disease was dependent upon urinary obstruction, and, hence, it was rational to endeavor to control this disease by the removal of the mechanical obstruction to the outflow of urine. He had done perineal prostatectomy nine times, and had been much pleased with the results of these operations. The operation was especially indicated in hospital patients. In removing the gland he had incised each lobe separately by means of a perpendicular incision, and had endeavored to preserve, as far as possible, the ejaculatory ridge and avoid injuring the prostatic urethra. This was certainly quite a difficult task. Having tried the various modes of enucleation, he had come to the conclusion that it was desirable to have within the prostatic urethra a firm metallic instrument, which would bring the prostatic lobes within easy reach. He believed that the interference with the nerve supply might also have something to do with the impairment of the sexual function, even though the ejaculatory ridge were carefully preserved. He did not greatly fear general anæsthesia, because he had learned that spinal anæsthesia, if properly carried out, especially by means of tropacocaine, was a most excellent method. He could not confirm the statement that the convalescence from the Bottini operation was necessarily short and smooth. Prostatectomy should be the operation of choice under favorable conditions, but when those conditions could not be secured, or the patient positively refused this operation, the Bottini operation should be selected.

He had personally done the Bottini operation from October, 1897, to October, 1902, 59 times. He had been able to trace only 34 of the 59 cases. Of these 34, 28, or 82.4 per cent., were cured or materially benefited by the operation. Of 15 patients who had been using the catheter regularly before operation, 10, or 66 per cent., had laid the catheter aside permanently, and of 23 cases interviewed as to the sexual powers, it was found in 20, or 86.9 per cent., that the sexual power had been fully preserved. These results, he thought, spoke for themselves, and certainly argued strongly in favor of giving this operation a place of permanence.

Dr. Charles H. Chetwood said that he strongly favored galvano-cauterization when combined with an incision in the bladder, not only for the purpose of drainage, but to allow of an examination to determine the nature of the growth and the conditions present before and after operation. The Bottini technique had ample support, and had been successful in a commendably large percentage of cases. He desired to protest against the indiscriminate and excessive removal of the prostate gland when only a small portion of this gland was at fault. It had often been demonstrated that the removal of a small portion of the gland at the neck of the bladder was sufficient to put an end to all symptoms. Undoubtedly, a number of unfortunate results had followed too free removal of the prostate. He was personally familiar with a number of cases of vesical incontinence and fistula. He was not entirely committed to the galvano-cautery operation by the perineal route, although a number of cases had given excellent results by this method. In certain instances, an opening above the bone would give a more ready access to the gland, and allow a more complete removal of the obstructing tissue and a clearing away of the urethral orifice of the bladder. If the special technique of galvano-cauterization, with or without an opening into the bladder, lessened the risk of operation, it was entitled to high esteem in prostatic surgery.

Dr. Hugh H. Young of Baltimore said that he had had about 150 cases, divided as follows: 85 Bottini operations, 55 prostatectomies, three or four castrations, and a few miscellaneous operations. He did not ordinarily favor the operation of castration in this class of cases, but he had done it in a very few cases under very exceptional conditions. The results were good in all but nine of the Bottini operations. In 4 cases there was more or less dribbling of urine, being very severe in 2 cases. It was difficult to explain this, but he was disposed to think that it was owing to burning and scarring the sphincter as a result of some failure in the working of the irrigation part of the Bottini apparatus. Five of the patients in this series were over eighty-five years of age.

yet there were only 6 deaths. One patient had used the catheter for seven years, another for ten years, and a third for fourteen years; all of them were able to give up the use of the catheter after the operation, showing that it was entirely possible for the function of the bladder to be restored even after these long periods of catheter life. Of the 55 prostatectomies, 16 were suprapubic cases, with 3 deaths. In 3 cases the combined Alexander operation was done, without a death. In 32 cases there was one death. This occurred from embolism long after the operation, and when the patient seemed well and was on the point of leaving the hospital. He had recently done perineal prostatectomy, with a very good result, in a man of eighty-two years. There were many objections to the suprapubic operation. Among these were the fact that the operation was done entirely in the dark, the difficulty of enucleation, the greater amount of hemorrhage and the greater difficulty in draining and packing a cavity. Moreover, a cavity was left which generally communicated with a very foul bladder. For this reason convalescence was very much slower after the suprapubic method. It was now thought to be entirely unnecessary to make the suprapubic incision for pushing down the prostate, as originally suggested by Alexander. The same argument held good with regard to the Bryson method of making an incision through the skin and muscles, but without entering the bladder.

His present method of operating consisted in passing a grooved staff into the urethra, and making an incision which would cut only the central tendinous muscle of the perineum. The rectum was then pushed back and the apex of the prostate exposed. An incision was then made through the membranous urethra down upon the staff, and the instrument passed into the bladder, enlarging the opening and making way for the retractor. His own special metal retractor was next introduced, thus giving the operator great control over the prostate. It was perfectly easy to preserve the ejaculatory ducts because that region had been shown to lie well forward on the posterior surface of the prostate, and not where the obstruction was situated. If two incisions were made, leaving the bridge of tissue which surrounded the ejaculatory ducts, it would be easy to enucleate the prostate without injuring the ejaculatory ridge. Middle lobes of considerable size could be removed through one of the lateral cavities without disturbing the ejaculatory ridge at all. During the last few months he had done a number of perineal prostatectomies under spinal anæsthesia with beautiful results. In the earlier trials of spinal anæsthesia he believed the technique was faulty in that too much cocaine was used and too much fluid. He favored Morton's method, *i.e.* the introduction of dry sterile cocaine into the syringe, dissolving in a little of the spinal fluid drawn into the syringe for this purpose, and then injecting into the spinal canal this solution of cocaine in the spinal fluid. In this way no additional fluid was introduced into the spinal canal. The speaker said that he could not agree with those who thought the catheter was good enough in many cases, because he had personally never been able to keep a bladder free from infection if a catheter were used for a month, and he was sure almost every person who catheterized himself would infect the bladder after half a dozen introductions of the catheter.

Dr. HOWARD LILIENTHAL said that he had done nineteen suprapubic prostatectomies, and that of this number, one died of uræmia, which was present at the time of the operation. With these results he saw no reason for his changing to any other method of operating. Rapidity of operation seemed to him an important consideration, particularly in operations upon old people, and the incision was small and passed through unimportant structures. The incision afforded an opportunity for thorough inspection of the bladder and made cystoscopy unnecessary. In one case such inspection had enabled him to discover a carcinoma, and in another case a stone. Hemorrhage could be checked by packing the sac in which the prostate had been, not the whole bladder. These patients did not exhibit shock after this operation, and the older and more feeble ones he had had out of bed on the third day.

Dr. ALEXANDER B. JOHNSON said that his experience had been confined to the perineal operation, and the results, as a whole, had been very satisfactory. In most instances the residual urine had been reduced to a trifling quantity, and the cystitis had disappeared, but in every instance the sexual function had been greatly impaired. He agreed with Drs. Thorndike and Bangs that a considerable proportion of the intelligent patients, suffering from prostatic enlargement, could be treated satisfactorily, even for many years, by the use of the catheter. He certainly would not recommend a person exhibiting marked senile degenerations to undergo any form of prostatectomy.

Dr., PARKER SYMS said that, in the main, he agreed with the general conclusions arrived at by the previous speakers, yet he was disposed to take a more radical position with regard to the danger of catheter life. He would maintain that, with but rare exceptions, prostatic obstruction from senile hypertrophy was a very fatal disease. Of forty persons who had consulted him for this condition, and had refused operation, more than 50 per cent. died in a comparatively short time. He had done twenty-three perineal prostatectomies in succession before he encountered his first fatal case. There had been no infection in any case, but where deaths had occurred they appeared at be attributable chiefly to the anæsthetic. He believed the Bottini operation was contrary to sound and well-recognized surgical principles. He would take the ground that this operation was more dangerous than perineal prostatectomy. For example, Dr. Young's results showed about 8½ per cent. mortality from the Bottini operation, and thirty-two perineal prostatectomies without a death. Moreover, the Bottini operation could not be considered curative in a large proportion of cases. He was free to admit that the Bottini operation had yielded better results than he had at first anticipated; nevertheless, he felt that it was by no means equal to perineal prostatectomy. Dr. Goodfellow of San Francisco had performed, since 1892, by a short median incision in the perineum, seventy operations on the prostate without a death, using spinal anæsthesia largely. The danger of hemorrhage had been thought to be considerable, yet with the retractor of rubber that he had devised, the hemorrhage attending the operation amounted to almost nothing.

Dr. THORNDIKE said that eight years ago, when surgeons were doing suprapubic work for the most part, Dr. Sam Alexander of New York was advocating the perineal route, and while Dr. Goodfellow's work preceded Dr. Alexander's, he believed that the latter gentleman's persistent advocacy of the perineal route had had a great deal to do in bringing this operation to its present position of prominence.

Dr. HORWITZ, in closing the discussion, said that he was convinced that when sterility followed prostatectomy it was due to disturbance of the ejaculatory duct, but this would not explain the occurrence of sexual impotence. It should be remembered that the prostate gland was intimately connected with the sympathetic and the cerebrospinal nerves, which probably explained the occurrence of impotence after this operation. In the majority of cases it was impossible to locate with any certainty the position of the ejaculatory ducts, and, hence, they could not always be avoided during the operation. The normal position of these ducts was often very much disturbed in these cases. He had done perineal prostatectomy three times under spinal anæsthesia, and had been very much pleased with the result. He had also used a combination of oxygen and ether with much satisfaction in many cases.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held December 21, 1903.

ALEXANDER LAMBERT, M.D., PRESIDENT.

DR. FREDERICK HOLME WIGGIN presented several specimens.

A Case of Nephrectomy.—The first specimen was a kidney removed from a girl of eighteen at the City Hospital about two weeks ago. In September she was operated on for a pyosalpinx on the right side, and did well until October 24, when there was a rise of temperature to 104° F., associated with pain in the right lumbar region. The urine contained pus, and pus was obtained from each ureter by catheterization. A diagnosis of pyelonephritis was made. Chills, sweats, and fever continued. Methylene blue was administered, and was recovered from the left kidney in an hour and a half, but not at all from the right kidney, showing how extensively this organ was diseased. Accordingly, nephrectomy was done instead of nephrotomy. The operation wound healed by primary union.

Two Specimens of Appendicitis.—The first of these two specimens had been removed from a girl of fifteen who, nine days before coming under observation, had been taken with severe abdominal pain accompanied by chills, nausea, and vomiting. The operation was done at night, and an abscess, holding about ten ounces of very foul pus, was exposed and evacuated. It was not adherent to the parietal peritoneum. The cæcum appeared to be gangrenous at several points, and, hence, it was thought to be safer to remove it rather than to attempt drainage. An interesting feature was the finding of several undissolved medicinal tablets free in the abdominal cavity. This suggested the possibility of these foreign bodies having been the original cause of the appendicitis. Three hours after the operation she was apparently doing well, but after about sixteen hours vomiting set in, and she died twenty-four hours after the operation. No autopsy was allowed, so that the exact cause of death was not known, but it was probably intestinal paresis.

The second specimen of appendicitis was removed from a girl of twenty-two, who complained of pain only over the region of the gall-bladder at the time of the last attack, although there had been more or less general abdominal pain and some nausea for the past year. While under observation she had an attack of jaundice lasting three days. On doing an exploratory laparotomy the gall-bladder was found to be normal. The stomach was somewhat lower than usual, and its pyloric end showed some evidence of peritonitis. The appendix was up behind the colon. There had been some tenderness over the cæcum, but the chief area of tenderness was over the gall-bladder. The patient was recovering.

Epithelioma of the Larynx; Laryngectomy.—The larynx presented had been removed from a man, fifty-two years of age, whose knowledge of English was so limited that a satisfactory history could not be obtained. He came to the City Hospital from Bellevue Hospital wearing a tracheotomy tube. The larynx was removed without much difficulty, but the patient died forty-eight hours later with suppression of urine. The pathologist reported that the tumor found in the larynx was an epithelioma. At the autopsy the operation wound was found in good condition. There was considerable pulmonary tuberculosis, and in addition, fatty liver and chronic diffuse nephritis.

A Review of Some Statistics of Insanity.—Dr. WILLIAM MABON read this paper. He said that prior to 1888 the statistics from the various State hospitals for the insane consisted only in a presentation of such figures as the superintendent of each hospital thought best to include in his annual report. Our State had invested in hospitals for the insane the sum of twenty-two million dollars. In recent years there had been an actual increase in the number of the insane, and also in the proportion of the insane to the population. Thus, twelve years ago, there was one committed insane person to 374 of the population, while at present there was one to every 303 of the population. The average daily number of insane in the State hospitals was over 23,000, a number so large as to give considerable value to properly collated statistics. In New York State during the past year, 15.31 per cent. of the cases of insanity were ascribed to moral causes, 53.16 per cent. to physical causes, and in 31.51 per cent. the cause was not ascertained. Among the physical causes, intemperance occupied the first place; it caused insanity in over 14 per cent. of the cases admitted, and was a contributing factor in not less than 30 per cent. of all the cases received. Among the other physical causes might be mentioned pregnancy, lactation, the menopause, fevers, privation and overwork, epilepsy, epidemic influenza, sunstroke, trauma, and autointoxication. The statistics regarding the hereditary tendency to insanity were of some interest. Of over 1400 persons admitted, 17.71 per cent. gave evidence of having inherited insanity; in 50 per cent. heredity was denied, and in 31.67 per cent. it was impossible to ascertain the facts regarding its transmission. Of the 73,000 cases treated in the State hospitals since October, 1888, 22 per cent. inherited the insanity, and the percentage was higher in women than in men. The statistics forced us to the conclusion that melancholia was far more frequent than mania. Among the men 50 per cent. were single and 30 per cent. were married. Among the women 38 per cent. were single and 48 per cent. married. There were twice as many widowed women as widowed men received. It was well known that during the middle period of life alienation was the most frequent. According to the statistics of this State, the admissions between the ages of thirty and forty exceeded very largely those of any other decade, over 28 per cent. of all admissions occurring between these years. With regard to the comparative frequency of insanity in the two sexes, it should be remembered that there were special causes operating in women, *e.g.* pregnancy, parturition, the menopause, and uterine and ovarian disease. On the other hand, the predisposing causes in men were intemperance, sexual excess, and the mental strain incident to a strenuous business life. At the end of the year there were 1298 more women than men in the State hospitals. The average duration of life in the hospitals for the insane was greater in women, and more men recovered than women. Of the 7619 admissions, only 112 led professional lives. Under hospital treatment it was found that there was a slightly better chance for ultimate recovery in acute mania than in melancholia. The recovery rate was 24.6 per cent., and the death rate a little over 5 per cent.

Dr. JOSEPH COLLINS thought the majority of those not in asylum practice would not now classify cases as mania and melancholia, and that the apparent changes in the number of cases of melancholia and of insanity, and in the proportions of recoveries in these diseases were chiefly due to differences of classification rather than any actual change of type. The statistics regarding the social condition in its relation to insanity tallied quite closely with those bearing upon neurological disorders. The speaker thought we could not yet congratulate ourselves in any way upon the progress made in dealing with the insane in this country. In this State alone there was one insane patient to every three hundred inhabitants, and yet the three hundred sane persons were making no adequate provision for the care of the insane. There was no place, he declared, in this State, or in this country, where the acutely insane were properly treated. There were many asylums, but in none of these was there any proper facilities for treatment, except the Shepard Asylum in Baltimore. There were fine buildings and fairly equipped laboratories, but no proper means for the treatment of the acutely insane. The reform that we, as physicians, were

called upon to institute, was the establishment of hospitals, not asylums, for the treatment of the mentally sick in every large city in this country. He would venture to say that at least one-third of the cases seen at the pavilion for the insane at Bellevue Hospital could be distributed around in hospitals iand treated with advantage.

With regard to the differentiation between insanity and delirium due to other causes, a topic brought up incidentally, Dr. Collins said that if there was no such thing as *delirium grave*, then the question became comparatively easy. We all knew that in certain of the acute infectious diseases, best represented by pneumonia, typhoid fever, erysipelas, ulcerative endocarditis, there supervened a delirium, which was by no means very characteristic of the special disease in connection with which it developed. Prior to the introduction of quinine in the treatment of malarial fever, this disease was one of the most common of those giving rise to delirium. There were comparatively few American psychiatrists who had seen much of *delirium grave*. Personally, he had never seen a pure example of it; the cases seen at the present time, which resembled it, were called acute hallucinatory mania, associated with profound confusion, and they did not often terminate fatally. As to the treatment of the various forms of delirium, Dr. Collins said, the only method which was of the slightest service was that by stimulation. In general, this method might be said to consist in giving nourishing and stimulating enemata, and if this was not sufficient, to resort to saline infusion. Of course, rest and sleep must be secured, and the body temperature must be kept within proper bounds.

Dr. ALEXANDER LAMBERT called Dr. Collin's attention to the fact that the Baltimore asylum mentioned by him was not the only place in this country where the acutely insane might receive proper treatment, for there had been a psychopathic ward in operation for the past two years in the New York Infirmary for Women and Children, and this ward was open to physicians who desired to treat patients there.

With regard to the scientific investigation of insanity, Dr. Lambert said that such an undertaking had been started by Dr. Macdonald in the Pathological Institute, but the Legislature, which voted millions for the hospitals for the insane, objected to spending $32,000 for the work of this institute, even though this modest sum included the cost of maintaining the New York City offices of the Commission in Lunacy. It was sad to think that the real death-blow to that institute had been inflicted by three medical gentlemen from other States. He wished to say that probably only by the study of the living brain in action—the true study of psychology—would our knowledge of insanity be materially augmented. It must be admitted that the State had made great advances, from a humanitarian point of view, for our insane were now given homes in which they could live with fair comfort for the rest of their lives. The next step, which must come in time, was the proper treatment of insanity in the acute stage.

Dr. MABON closed the discussion. He said that the acutely insane were certainly scientifically treated in the McLean Hospital, in Massachusetts, in the Buffalo Hospital, in the Hudson River State Hospital, and in various other State hospitals, including the one at Ogdensburg, of which he had formerly been superintendent. He had been in the State hospital service for seventeen years, and was familiar with what had been accomplished, as well as with the shortcomings. It should not be forgotten that a very large proportion of those coming to the State hospitals were already chronic. An effort was being made to separate the acutely insane and concentrate the medical service in that department, with the object of giving adequate treatment.

THE WESTERN SURGICAL AND GYNECOLOGICAL SOCIETY.

Thirteenth Annual Meeting, Held at Denver, Col., December 28 and 29, 1903.

THE association met at the Brown Palace Hotel, under the presidency of Dr. Alexander Hugh Ferguson of Chicago.

Carcinoma of the Lung.—Dr. W. W. GRANT of Denver, Col., read a paper on this subject in which he reported two cases, one of which recurred after an unusually long interval, and having at one time coincident tubercle bacilli, and occurring several years ago. The other was recent and seemingly primary.

Pancreatic Cyst.—Dr. GRANT gave the clinical history of a case of pancreatic cyst. He spoke of the causes of pancreatic cyst, reviewed the literature of reported cases, which showed convincingly that the disease was essentially surgical, and that delay in operating was as dangerous and fatal as in appendicitis. The gangrenous cases could only be saved by promptly opening the abdomen and draining. Formerly and recently reported cases in the *Annals of Surgery* by Woolsey, which seemed unfavorable for operation, amply attested this. The suggestion in the treatment of the sac was to dissect it out if small, but in the case of a large sac this attempt was manifestly unsafe and dangerous. The extensive adhesions made it exceedingly difficult, and extravasation of pancreatic juice or septic material would probably destroy the patient; patients had died from this treatment. To attach the sac to the abdominal peritoneum, if not already adherent, and drain, was safe, and undoubtedly the best treatment of a large cyst. Pancreatic juice out of its normal channel produced fat necrosis. Pancreatic disease often simulated intestinal obstruction, and the statement might be safely accepted that if the surgeon opened the abdomen and did not find obstruction or perforation of the stomach, but observed fat necrosis, the pancreas was, in all probability, the source of the trouble.

Dr. M. L. HARRIS of Chicago spoke of the great value of colonic distention of the intestines. In going over the literature of pancreatic cyst he found that in 95 per cent. of the cases the transverse colon took a distinct circle below the tumor and the stomach above. There was practically no other tumor or cyst in which this relation was found.

Dr. Grant, in closing, said several writers had considered the differential diagnostic point mentioned by Dr. Harris, but when it was remembered that cases of pancreatic cyst were more frequent in very fat subjects, and that there was quite uniform distention of the intestines, the stomach not being so much distended because of the pressure of the tumor, or, if so, it was entirely out of its normal location, it was difficult, if not impossible, to isolate the transverse colon and the stomach. He had never succeeded in getting any benefit from artificial distention in other cases, although he did not try it in this case.

Accidental Perforations of the Uterus.—Dr. D. S. FAIRCHILD of Des Moines, Iowa, said that the use of the sound and the curette in gynecological practice was probably the most frequent cause of this accident in legitimate practice. The facility with which the sound could be used in exploring the interior of the uterus and in repositing a retrodisplaced organ was no doubt responsible for some of these accidents. The curette, however, was often used in an indiscriminate manner and as a routine treatment in a great variety of uterine difficulties that could be better treated by other means with a greater prospect of permanent results. He mentioned a case that came under his observation this year which illustrated the ease with which a perforation of an apparently healthy uterine wall could be accomplished, and what was needed in cases of this kind.

Dr. DONALD MACREA of Council Bluffs, Iowa, mentioned a case in which the upper part of the cervix, not the fundus

of the uterus, was perforated by a modified Goodell dilator by a young practitioner, and a portion of the intestine pulled through the opening and pulled off.

Dr. C. H. WALLACE of St. Joseph, Mo., spoke of a case in which a young physician perforated the uterus posteriorly with a curette at about the internal os, producing sepsis and death.

Dr. H. G. WETHERILL of Denver, Col., said the great dangers associated with the use of the curette were beginning to be appreciated both by the profession and laity, not only in the hands of the inexperienced, but in the hands of experts. He detailed a case which illustrated the ease with which the uterus could sometimes be perforated. He referred to the classic case of a woman who attempted to induce abortion by inserting an umbrella ring into the uterus, which went through the posterior vaginal wall, and, when discovered, it was found to have perforated the liver, the diaphragm, and was found in the right pleural cavity.

Dr. W. L. BULLARD of Pawnee City, Neb., mentioned two cases of perforation of the uterus, one of which was produced by a crochet hook of the ordinary size. An attempt was made to find the hook, but without avail. The patient was left alone. Six months after this she became pregnant, and the crochet hook was discharged through the anterior abdominal wall. Two months later the product of conception was expelled in the natural way.

Dr. Fairchild, in closing, said his object was not to relate unusual cases of perforation of the uterus, but simply to give expression to an opinion that he had held for some time, namely, that the curette was a more dangerous instrument than it was generally thought to be by the general practitioner. Men of great experience would not use the curette indiscriminately or carelessly, but there were many general practitioners who thought it was so essential and felt they could not do their patients justice without employing it, consequently the instrument was very often used indiscriminately.

Treatment of Gastric Ulcer.—Dr. H. D. NILES of Salt Lake City, Utah, in a paper on this subject, presented the following conclusions: (1) Post-mortem statistics, clinical experience, and recent operating-room observations all tend to confirm the belief that neither the frequency nor the grave importance of gastric ulcer is fully appreciated by the profession generally, and the majority of cases are not recognized as such in life. (2) An earlier and more positive diagnosis means greater alertness in our observation and interpretation of symptoms, and more frequent exploratory operations. (3) In the history of every benign or malignant ulceration situated in a safely accessible region, there is always a time when the pathology can be corrected or favorably modified by appropriate mechanical means. (4) Up to the present time the recognized indications for operative procedures in gastric ulcer have been the symptoms produced by the remote resultant pathology, as hemorrhage, perforation, pyloric obstruction, cancer, etc., but our aim in the future should be to make an earlier diagnosis, and by the timely application of a rational treatment prevent the occurrence of these later and more serious manifestations of ulcer. (5) Taking into stricter account the local etiological factors will undoubtedly aid us in the prevention, diagnosis, and treatment of gastric ulcer. (6) The causative pathology deserves more consideration in the surgical treatment of gastric ulcer than it has yet received. (7) Perforation always demands the promptest surgical interference. (8) Hemorrhage from gastric ulcer is best treated by gastro-jejunostomy. (9) Open or cicatrized ulcers near the pylorus always indicate rest for the parts and a sufficient outlet for the stomach contents. (10) A posterior gastro-jejunostomy with sutures accomplishes these objects with the minimum risk and the most satisfactory results, and hence should usually be the operation of choice. (11) Our future advancement in the treatment of gastric ulcer must come from an earlier recognition and better understanding of the antecedent, coexisting, and resultant pathological processes rather than from any further refinements in operative procedures.

Etiology, Symptomatology, and Diagnosis of Gastric Ulcer.—Dr. FRANK C. DAVIS of Des Moines, Iowa, said that clinically the simple ulcer was not so frequent as the statistics of post-mortem examinations would lead one to expect, being from 6 per cent., as diagnosed by Lebert, to .82 per cent., as observed by Fenwick. In the extensive records collected by Welch, ulcer cicatrized or open was in about 5 per cent. of persons dying from all causes. Fenwick, from the examination of nearly 48,000 post-mortem records, found scars or ulcers in 4.2 per cent., and in 20,000 autopsies of persons dying from various causes, open ulcer in 1.5 per cent. If one took even the lowest percentage as found post-mortem, namely, 1.5 per cent., it would be seen that every other case was undiagnosed in life. Clinically and pathologically the author classified gastric ulcer as acute, acute secondary, and chronic. Each classification was expatiated upon. Hæmatemesis was a sign of such unmistakable value that one only needed to exclude a few other sources for the blood to establish a diagnosis by it alone. The symptoms of acute and chronic ulcer were detailed. A conservative estimate of perforation placed it at about 5 per cent. It occurred most frequently in females, which might be accounted for by the fact that many more women suffered from the acute ulcer, and that the chronic ulcer developing from the acute was more liable to perforation. The accident might occur suddenly or be preceded by an increase of pain and vomiting, or by a vomiting of blood.

Perforating Gastric Ulcer.—Dr. ARCHIBALD MACLAREN of St. Paul, Minn., said that perforating gastric ulcer was fully as common as extrauterine gestation, and that when the eyes of physicians were opened to this fact, they would be able to see them, diagnose them early, and save many lives that were now lost. In this country he did not believe that the perforation cases reached the hospitals as often as they did abroad. His experience led him to believe that Dr. Richard Harte was correct when he said that rigidity or tension of the abdominal muscles was the keynote to the early recognition of peritoneal perforation from whatever source. The pain might subside, the temperature might not be elevated, but the rigidity continued even up to the end. He believed that many cases could be correctly diagnosed, as was proven by a few cases which he reported, and by the many cases which were constantly being published in the journals. He reported three cases. The first was a perforating latent gastric ulcer on the anterior wall. Operation was done eleven hours after perforation had occurred, with recovery of the patient. The second case was one of probable perforating gastric ulcer, followed by death in twenty-nine hours, either without operation or post-mortem. The third was a case of subacute perforating gastric ulcer, which was operated on nine hours after perforation, with recovery.

Dr. CHARLES W. OVIATT of Oshkosh, Wis., mentioned the case of a man, sixty-two years of age, a laborer, who had never complained of any symptoms of gastric ulcer. He had eaten a hearty meal, laid down on the lounge feeling perfectly well shortly after, but within an hour he rolled over on to the floor with agonizing pain. A physician was called, who gave large doses of morphine hypodermically, without any benefit, and the patient died within a few hours. Post-mortem examination revealed a perforating ulcer in the posterior wall of the stomach, which seemingly had attempted to heal. There was no blood in the stomach, but the abdominal cavity was filled with stomach contents.

Dr. B. B. DAVIS of Omaha, Neb., referring to the etiology, said that stagnation accounted practically for a large proportion of cases of gastric ulcer, and with-

out it there was no ulcer. This stagnation might be due to a variety of causes which he pointed out.

Dr. LEONARD FREEMAN of Denver, Col., reported a case he observed some time ago, in which perforation occurred early in the morning, but rigidity of the muscles of the abdomen did not follow until two o'clock in the afternoon. This led to a non-recognition of the case, and although operation was done, it was too late to do any good.

Dr. H. A. SIPTON of Milwaukee, Wis., mentioned five cases of gastric ulcer and one of duodenal ulcer. No diagnosis was made in three of them. He had operated on but two cases, the diagnosis in these having been made within twelve hours, one of whom died, the other recovering.

Dr. CHARLES H. MAYO of Rochester, Minn., said that after examining 1100 stomachs by test meals, laboratory testing and physical examination, anæmia was a very important factor; next, long-continued neurasthenia symptoms. He mentioned one authority who, in examining 2200 cases at autopsy, found that 20 per cent. of women showed signs of ulcer of the stomach, and only 2½ per cent. of men. Welch, in an examination of 800 cases of gastric ulcer, found 60 per cent. in women, and 40 per cent. in men. The speaker and his brother had operated on approximately 400 cases, and of 1500 cases of stomachs examined, they had found that the proportion was about the same as that given by Welch. Welch also found in an examination of 788 cases of ulcer of the stomach that only twenty-eight occurred in the greater curvature, so that the greater proportion of them were found in the pyloric end of the stomach. Of cases of cancer of the stomach, Dr. Mayo had elicited a history of chronic ulcer covering a period of from one to fifteen years. His statistics showed 88 per cent. of gastric ulcer, and 12 per cent. of duodenal ulcer. The tendency was more and more to class the first two and a half inches of the duodenum as a part of the stomach. In thirty-one cases of acute perforation of the stomach and duodenum, eleven occurred in the duodenum in this first two and a half inches, and he had operated on twenty-six cases of ulcer of the duodenum.

Dr. M. L. HARRIS of Chicago said the extensive experimental work of Fütterer showed it was impossible to produce gastric ulcer in an animal until the hæmoglobin of the blood had been reduced below a certain point; that all lesions of the mucosa produced in healthy animals readily healed. When the hæmoglobin was reduced below a certain point, producing a marked anæmia, then these lesions developed into typical ulcers. These observations showed the importance of an examination of the blood in these cases. Another point was the examination of the fæces for hæmatin crystals, as a means of diagnosis in obscure cases of gastric ulcer.

The Treatment of Hæmatemesis by Gastroenterostomy.—Dr. F. GREGORY CONNELL of Leadville, Col., in a paper on this subject, classified the operative treatment of hæmatemesis into direct and indirect. Under direct he included (1) excision of the ulcer; (2) partial gastrectomy or pyloroplasty; (3) ligation of the principal artery; (4) cauterization or curettage of the ulcer; (5) ligation of the mucous membrane, and (6) ligation of all coats. Under the indirect he mentioned (1) gastroenterostomy; (2) pyloroplasty; and (3) gastrotomy. After considering the direct method as a whole, he stated that these were not in common use, because of such objectionable features as the difficulty of locating the ulcer, the fact that the lesion was frequently multiple, the presence of firm and complicating adhesions, and the indistinct limitations of the pathological tissue. The high mortality rate of some and the impracticability and unreliability of others had been the cause of a general turning to the indirect method, as exemplified by gastroenterostomy. The manner in which a gastroenterostomy allowed an ulcer to heal was well understood and practically settled, but as to this same operation acting as a hemostatic measure, no such substantial reasons as those advanced for the healing could be presented. While rest and drainage undoubtedly favored clotting and the cessation of hemorrhage from small blood-vessels, it was difficult to understand how they could arrest hemorrhage from a large artery with a lateral opening, as in the case reported. As one was unable to determine with any degree of accuracy the nature or the source of the hemorrhage, gastroenterostomy was indicated only after a thorough search for the bleeding point. The exact status of gastroenterostomy in hæmatemesis was not well defined, as was shown by numerous quotations. It had been said that a search for the bleeding point was futile, harmful and unnecessary, and that a gastroenterostomy would without doubt prevent recurrence of the hemorrhage. To show that gastroenterostomy would, without doubt, prevent recurrence of the hemorrhage, the author reported one case and cited others from the literature. Gastroenterostomy was indicated in hæmatemesis (1) after a thorough search had failed to reveal the source of the hemorrhage. (2) When the source of the bleeding was discovered, but in such condition as to make direct treatment impracticable or impossible. The conclusion, based upon a sad experience and a review of the literature, was an endeavor on the part of the author to discountenance the idea, which had become quite prevalent, that nothing was to be gained by searching for the bleeding point, as gastroenterostomy was all that would be necessary to prevent recurrence of the hemorrhage.

Two Cases of Acute Hæmatemesis in Which Gastroenterostomy Was Performed.—Dr. LEONARD FREEMAN of Denver, Col., detailed a case in which he performed a posterior gastroenterostomy. A Murphy button was employed, having the end within the stomach smaller than that within the bowel. The stomach contained bloody fluid, Recovery was uninterrupted. The button was passed on the twenty-third day. There was no further hemorrhage. About seven months later this patient suddenly died from hæmatemesis, the hemorrhages having begun about three months after the operation, small quantities of blood being frequently vomited subsequently. In the second case a posterior gastroenterostomy was done, and a Murphy button used, the ends of which were of unequal size. The stomach showed no external sign of ulcer, and no internal exploration was attempted. The organ was markedly dilated with gas and fluid. Reaction from the operation was so satisfactory that hopes of recovery were entertained; but in spite of no recurrence of the hemorrhage, death occurred at the end of fifty hours, due apparently to the great loss of blood. Autopsy revealed an ulcer as large as a watermelon seed on the posterior wall, at the junction of the lower with the upper two-thirds of the stomach. A small atheromatous artery, plugged by a thrombus, could be seen in the floor of the ulcer.

Dr. H. D. NILES believed that in cases of acute hæmatemesis any operative procedure would be attended with a high mortality. It was difficult to diagnose gastric ulcer from the external appearance of the stomach with sufficient accuracy to deal directly with it, at least to determine upon an operation. Gastroenterostomy was not, in his opinion, an infallible remedy for the treatment of gastric hemorrhage. Unless one knew positively the source of the hemorrhage before opening the stomach, he thought it was better to perform the operation before hemorrhage was dangerous.

Dr. J. E. SUMMERS mentioned a case of hæmatemesis the result of acute alcoholism. He opened the abdomen widely and found that hemorrhage came from eight or ten small erosions. He used hot water, as hot as could be borne without irrigation, and controlled the hemorrhage for a time, but it subsequently recurred and the patient died.

Dr. JAMES E. MOORE said the treatment of gastric hemorrhage by gastroenterostomy at the present time

was more or less empirical. The profession had not arrived at that point when positive statements could be made as to its value. The past history of cases showed that a considerable proportion of them not only recovered from immediate hemorrhage, but permanently without operation.

Dr. O. Beverly Campbell of St. Joseph, Mo., said in regard to the closure of the opening made in gastroenterostomy by the suture method, he had performed sixteen experiments on dogs. In twelve he used the Kocher method of suturing, and in all of them he did an anterior gastroenterostomy. The opening in each instance was quite large. The dogs were reoperated at periods of from three to six months, and at the end of three months in six cases the opening was reduced to such an extent that the index-finger could not be passed through it without a little force. In six of the cases there was almost total obliteration of the opening at the end of six months. In four there was a slight opening through which only a small probe could be passed. A vicious circle was established in 40 per cent. of the cases. These experiments showed a tendency, where there was no obstruction at the pylorus, for the opening to close, whether it was made with the Murphy button or by the suture method. A larger opening was obtained if the Connell suture or the Kocher suture was used, and in every case the speaker made a rather large opening. Six dogs, in which a vicious circle was established, began to fail in flesh at the end of about two months, and at the end of the third month they were opened and a vicious circle found. In every instance there was more or less narrowing of the opening.

Dr. Charles H. Mayo reported a case in which gastroenterostomy failed to arrest hemorrhage. During the past year he operated upon a man forty years of age, who gave a history extending over a few years of occasional stomach disturbance and vomiting of blood. By the laboratory test a little blood was found in the stomach. At the operation, in examining the stomach, he did not find any external evidence of the ulceration. The stomach was dilated. He did a gastroenterostomy, but there was more hemorrhage after it than before, and the man died at the end of four days. He was very anæmic at the time of operation. At the autopsy the intestines were found filled with blood. The gastroenterostomy was a posterior one, after the Mikulicz method, and the line of suturing was perfect. There were no large ulcers in the stomach, but there were two or three points of erosion.

Dr. D. S. Fairchild said a distinction should be made between chronic gastric ulcers which bled and fissure ulcers which sometimes gave rise to profuse hemorrhage. The chronic ulcers could be treated by gastroenterostomy, but in fissure ulcers, where the hemorrhage was considerable, gastroenterostomy was not sufficient, and it became necessary to dissect the ulcer out. A case was narrated in point.

Dr. Connell had had recently three cases of acute hæmetemesis under observation. One bled very profusely. Operation was advised, but refused, and it was thought the patient would die. But she recovered. There were no signs of ulcer. The second case was that of a child, four years of age, who had acute hæmatemesis. Operation was refused, and the child died. The third case he operated on, having in mind Monihan's advice, that it was unnecessary to search for the bleeding point, as gastroenterostomy would cause a cessation of the hemorrhage. He operated, but the patient died. From the post-mortem examination in this case he felt confident that had he made a careful examination of the stomach with the object of finding the bleeding point, he would have found it, and had the ulcer been dissected out, in all probability the patient would have recovered.

Dr. Freeman, in closing the discussion, said there were two kinds of cases upon which the surgeon had to operate: First, those in which the surgeon could take time and search for the ulcers; and if he found them, he could deal with them accordingly. The other class was illustrated by the two examples cited in the paper.

The Correction of Retrodisplacements of the Uterus.—Dr. Charles W. Oviatt of Oshkosh, Wis., in a paper on this subject, referred to the many operations devised for correcting uterine retrodisplacements. He stated that whatever the operation selected, it should permit of thorough intrapelvic work and should be one that restored the normal axis of the uterus, at the same time leaving it free to adapt itself to its normal range of motion. The operation he described as meeting these requirements was that devised by Dr. Geo. H. Noble of Atlanta, Ga. A description of the Noble operation could be found in medical literature. During the last year the author had made this operation twenty-three times. In all but three there were intrapelvic or other complications. In ten the appendix vermiformis was removed either because of a history of definite recurring attacks of appendicitis, or because from its appearance it was deemed wise to remove it. In one case a broad ligament cyst was removed, and in several diseased appendages were taken out. These were mentioned to show that there was no difficulty in doing any necessary intrapelvic work through the transverse incision and separation of the recti muscles. In all the cases, local office treatment by means of tampons or pessaries had been resorted to without relief. Most of the cases were in women who were obliged to work and who preferred to undergo an operation rather than submit to further treatment. The three uncomplicated cases were marked neurasthenics with dysmenorrhœa. While the displacement remained corrected, there had as yet been no improvement in the dysmenorrhœa, and little or none in their general condition. There were no deaths or serious complications following these operations. The advantages of the operation were: Through the one incision any pelvic complication might be treated. The operation utilized the strongest part of the round ligament instead of its distal end. The normal mobility of the uterus was not disturbed, and it was left in the pelvis where it belonged. It caused no bladder irritation and no dragging because the traction on the ligaments was in the direction of their natural course. The writer then quoted Dr. Noble, as follows: "The anchorage is superior in permanency to all peritoneal attachments; the uterine portion of the ligament will not stretch away. There are no sutures in the fundus to irritate the uterus. The fixation is extraperitoneal. No irritated point invites subsequent adhesions to abdominal viscera. The peritoneal investment of the ligament is not drawn into the abdominal walls, producing funnel-shaped depressions and inviting hernia. It does not interfere with the physiological development of the uterus during pregnancy."

The Surgical Treatment of Goiter.—Dr. Charles H. Mayo of Rochester, Minn., in discussing this subject, said that the respect American surgeons held as to the ability of Continental surgeons was to a considerable extent due to their statistics on goiter. To the peculiar formation of the capsule of the thyroid were due many of the symptoms occasioned by enlargement. Closely investigating the gland, it divided posteriorly and also enclosed the trachea, œsophagus, and part of the pharynx. Accessory glands were not uncommon in the lines of inversion from the pharynx in the original formation of the organ. It was probable that the lymphatic system acted as its duct, and a study of the function of the lymphatics would explain some factors in the etiology of diseases of this body. In young people at the age of sexual activity, parenchymatous goiters were quite common, but, as a rule, readily responded to treatment. Reverdin, in an analysis of 3408 cases, placed the mortality from total extirpation at 19 per cent.; partial, 3½ per cent.; from intraglandular enucleation, at .78 per cent.; from resection at 6.6 per cent. The writer's experience was derived from 108 operations upon thyroid tumors. Of these, there were 34

exophthalmic cases, with 6 deaths; 2 malignant, with 1 death; one large lingual thyroid. Two cases presented separated tumors of the pyramidal lobe. There were 71 cases of cystic, colloid, adenomatous and mixed types of goiter operated upon, with one death, from pneumonia, on the eighth day. The recurrent laryngeal was permanently injured once, and its function temporarily impaired several times. The Kocher collar incision was ordinarily used and a free exposure of the gland made. The overlying muscles were either drawn aside or severed, according to the case. If the capsule was thickened over the local tumor, or whole gland, the Socin method of enucleation was commonly employed. If the gland retained its general form, the largest lobe, usually the right, was extirpated, frequently leaving its posterior capsule to protect the laryngeal nerve. Ether anæsthesia was usually employed. Occasionally cocaine was used locally, if there was much tracheal disturbance or severe exophthalmic symptoms. Chloroform was rarely given. All anæsthetics were preceded by a hypodermic of morphine. Some thyroidism usually followed for one to three days.

(To Be Continued.)

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending January 9, 1904:

	Cases.	Deaths.
Measles	789	14
Diphtheria and croup	460	57
Scarlet fever	410	34
Smallpox	...	...
Varicella	122	...
Tuberculosis	301	158
Typhoid fever	42	10
Cerebrospinal meningitis	...	5

Acute Amygdalitis; Its Treatment by the Local Application of Tincture of Iodine.—Samuel Floersheim believes that the local application of the tincture of iodine is an exceedingly powerful and helpful therapeutic measure which can be positively relied upon when other remedies have failed to act. The method of application is to saturate a camel's hair throat brush with the drug, depressing the tongue with a spoon or other contrivance, and rapidly and thoroughly to paint the remedy over the inflamed area. If there is intense burning in the throat after two minutes, a simple gargle of warm water, once or twice, will give relief. Gargling should not be too frequent, as some burning is necessary to obtain the desired result. If there is only moderate burning, a gargle is not advised. If there is no burning within five minutes after the application, the iodine is renewed. When there is marked improvement in twenty-four hours, the application is not renewed. If there is little or no improvement, a second thorough application is advised. A third application has never been required. The diet should be simple and nourishing. A free movement of the bowels nearly always gives relief.—*The Medical Council.*

The Direct Illumination of the Abdominal Cavity, the Rectum, the Bladder, and the Uterus for Diagnosis and Operation.—Ott describes a combination of posture of the patient and specula provided with small incandescent lamps at their distal extremities, by means of which he is able to secure unusually good illumina of the various cavities concerned in pelvic and abdominal surgery. With the patient in the lithotomy position the head is lowered until the body makes an angle of forty-five degrees with the horizontal, as in the lithotomy position. An incision through the posterior fornix now is followed by an inrush of air as the intestines settle toward the diaphragm, and the pelvic organs are exposed in the large space left vacant. Long specula, provided with incandescent bulbs of special construction, are placed in position, and the entire abdominal cavity and its contents, even the liver and gall-bladder may conveniently be inspected. When necessary a bulb on a long stem can be introduced deeply to facilitate the inspection of more remote regions. Every vaginal operation may be performed with as much certainty as if on the surface, and the method loses its greatest drawback, that of working in the dark. Suitably modified instruments enable the author to inspect the entire sigmoid flexure and even the descending colon, the bladder, and, under some conditions, the uterus.—*Monatsschrift für Geburtshülfe und Gynäkologie*, Vol. XVIII, No. 5.

Treatment of Acute Appendicitis.—To limit the peristaltic action of the intestines so that the patient may be carried beyond the fourth day, when operative measures may safely be taken, Ochsner advises that: the alimentary canal be relieved, the stomach washed, if there is vomiting, and the colon emptied by a high injection of decinormal salt solution. The only nourishment given is by enema. The patient is allowed no food, and is kept in a condition of absolute quiet. After the period named, the operation, if necessary, can be performed.—*Gaillard's Medical Journal.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended January 9, 1903:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
California, San Francisco	Dec. 21–27	7	·
Illinois, Chicago	Dec. 26–Jan. 2	3	..
Iowa, Dubuque	Dec. 26–Jan. 2	1	..
Louisiana, New Orleans	Dec. 26–Jan. 2	1	..
Maine, Athens	Dec. 31	Present	
Brighton	Dec. 31	Present	
Madawaska Co	Dec. 1–31	39	..
Maryland, Baltimore	Dec. 26–Jan. 2	1	..
Michigan, Flint	Dec. 26–Jan. 2	1	..
Port Huron	Dec. 26–Jan. 2	2	..
Missouri, Saint Louis	Dec. 19–26	1	..
Saint Louis	Dec. 26–Jan. 2	5	..
New Hampshire, Manchester	Dec. 26–Jan. 2	1	..
New Jersey, Camden	Dec. 26–Jan. 2	5	..
Trenton	Dec. 26–Jan. 2	2	..
New York, Buffalo	Dec. 21–28	11	..
	Jan. 2	1	..
New York	Dec. 26–Jan. 2	1	1
Ohio, Dayton	Dec. 26–Jan. 2	2	..
Pennsylvania, Altoona	Dec. 26–Jan. 2	1 death at hospital	Co.
Erie	Dec. 26–Jan. 2	2	..
Johnstown	Dec. 19–Jan. 2	4	1
McKeesport	Dec. 26–Jan. 2	3	..
Philadelphia	Dec. 26–Jan. 2	74	11
Pittsburg	Dec. 26–Jan. 2	17	4
Reading	Dec. 25–Dec. 31	1	..
Tennessee, Memphis	Dec. 26–Jan. 2		2
Nashville	Dec. 26–Jan. 2	1	..
Utah, Salt Lake City	Dec. 26–Jan. 2	3 imported	
Wisconsin, Milwaukee	Dec. 26–Jan. 2	2	·

SMALLPOX—FOREIGN.

Austria Prague	Dec. 5–12	21	..
Brazil, Pernambuco	Nov. 1–15	20	..
Rio de Janeiro	Nov. 29–Dec. 6	58	50
Great Britain, Birmingham	Dec. 12–19	1	..
Liverpool	Dec. 12–19	1	..
London	Dec. 12–19	6	..
Manchester	Dec. 12–19	4	..
New Castle	Dec. 12–19	5	..
Italy, Catania	Dec. 10–17	..	3
Russia, Odessa	Dec. 5–12	2	..
Warsaw	Nov. 7–14	..	10
Turkey, Smyrna	Nov. 29–Dec. 13	..	13

YELLOW FEVER—UNITED STATES.

Texas, Laredo	Dec. 30–Jan. 2	2	..

YELLOW FEVER—FOREIGN.

Brasil, Rio de Janeiro	Nov. 22–Dec. 6	1	..
Ecuador, Guayaquil	Dec. 6–12	..	1
Mexico, Ciudad Victoria	Dec. 12–19	3	2
Merida	Dec. 13–19	6	..
Tehuantepec	Dec. 13–19	1	1

PLAGUE.

Brasil, Rio de Janeiro	Nov. 29–Dec. 6	27	22
China, Hongkong	Nov. 21–27	..	3
Egypt	Nov. 28–Dec. 4	3	3
India, Bombay	Dec. 1–8	..	51
Calcutta	Nov. 28–Dec. 5	..	14
Karachi	Nov. 29–Dec. 6	6	6
Madras	Nov. 28–Dec. 4	..	1
Japan, Yokohama	Nov. 21–28	1	1

CHOLERA.

India, Calcutta	Nov. 28–Dec. 5	42	..
Madras	Nov. 20–Dec. 4	..	3
Turkey in Asia	Nov. 30	89	..

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Original Articles.

ON CYTODIAGNOSIS IN NERVOUS DISEASES.*

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WITH A DESCRIPTION OF

THE TECHNIQUE OF CELL-DIAGNOSIS.

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THE study of the serous fluids of the body has opened up a new field of diagnosis. It is a field which, in some directions, has achieved distinct results and offers much promise for the future. In particular, the study of the cells of these fluids has been helpful and has of recent years been carried on to such an extent as to form a particular branch of diagnostics, known as "cytodiagnosis." It has not, it seems to me, been utilized in routine work in this country, to the extent which it ought, and hence, I venture to present one phase of cytodiagnostics, that particularly of the cerebrospinal fluid.

The method of lumbar puncture, as devised by Quincke,† was advocated quite as much for therapeutic as for diagnostic purposes, The study of the cells received very little attention. The fluids were examined for their gross appearances, for the ordinary microscopical appearances, the physical and chemical characters were sometimes noted, and bacterial cultures were made. By the latter method a good many interesting observations were made, and some occasional help or confirmation in diagnosis was procured. The bacterial culture of the cerebrospinal fluid have quite recently been more carefully studied, and with some very satisfactory results. For example, in the last volume of the Mt. Sinai Hospital Reports, Dr. E. Libman states that he has examined bacteriologically over one hundred cases of meningitis, in most of which the fluid was obtained by lumbar puncture. One of his conclusions is that the cerebrospinal meningitis of this country, at least, is always due to one type of organism, namely, the diplococcus of Weichselbaum, and he does not find that the pneumococcus can cause epidemic meningitis. It would seem, from his experience, that any of the pyogenic microorganisms can cause a sporadic meningitis, usually by first causing some local disease, like an otitis or a pneumonia. The recognition of tuberculous meningitis in its early stage, is also often helped by the bacterial cultures.

My own experience has been mainly with the cytodiagnosis of fluids obtained by lumbar puncture, according to Widal's suggestions. For some years I have at intervals withdrawn fluids from the spinal canal by this method, mostly in cases of alcoholism, and at first, for therapeutic purposes, thinking that the withdrawal of fluid, for example, in what are termed as "wet brains," might be of some help. Such a procedure does occasionally ameliorate the symptoms, but is of no permanent value. Having reached this conclusion, I have not until lately done the lumbar puncture, excepting occasionally in cases of meningitis for diagnostic purposes. Special interest in cytodiagnosis has been aroused of late by the reports of Widal in 1900 upon the peculiarities observed by him in the cells of the cerebrospinal fluid in different forms of nervous disease, especially in cases of syphilis and parasyphilis. Widal claimed for his method a distinct help in recognizing paresis, tabes, and in the differential diagnosis of other diseases of the central nervous system. While there have been some contradictory reports, his views have, on the whole, received support, and my own investigations so far, in a measure, confirm them. In addition, however, to the simple methods of cytodiagnosis, some prognostic and, perhaps, therapeutic help can be obtained by a chemical study of the cerebrospinal fluid, in cases of nervous disease, for the presence of neurin and cholin. It was shown in 1901 by Mott and Halliburton that in diseases of the nervous system, associated with a more or less rapid decay or degeneration of nerve tissue, there was a break up of lecithin, and as a result there was thrown out into the absorbent fluids and the blood a poisonous product of tissue waste, known as *cholin*. They suggested that it would be possible to make a practical use of this fact in establishing the presence of degenerating lesions, and also establishing the fact that these lesions were either progressing or quiescent. (See below.)

Before giving the results of my experience, I should like to say a word regarding the characteristics of the cerebrospinal fluid and the technique of lumbar puncture.

The cerebrospinal fluid lies between the arachnoid and pia mater, and permeates the ventricles of the brain, bathes the surface of the brain, surrounds the spinal cord, and perhaps leaks a little down into the spinal canal. The fluid, as is well known, flows freely from one part of the cerebrospinal axis to the other. As regards its relationship and function, the cerebrospinal fluid is a unit—that is to say, withdrawal of fluid from any part of the nerve centers, whether it be the lateral ventricles, the subarachnoid spaces of the brain, or of the spinal cord, affects at once the supply and pressure relations in other parts. The fluid exists in these cavities under a certain low pressure, varying from 40 to 60 mm. Under pathological conditions, it can rise as high as 800 mm. Its specific gravity is 1003 to 1004, varying in pathological states, from 2 to 9, or even 12. The point of congelation is normally between .72 and .78. There is little variation from this in chronic diseases, but in acute processes the congelation point falls and in tuberculous meningitis sinks to .50 or .56. The fluid is ordi-

*Read at a meeting of the Practitioners' Society of New York, December 4, 1903.

†The history of cytodiagnosis is given in an article by Dr. Fraenkel, published in the present issue of the MEDICAL RECORD. I shall not, therefore, refer to it to any extent. A very good summary of our present knowledge is given in a recent work by M. Labbé, entitled "Le Cytodiagnostic."[1]

narily like clear water, but it becomes cloudy in inflammatory processes and hemorrhagic in cases in which there have been cerebral or spinal hemorrhages. The normal amount ranges from ʒ ii to ℥ ii.

The composition of the cerebrospinal fluid, although resembling lymph and formed in the same way by transudation from the blood, differs chemically in some details. It has, for example, about one-fourth as much proteid substance and no sugar. It contains about 1 per cent. of solids and a peculiar non-nitrogenous substance which has the property of reducing copper salts, and which is, according to Halliburton, pyrocatechian. The proteid matter consists almost entirely of protoalbuminose and a small amount of serum globulin, but there is no fibrin ferment.

The normal cerebrospinal fluid contains no cells, or, at least, only rarely a mononuclear lymphocyte or an endothelial cell.

As regards the pathological constituents of the cerebrospinal fluid, it has been found that in general paralysis and meningitic processes the total amount of proteids is increased (Widal, Secard, and Ravant, G. Guillain and Parant.[1] The presence of cholin was observed by Mott and Halliburton.[2] This observation has been confirmed by others, and among these recently by Julius Donatti.[3] Dr. Hastings found it in two of my cases of alcoholic psychosis. Donatti has made an especially elaborate study of this subject, having examined the cerebrospinal fluid in 65 cases, including epilepsy, 22; general paralysis, 5; tabes, 15; brain tumor, 2; multiple neuritis, 1. He found cholin in nearly all cases. He did not find it in hysteria, 2 cases; multiple sclerosis, 1 case. He found it, however, in one case of neurasthenia, and one of hysteroepilepsy. He also found phosphoric acid in the cerebrospinal fluid. This and cholin are the results of the splitting up of lecithin. He thinks that cholin has a convulsive action on the nervous centers and is an important factor in determining the epileptic attacks. This remains to be further tested. Some observers assert that cholin is innocuous and that it is its close derivative, neurin, which is poisonous.

The technique of lumbar puncture is well known, still it is not quite so simple as it seems and needs a little experience. It is usually customary to insert the needle between the third and fourth lumbar spaces. on a line drawn between the two postero-superior iliac spines. I have often made the puncture between the second and third, and there does not seem to be very much difference in the results. Having sterilized the skin, hands, and the instruments, the part should be cocainized with 30 minims of a ½-per-cent. solution. After waiting at least five minutes, the needle is introduced one inch to one side of the median line. It should be quickly thrust through the skin down to the lamina with one motion; then having felt the end of the needle for a space between the lamina, it should be thrust quickly between the laminæ of the spine with a second movement. In this way, and with cocaine, hardly any pain is produced. The instruments usually used are what are known as the "Quincke set," consisting of a trocar, cannula, and manometer. I have, however, been accustomed to use an ordinary aspirating needle, and it answers perfectly well. It also possesses the advantage that if no fluid comes away, a hypodermic can be attached and gentle suction made. In this way, when some slight obstruction exists at the point of the needle, this can be overcome, and I have sometimes been able to secure a successful result when otherwise there would have been a "dry tap." Furthermore, it is, in my opinion, not unlikely that this method may be utilized for medicating the cerebrospinal axis. I have introduced sterilized serum in place of the serum withdrawn, hoping to avoid the headache which often follows the puncture. The lumbar puncture may be done when the patient is in the sitting position or lying on his side in bed. I do not find much difference in the success of the results; but often in a nervous patient, the movements of the body can be better controlled when he is lying in bed with the back bent and the knees drawn up. The whole procedure is unquestionably a rather disagreeable one for a few minutes, though when the needle is in, the patients have only a little dull aching, and they do not complain much even when they have to sit for five or six minutes waiting for the fluid to drop out. Every now and then—perhaps, in two cases out of twenty—no fluid will flow. Sometimes this failure does not seem to be the result of any fault in the technique, for in one patient four punctures were made and the canal penetrated, without any result. In these cases, however, the use of the hypodermic syringe, to start the flow, will sometimes prove effective. The fluid, under ordinary conditions, comes away in drops, about one or two a second; sometimes, however, it flows very slowly, only six or seven drops in a minute. It is necessary to obtain from 4 to 6 c.c. I believe that 4 c.c. is enough and the patient will be less likely to have headache later. The fluid should be dropped into the centrifuge tube, which should be previously sterilized. It should not be caught in a test-tube and then poured into the centrifuge. It must be centrifuged for ten minutes within one or two hours after the fluid is withdrawn. It cannot be kept till the next day. After this process, if there is any lymphocytosis, there is a slight cloud at the bottom of the tube. A drop of this cloudy precipitate is collected in a capillary pipette and placed on a glass for purposes of study. Dr. Hastings, who has made all the microscopical and technical examinations of the fluid, and to whom I am greatly indebted, has devised a procedure for making a systematic count of the cells seen under the microscope.

I would say, in addition, that all accounts agree as to the harmlessness of the operation, unless, perhaps, a very large amount of fluid is withdrawn, *i.e.* over an ounce, in cerebellar tumor.

I have so far made successful lumbar punctures upon twenty-two patients, suffering from the following diseases:

TABLE.	NO. CELLS.
Doubtful paresis	Few.
" "	3
Paresis	0
"	0
"	16
"	37
"	135
"	0
"	33
"	74
"	85
Double hemiplegia and paresis	74
Paresis	Numerous.
Brain tumor	Few.
Syphilis with psychosis	722
Meningitis	155
Contusion of brain	44 + red cells.
Cerebellar tumor	0
Congenital internal hydrocephalus	0
Alcoholic insanity	Few.
Karsakoff's psychosis	5
" "	3
Spinal gliosis	6
Total	22

In eight of the cases of paresis there was a very marked lymphocytosis, the number of cells in a hundred fields ranging from 16 to 135; in most cases being above 50. In two cases of paresis there were no cells found whatever, but in these cases I only withdrew about 4 c.c. and the fluid was received in a test-tube. In one case of paresis there were only

six cells found in 100 fields, and in another, only three. In all the cases of the alcoholic psychoses there were either no cells found or only 3 to 6 in a hundred fields. In the cerebellar tumor case and in the hydrocephalus case (the patients were observed by Dr. Hunt), the fluid was absolutely free from cells. In three cases, in which the diagnosis was doubtful, between that of alcoholism and paresis, cells were present in large numbers in two and absent in one case. The case of contusion of the brain was one of particular interest. Five weeks previously the patient had been struck a severe blow upon the left parietal region. He was unconscious and brought to Bellevue Hospital, where he remained for some weeks in the surgical ward. While there he was carefully observed by Dr. J. R. Hunt, who found no signs of any paralysis or any disturbance of cranial nerves, or any active inflammatory process. He was distinctly aphasic, but in addition to that he seemed to be confused, and often incoherent and rambling in his speech. There was some question as to whether he was simply suffering from the mental symptoms due to the shock in concussion of the brain, or whether he had actually had some bruising of brain tissue and hemorrhage upon the brain surface. Five weeks after his injury, I made a lumbar puncture and withdrew 6 c.c. of cerebrospinal fluid. This was perfectly clear, and showed no apparent evidence of blood. After being centrifuged for ten minutes, a deposit of red blood cells, 1 mm. in diameter, was found at the bottom of the tube. Dr. Hastings' examination of the cellular contents showed 1200 red blood cells in a hundred fields and 44 lymphocytes, mostly mononuclear. Before this examination was made, the diagnosis of the attending physicians, Drs. Packer and Gregory, was that he had a confusional psychosis, due to the shock and injury, but that he had, in addition, some organic and serious change beneath it, and the cell count would seem to indicate that this was the case, and that the man would perhaps develop an organic dementia. In other words, the prognosis was considered serious on clinical grounds, and was confirmed by the cell count. In the case of spinal gliosis, there were many symptoms pointing to multiple sclerosis, and the absence of cells enabled us to exclude this, as well as any syphilitic or parasyphilitic process.

The cytodiagnosis of the cerebrospinal fluid seems likely occasionally to be of great help in diagnosticating the doubtful cases of paresis and of tabes, in the early stage. It will also be of help in determining the question, whether or not the person has had syphilis, and whether or not certain symptoms indicating the invasion of the central nervous system by this infection are correct. In spinal syphilis, as shown in cases of syphilitic meningomyelitis, or Erb's spinal paralysis, there is an increase in the cell count, and if trauma can be excluded, the presence of specific infection may be inferred. This method of diagnosis should be of help also in determining the activity of the process. If there is any actual inflammatory change going on, it will be shown by the presence of the polynuclear leucocytes, while in the ordinary conditions of specific infection, only mononuclears are present, with a proportion of polynuclears of not over 5 per cent. Whether a further differential count will reveal anything, I cannot tell. It is said that the eosinophiles are not found in this fluid, but they were discovered in one case. It must be remembered, of course, that there are some cases in which, although paresis or tabes is present, there are no cells found, at least, on the first examination. Widal, however, asserts that if two or three examinations are made the lymphocytosis will always be discovered.

The study of the chemical constituents of the fluid, with reference to the discovery of *cholin*, may also offer help in diagnosis and prognosis.

This diagnostic method is still in its infancy, and it is possible that we are overrating its practical value, but enough has been definitely determined to justify a routine use of this method until we can speak with absolute certainty about it. There is no doubt that the operation is a disagreeable one to the patient, but by the careful use of cocaine, the skilful insertion of the needle, and the withdrawal of as small an amount of fluid as possible, very little discomfort is caused. The subsequent headache and vertigo are certainly disagreeable, but I think it not unlikely that a means will be devised of remedying this either by substituting sterilized lymph in place of what we have withdrawn, or by giving some suitable anodynes. It seems as though, in some cases, the headache is reflex or psychical, for in one patient a very severe headache followed a puncture which was unsuccessful, no fluid being found. Beside the headache which follows and lasts for a day or two, I have had two patients in whom there was a rather persistent vertigo, lasting for several days. In another patient who came in very alcoholic, and in whom the alcoholism was superimposed upon a paresis, the puncture and withdrawal of the fluid was followed by a typical but mild attack of delirium tremens that night; he was all right the next day.

Technique (by Dr. Hastings).—Among the earliest studies of cells in exudates are those of Boettcher[4] (1867), who examined, in the fresh state, purulent material from an alveolar abscess, and of Ehrlich,[5] who examined both the fresh material and dried and stained preparations from bacterial and carcinomatous pleural exudates and differentiated the cellular elements. Wentworth[6] noted the various types of cells in fresh fluid from the meninges in cases of meningitis in children. Bernheim and Moser,[7] stimulated by Quincke's reports on lumbar puncture, examined microscopically the cerebrospinal fluid from cases of meningitis after sedimentation of the fluid on standing, or centrifugation and staining with Löffler's methylene blue. They noted the presence of mononuclear cells in excess in tuberculous cases and of polynuclear cells in excess in epidemic and purulent cases, also endothelial cells in the tuberculous form. Councilman, Mallory, and Wright[8] in their report on epidemic cerebrospinal meningitis, mention the finding of three types of cells—polynuclear, mononuclear, and epithelioid—upon microscopical examination. Mallory and Wright[9] prepared specimens from spinal fluid by smearing coverslips with the sediment, after standing several hours, drying the smears in the flame of a Bunsen burner and staining with methylene blue. They stated that "in tuberculous meningitis the predominant cell is the lymphoid cell. In purulent meningitis the polynuclear leucocyte predominates." This simple technique was elaborated by Widal[10] and his pupils, who employed defibrination and centrifugation for non-purulent pleural fluids in which the cellular content is often comparatively small. After centrifugation a drop from the bottom of the tube was taken up with a finely-drawn pipette or a platinum loop, spread upon a slide, allowed to dry in the air, fixed with alcohol and ether and stained with thionin, or hematein-eosin, or fixed by heat and stained with Ehrlich's triple stain. The writer has recently seen a specimen of fluid from a carcinomatous pleural exudate pre-

pared in the above manner, resulting in the finding of typical carcinomatous tissue in small particles barely visible macroscopically.

Monod[11] tried various other methods of fixation, osmic acid, mercuric chloride, formol, chromic acid, and found Widal's methods more satisfactory.

The cerebrospinal fluid in cases not of an acute inflammatory nature is, as a rule, clear, and does not require defibrination, and after centrifugation the fluid is often still clear, even at the bottom of the tube.

Widal, Sicard, and Ravaut[12] rely upon the following technique: The spinal fluid is collected in centrifuge tubes with narrow drawn-out ends and centrifugated for ten minutes at 3000 revolutions; the centrifuge tube is inverted, thus pouring off the fluid with the exception of a small drop, which is taken up from the bottom of the tube with a capillary pipette. The entire small drop is spread out carefully in portions on three or four slides, dried in the air or in an oven, fixed with alcohol and ether, and stained with eosin hematein, Unna's blue, or Ehrlich's triacid stain. The entire drop (three or four slides) is examined, to avoid error in conclusions as to the number of cells, arising from unequal distribution. The absolute number is not determined, but the cellular elements are noted as present in more or less large quantity, and in later writings the presence of three or four cells in a field has been interpreted as indicative of chronic meningeal disturbance.

Laignel-Lavastine[13] describes the following technique for the determination of the absolute quantity of cells. When the liquid is turbid the cells in suspension are sufficiently numerous to proceed as ordinarily with the hematimeters of Hayem or Malassez. For clear fluids one centrifugates the fluid, noting the number of c.c. of fluid used: V represents this volume of fluid. After centrifugation with the least possible stirring, by means of a capillary pipette the upper layers of liquid are drawn off, the last drop taken up by the pipette being examined from time to time to assure oneself that it contains no cellular elements: V-D represents the quantity drawn off, D the amount of liquid remaining in the tube. The remaining drops containing the cellular elements are stirred to form a homogeneous emulsion, and the cellular elements therein enumerated with the apparatus of Malassez, Leitz Ocular No. ii and objectives Nos. 5, 6, or 7. (A Thoma-Zeiss counting apparatus may be used.) N represents the number of cellular elements in D per cubic mm. The spinal fluid then contains to the cubic mm. X cells; and

$$X = \frac{N \times D}{V}$$, D and V being expressed in cubic mm.

His results were verified by control test with diluted defibrinated blood containing 200 cells (red and white) per cubic mm. mixed with variable volumes, but exactly measured, of salt solution, 7.5 grams to 1 liter. Estimations of the number of cells by the centrifugating method gave very nearly the same results as obtained by accurate dilution and careful counting with blood instruments.

Widal apparently does not consider such exact enumeration necessary, the various formulæ representing the predominating type of cell—lymphoid, polynuclear, or epithelioid—being the important determinations.

Hand,[14] in reporting successful examinations for tubercle bacilli in spinal fluid, emphasizes the importance of a proper technique to obtain preparations satisfactory for examination for tubercle bacilli, and at the same time notes the difficulty or impossibility of obtaining preparations satisfactory for differential counting by heat fixation, owing to distortion of cells.

Descos[15] in a review on cytodiagnosis, describes the technique in full, and recommends wet (fresh) preparations for least distortion and fixation by alcohol and ether and staining with hematein-eosin for dry preparations. He mentions the use of iodine solutions for determination of Ehrlich's glycogenic reaction.

Many of the various blood-stains have been used for the dried smears, and all the varieties of normal blood-cells, excepting the mast-cell, have been found in cerebrospinal fluids. Musgrave[16] used Leishman's stain for preparations from pleural exudates.

The method employed in examination of fluids from Dr. Dana's cases was as follows: The spinal fluid is collected directly into sterilized centrifuge tubes to avoid cell contamination and disintegration of cellular elements, brought about in part at least by bacterial action often occurring in imperfectly cleansed tubes, similar to the disintegration of casts by bacteria in urine containing various forms of bacteria from outside contamination.

As a rule the fluid is examined within two hours after tapping, although in sterile tubes the cells in the fluid remain intact 24–48 hours, with no variation in the number of cells. Six (6) c.c. of fluid are centrifugated at 1800 to 2400 revolutions a minute for fifteen minutes, revolutions above 1800 resulting in little or no variation in the number of cellular elements in a capillary drop after fifteen minutes' centrifugation. After centrifugation the tube is inverted, the fluid thus poured off, and from the small amount of remaining fluid a drop is drawn up in a capillary pipette, blown out on a slide, covered with a seven-eighth-inch coverslip and examined with a Leitz No. iv ocular, No. 7 objective.

For sedimenting and centrifugation Napp's[17] two-piece centrifuge tubes may be used, but with no advantage over the use of a capillary pipette.

For estimating the approximate number of cells in the drop spread over a fixed area an Ehrlich's eyepiece with the widest field is used, the total number of cellular elements, excepting red cells, viz., mononuclear cells and polynuclear cells in 100 fields is recorded and the average for one field estimated. Thus the cells are counted over approximately the same area for every specimen and without manipulation other than centrifugation. The variation in number of cells at periphery and at center of the covered drop is practically nil. Estimating the relative number of cells in fresh, wet specimens gives results slightly below those obtained by counting the cells per field in the dried and stained specimens.

In negative (normal) specimens a careful searching over 3–6 slides may reveal a few (under 10–12) lymphoid cells and red cells.

For differential counting the drop of centrifugated fluid is mixed with a drop of Löffler's methylene blue, and if the cells are sufficiently numerous 100, 200, or more cells are counted differentially, being classed as polynuclear, small mononuclear, and large mononuclear; rarely typical large epithelioid cells are found and classed as such. For the purpose of differentiating eosinophilic and other granulations, drying, fixing, and staining, as recommended by Widal, are necessary. Specimens dried in the air and stained with Jenner's, Leishman's, or Wright's stain give good results, but since the cytologic formulæ are based upon polynuclear, mononuclear, and epithelioid types of cells, the study of such preparations is of little value.

While all types of normal blood cells, excepting the mast cell, have been found in spinal fluid, the value of the differential count lies in the determina-

tion of the relative proportions of polynuclear and mononuclear elements—the determination of a polynucleosis or of a mononucleosis—and a division of the mononuclear forms into "small" and "large" is unnecessary.

In the cases considered the approximate determination of the number of cells is important.

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LYMPHOCYTOSIS OF THE CEREBROSPINAL FLUID.*

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The study of the corpuscular elements of exudates and transudates of serous membranes is of recent date and promises diagnostic aid. French authors in particular have contributed to the question of cytodiagnosis. On the basis of their studies, Widal and his followers have elaborated the following formula: (1) Increase of mononuclear leucocytes suggests the tuberculous nature of the disease. (2) Increase of polynuclear leucocytes (neutrophiles and eosinophiles) bespeaks an acute infectious condition. (3) The presence of endothelial cells points to a mechanical origin of the fluid.

The study of fifty cases led O. Kose to make similar statements. Opinions contradictory to or modifying the above formula are also reported: (Czernot-Schwartz, J. Bronstein, Litten, M. Wolff). L. Concetti formulates his opinions in this respect thus: "Predominance of lymphocytosis is the expression of toxic, predominance of polynuclear leucocytes, of bacterial irritation."

In January, 1901, Sicard, Widal, and Ravaut reported the results of their systematic cytological examinations of the cerebrospinal fluid of 134 cases. They found lymphocytosis in 17 cases of general paresis, in 6 cases of syphilitic meningomyelitis, in 14 cases of tabes, in 2 cases of multiple sclerosis, and what seems to be an interesting finding in 7 out of 11 cases of herpes zoster. The lymphocytosis was absent in cases of syringomyelia, old hemiplegia, poliomyelitis, neuritis and other peripheral palsies, Friedreich's ataxia, neurosis, and what seems remarkable, in cases of compression myelitis.

Armand-Delille and Camus studied the cerebrospinal fluid in 13 cases of tabes from Déjerine's clinic. They found lymphocytosis in only 4 cases. In the discussion which followed the presentation of this report at a meeting of the Société de Neurologie of Paris, surprise was expressed by Babinski and Dufour. Déjerine stated that in his experience lymphocytosis may be absent in the courses of tabes. Achard and Grenet found no lymphocytosis in 2 cases of general paresis. Widal, Sicard, and Ravaut reported later another series of examinations—37 cases of tabes—in 36 of which lymphocytosis was marked. Schoenborn examined a number of cases in Erb's clinic and reports a general confirmation of Sicard's results: From 8 cases of tabes, 7 showed marked and one moderate lymphocytosis. Progressive muscular dystrophy, paralysis agitans, glioma of the cerebellum, neuritis and compression myelitis showed absence of lymphocytosis.

With the aid of Drs. Wachsman and Heimann of the staff of the Montefiore Home, I have attempted to obtain cerebrospinal fluid from 47 cases. In 14 cases the tapping was unsuccessful, *i.e.* no fluid could be obtained. The failures occurred mostly at the beginning of the examinations and were apparently due to faulty technique. Among the 33 successful punctures there were: 7 cases of tabes, 4 of general paresis, 3 of syphilis of central nervous system, 7 of multiple sclerosis, 2 of paralysis agitans, 1 case of doubtful paralysis agitans or diplegia, 3 cases of brain tumor, 2 of hysteria, 1 case of poliomyelitis, 1 with discharge of the cerebrospinal fluid from the nose, 1 of aural vertigo with peripheral facial palsy, and 1 of hereditary syphilis without nervous symptoms.

The seven cases of tabes represented mostly cases of long duration; a more or less marked increase of the lymphocytes was found in all of them. In one case, however, the fluid was hemorrhagic, and therefore it is difficult to state whether the lymphocytosis was not purely the result of the bloody admixture. In some cases, only a few, five or six leucocytes were found in each field; in others they were not countable. In all cases leucocytes were preponderant; in only two polynuclear cells were seen.

Of the four cases of general paresis leucocytosis was marked in three cases and in one (a recent case) no lymphocytes were found in the fluid. The polynuclear cells were found markedly increased in only one case.

In six out of the seven cases of multiple sclerosis marked leucocytosis was found. In these cases no polynuclear cells were ascertained.

Of the three cases of syphilitic disease of the central nervous system two showed marked leucocytosis. The relation of the mononuclear to the polynuclear variety seemed here to be in favor of the latter.

In one case of brain tumor with a clear history of syphilitic infection, leucocytosis was found.

In all the other cases the fluid was found free from corpuscular elements.

It is needless to state that scrupulous antiseptic precautions are to be taken during these examinations. An ethylchloride spray minimizes the pain and prevents the occurrence of disturbing contractions and movements. The tapping is best performed on the patient in a sitting posture, slightly bent forward, or if in bed, turned over to one side. The most suitable space is between the third and fourth lumbar vertebræ. A line drawn from the highest points of the iliac bones crosses the vertebral column between the third and fourth vertebræ. In my experience it is best to introduce the instrument at this height quite near the middle line; so one can best avoid striking the roots or having the instrument clogged by the same. Occasionally one has to wait thirty seconds to a minute until the fluid appears. I have used the Stadelman trocar in preference to an aspirating needle; aspiration being looked upon as not quite safe.

*Read at a meeting of the New York Neurological Society, January 5, 1904.

We have gauged the pressure of the cerebrospinal fluid empirically by observing the speed of the flow We have found that this varies in an unaccountable manner from a speed of 4 drops a minute to squirting. The first few drops are not collected; if the fluid is bloody it is best to wait until it clears. From 5 to 8 c.c. of the fluid are collected in a sterile centrifuge tube. Pouring the fluid from one tube to another is to be avoided. The fluid is centrifuged for ten minutes, then carefully decanted and by means of a capillary pipette, a drop is taken from the bottom for examination; this drop is dried at room temperature, fixed with equal parts of alcohol and ether, stained (Jenner, Goldmark), and examined.

Usually the cerebrospinal fluid is supposed to contain very few or no corpuscular elements (three to four in a field). When there are more, one may speak of an increased lymphocytosis.

A positive diagnostic inference cannot be made, as far as my investigations go, from the prevalence of one or the other type of corpuscles.

From the purely chemical standpoint the cerebrospinal fluid has not been thoroughly investigated. Guillain and Parant believe to have found an increase of the coagulable albumoses in cases of general paresis and look upon this as a valuable prognostic sign. According to Donath, cholin has been found in the blood and cerebrospinal fluid in those diseases of the nervous system which are associated with destruction of the medullary sheath (cholin being a derivative of lecithin). The presence of reducing substances is believed by some to be of occasional diagnostic value.

Concerning the dangers and after-effects of lumbar puncture for diagnostic purposes, it need be stated that in only one case was the immediate effect of the puncture somewhat threatening. This happened in a case of supposed cerebellar tumor. Immediately after the introduction of the cannula the patient went into a collapse, from which he was revived with some difficulty. No fluid escaped, and it appeared that this accident was due to a sudden medullary concussion caused by the fluid impinging violently upon the medulla in its attempt to reach the lower level and having been apparently prevented. This is in harmony with Quincke's warning to avoid lumbar punctures in cases of cerebellar disease or disease of the posterior fossa. The cases recorded in literature in which death was the result of a lumbar puncture were mostly cases of such nature. It is well to draw attention here to Oppenheim's experimental investigation, according to which minute hemorrhages around the central canal have been observed in animals after lumbar puncture.

In a number of other cases headache and nausea appeared. In most of these cases this symptom was easily overcome by saline injections; in one case it proved somewhat troublesome for an entire week. Finally it may be mentioned as a curiosity, that a therapeutic success is reported to have followed an intraspinal injection of colloidal silver in a case of meningitis.

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THORIUM: A RADIOACTIVE SUBSTANCE WITH THERAPEUTICAL POSSIBILITIES.

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The marvellous properties of radioactive substances have made them a matter of great interest to all scientists, but to the medical man their possible value as therapeutic agents renders them objects of special and peculiar importance.

There are but four known elements which are radioactive. These are radium, thorium, polonium, and actinium. The latter two I will not consider here, as they are the least known, extremely rare, and almost beyond the power of purchase. Radium I have already dwelt on in previous papers.* Thorium is one of the rare metals, and was discovered in 1828 by Berzelius. Until the past few years, it has been too rare and expensive to be used commercially or in medicine. It is now, however, more abundant, and is found in certain sands in North Carolina, in Brazil, and in Norway and Sweden. The most active thorium is obtained from the minerals cleveit, broggeri, monazite, in the order given. During the past ten years it has been used as the principal chemical for the production of incandescence in the Welsbach mantle.

Since the discovery of radium by Professor and Madame Curie, renewed interest has been excited in thorium, because it has been found, by Prof. G. C. Schmidt, to possess the property of radioactivity.

Fig. 1. Thoriograph taken in a dark closet with three broken Welsbach mantles. Time of exposure, 72 hours.

That thorium is, in fact, radioactive, is susceptible of demonstration in two ways: First, by means of a delicate electroscope, such as is used in demonstrat-

*New York Medical Journal, October 24, 1903; New York Journal of Advanced Therapeutics, December, 1903, and New York Medical Journal, January 9, 1903.

ing electrical induction; and, second, by means of the sensitized photographic plate. With the first method, when a preparation of thorium is brought near the wire attached to the two gold leaves in the electroscope, the leaves fall together, thus indicating the presence of radioactivity. The greater the rate of the discharging power of the leaves, the greater the radioactivity.

The second test—that with the photographic plate—takes a much longer time for its accomplishment, viz., from twenty-four to forty-eight hours, if a screen made from the nitrate of thorium is used; but when hot emanations from the oxide of thorium are the excitant, a photograph may be obtained in one hour. Among the first thoriographs that I obtained was one taken by three Welsbach mantles. In a dark closet I placed a photographic plate. Upon this was laid a pair of scissors, as appears in Fig. 1, and on top thereof, three old Welsbach mantles, rich in thorium oxide. In seventy-two hours I obtained a good negative. In other thoriographs I have taken, I employed a screen of thorium oxide—using simply a piece of pasteboard—to which I added mucilage and dusted on it a thin layer of thorium. Thoriographs were taken by this method in from twenty-four to forty-eight hours. See Figs. 2 and 3.

The most penetrating Becquerel rays are those obtained from hot thorium oxide. The thoriograph shown in Fig. 3 was obtained by taking a photographic plate, covering it with thick black paper, and placing on it keys, a glove buttoner, etc. Then this plate was exposed to the warm emanation of thorium, and the accompanying photograph was obtained in one hour.

The photographs that accompany this article—thoriographs I have called them—were produced by various methods and with varying degrees of exposure. The data concerning them will be found under each cut.

Prof. Ernest Rutherford of McGill University

Fig. 2. Thoriograph taken in a dark closet by an oxide of thorium screen. Time of exposure, 48 hours.

was among the first to investigate the properties of thorium. His researches in this field have done more, perhaps, than has been effected by anyone else toward solving some of the mysteries of this remarkable radioactive substance. In 1900 he discovered that thorium gave off an inert and highly radioactive gas, which he termed an "emanation." It diffuses through gases, liquids, and even through porous substances. Rutherford considers the emanation to be the result of successive chemical changes in the thorium. By chemical action the thorium atom produces a substance which he calls thorium X, and by a further chemical change, this thorium X produces the emanation. The emanation expels from itself a negatively charged body, which constitutes the Becquerel rays. These rays are the same as those produced by radium, polonium, actinium, and uranium.

It has been recently proved by scientists who

Fig. 3. Thoriograph taken with the emanations of hot thorium oxide. Time of exposure, 1 hour.

have experimented with thorium that its radioactivity and emanations are antiseptic, antifermentative, and inimical to germ life. In conjunction with Hugo Lieber, we have shown that grape juice, when exposed to radioactive matter, will not ferment for a month, even though it is kept in a warm room, with the bottle uncorked. In other experiments the oils of juniper and erigeron were used. These oils ferment and decompose in a few days if left exposed to the light. But after treatment with thorium emanations, even in the presence of light, they nevertheless were preserved in their original state for several weeks.

The antifermentative property of thorium emanations is further shown by the following experiment: Two bottles were taken, each containing agar-agar, starch, and mold (such as may be obtained from fermenting fruit). The contents of one of these bottles were subjected to the radioactive emanations of thorium, and those of the other were not. In the first bottle the growth of the mold was greatly inhibited, whereas, in the second bottle, the mold grew abundantly and soon filled the bottle. From these observations it is evident that thorium has a marked effect on microorganisms and fermentation, a fact suggestive of a vast field of usefulness in medicine.

The radioactivity emanates from thorium in every form, whether in powder, solution, paste, or ointment. The best results, however, are likely to be obtained from the gaseous emanations when used as an inhalation. This form of emanation may be obtained, either by making a solution of thorium nitrate, or, better still, by heating the oxide in a glass

receptacle, on a sand bath. For external application thorium may be made into a paste or a 25-per-cent. ointment, and used as an antiseptic in chronic skin diseases, particularly those of parasitic origin.

Thorium in Tuberculosis.—Dr. Soddy of London and Professor Rutherford of Montreal have suggested the use of thorium inhalations for tuberculosis. Certainly, from its antiseptic and antifermentative actions, it would appear to be a desirable agent to apply directly to the tissues affected in the fight against the tubercle bacillus.

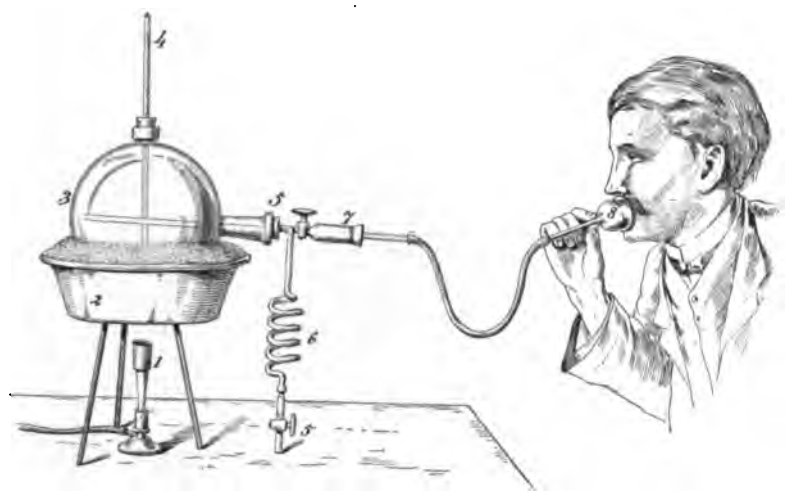

FIG. 4. Lieber's apparatus for thorium inhalations. 1. Bunsen burner. 2. Tin vessel containing white sand. 3. Glass vessel containing thorium oxide. 4. Thermometer. 5. Inlet for air. 6. Spiral glass-tube to prevent escape of emanations. 7. Outlet for emanations 8. Mouthpiece for inhalations.

As I have previously stated, there are two methods of obtaining these radioactive emanations, for use in the treatment of tuberculosis. One method is to use a saturated solution of nitrate of thorium in a large shallow receptacle. The larger the area of the vessel, the greater the amount of the emanations. A slight current of air can be caused to pass over the solution from a compressed air tank, while the patient is inhaling. With the nitrate of thorium there may be more or less free nitric acid; this must be neutralized by passing the emanations, before inhalation, through a wash-bottle containing a saturated solution of sodium bicarbonate.

The other, and by far the best, way of obtaining the emanations, is by heating the oxide of thorium. The apparatus I am using for this method of inhalation is the invention of Hugo Lieber. The accompanying cut shows the various parts of the apparatus, and the method of administering the thorium emanation.

The radioactivity of thorium is many thousand times less than that of pure radium, but thorium is also many thousand times cheaper ($7 a pound), and it can be used for a longer period of time at each treatment, thus making up by the increased duration of the treatment what it lacks in potency.

Rutherford states that "when thorium nitrate is changed into an oxide by heat, it temporarily loses its radioactivity. However, when it is exposed to the air it soon begins to regain its activity. In four days it is one and a half times more active, in twelve days, two and a half times; and at the end of two weeks it reaches its maximum radioactivity, which is four times as great as was the original nitrate of thorium."

In using Lieber's thorium apparatus, the inhalation of the emanations leaves in the lung cells a fine film of radioactive matter, which, in turn, produces the phenomenon of induced radioactivity in the same parts. This "induced" radioactivity will remain in the air-cells long after the original emanations have been exhaled. In most cases it lasts for from one to two days, after which it gradually disappears. In this connection it is interesting to observe that the radioactivity of thorium can be proved, even after it has entered the lungs. If a patient inhales the thorium emanations, and then, while in a dark room, exhales, allowing the breath to come in contact with a photographic plate, the exhalation affects, and partly decomposes, the silver salts on the plate.

As the induced radioactivity of the thorium emanations lasts from twenty-four to forty-eight hours, this acts as a guide to indicate the proper frequency for the treatments. An inhalation given every day or every other day would keep the lung cells constantly in a radioactive and antiseptic condition. While the thermometer in the Lieber apparatus should indicate a temperature of from 250° to 300°F., the emanations are partly cooled by passing through the glass and rubber tubing, and may not be much above the normal body temperature at the moment of inhalation. These inhalations may be taken for a period of fifteen minutes at the outset, which period may be gradually increased to half an hour.

This method of treating tuberculosis will not interfere with other measures, such as dietetic, hygienic, and even drug treatment.

240 WEST ONE HUNDRED AND SECOND STREET.

A NEW AND SIMPLE PHOTOTHERAPEUTIC LAMP.*

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THE fact that sundry luminous and non-luminous radiations can be utilized in the treatment of certain pathological conditions is now so well known that any testimony I might personally give would be superfluous.

The real question that at present concerns us is simply one of technique. If the sun's rays are to be utilized, we have the choice of the earlier method of Finsen of Copenhagen, who gave exposures of moderate intensity for an hour or more daily, and continued for weeks or months; or we may adopt the more radical method of Thayer of San Francisco (*Pacific Medical Journal*, April, 1902, and September, 1903), who uses concentrated rays of such intensity that the parts are not simply scorched, but actually carbonized, and the morbid tissues destroyed in many cases at a single sitting. Finsen soon found that he could not command the sun, and adopted the electric arc as a substitute. We in New York and in the more northern portions of the continent find the sun undependable, and are therefore forced to rely on electricity to supply the radiations we desire to employ.

Finsen's standard outfit comprises a large arc-lamp with carbon electrodes and consumes electric energy equivalent to more than ten horse-power, if run on the usual 110-volt circuit. Connected therewith are four optical bodies, furnished with quartz lenses and chambers and tubes, for the circulation of water. In addition there is a set of quartz compressors used for squeezing the blood out of the part to which the rays are directed. With this installa-

*Read at a meeting of the Surgical Section of the New York Academy of Medicine, January 8, 1904.

tion four patients can be treated simultaneously, to each of whom is assigned an attendant whose duty it is to manage the compressors. The seance usually lasts for an hour, and in many, if not most cases, is repeated daily for from three to six months, according to the nature, extent, and severity of the lesions that are present.

More recently a simpler installation, known as the Finsen-Reyn lamp, is also manufactured at Copenhagen under the auspices and with the approbation of Finsen. It differs from the older form by possessing but one optical body, much shorter than the one in the original construction. It consumes but one-fourth of the current required by the larger lamp, and can be used by but one patient at a time. It is furnished with a set of compressors, which, when used, require the services of an attendant. This lamp is fully as efficient as the larger one, as, owing to the greater proximity of the patient to the arc, the luminous energy at the point of application is the same, at least so says the advertisement.*

Such, in brief outline, is the Finsen method of treating lupus and some other cutaneous affections.†

It will be readily admitted, I presume, that the surgeon's success with photo- or actinotherapy will depend somewhat on his knowledge of the physical factors connected with agent he employs. Judging from the statements found in many of the published articles that are almost daily encountered, I am forced to the conclusion that some at least who are using phototherapy are deficient in the very knowledge that should be the foundation on which they should build their hopes of success.

The sun radiates its energy in all directions, and the portion that reaches our earth comes to us in the form of wavelets, varying in velocity and in length. Those of longest wave-length are invisible and inappreciable by either of our organs of special sense, but become known to us by their warmth; others of shorter wave-length become known to us through the organs of vision, and we speak of them as light. When duly mingled in their natural proportion this light is white, but if analyzed with a prism we find that this white light is not homogeneous, but is composed of radiations of varied wave-length and varied color. Each wavelength doubtless possesses its own color, but as the differences are so minute it has been found convenient to group them into six divisions as red, orange, yellow, green, blue, and violet. These alone should be spoken of as light.‡ Beyond these again there are other wavelets of still shorter length. Their chief characteristic is the readiness with which they induce certain chemical changes and also give rise to the phenomena of *fluorescence* and *phosphorescence*. These various radiations taken collectively constitute the spectrum, which may be conveniently divided into three portions: (1) the so-called heat rays *below* the red known as the *infra-red;* (2) the luminous portion or light; and (3) the portion *beyond* the violet, known as the *ultra-violet.** Our chief concern at present is with the blue and violet portions of the visible spectrum, and with the ultraviolet invisible radiations. In sunlight we have but a minimum proportion of ultraviolet as compared with some other luminous sources, and we are therefore obliged to look to artificial light for a richer source of the latter. In the ordinary arc light with carbon terminals there is a much larger proportion of ultraviolet than in sunlight, and if we substitute iron for carbon the proportion is still further increased. As already stated, Finsen uses the arc with carbon terminals, but Dr. Sophus Bang of Copenhagen, connected with Finsen's institute, devised a lamp with iron erminals, providing a water circulation to keep them cool.†

The condenser spark, however, is still richer in ultraviolet radiations, and Goerl of Nürnberg availed himself of this fact in the construction of a convenient little lamp, which, however, requires for its operation a static machine or an *x*-ray coil furnished with a condensor in the secondary eircuit.‡

Numerous modifications of the Finsen, the Bang, and the Görl lamp have been made, the desire being to produce a lamp of simpler and less expensive construction without any great sacrifice of pediency. About a year ago the present writer devised a condenser spark lamp in imitation of that of Görl, which is here shown (Fig. 1) and which has given him great personal satisfaction, and which he believes has proved satisfactory to others who have used it. It is more particularly described in the MEDICAL RECORD of March 7, 1903.

FIG. 1. The author's spark-gap lamp for ultraviolet rays (to be used with static machine or coil).

A number of lamps of the Bang type—that is, with iron terminals hollowed out to permit the circulation of water—have been devised, and one of French construction particulary attracted my attention.¶ One of these was sent for, but a lamp of slightly different construction was furnished, and on trial was found impracticable and unsatisfactory, and was, in fact, a lamp that no American manufacturer, jealous of his reputation, would think of placing on the market. I made no clinical use of the lamp, but testing it experimentally was impressed with the danger of accident in case either of the terminals should become perforated. Iron like carbon terminals are rapidly consumed in the electric arc, and if one of them should burn through, the water would spurt out upon the patient—an unpleasant, though probably not serious, accident.

Desiring to test the comparative therapeutic value of the Spark-gap radiations with those derived from the low-tension arc, my recent efforts have been to produce a lamp that would be free from

*"Der Apparat bietet durch seine grosse nähe der Lichtquelle und durch die schräge Stellung der Kohlen ungefähr diesselbe Lichtmenge wie die grossen Apparate."

†It is to be regretted that thus far Finsen has vouchsafed but little information concerning the minor details of his technique, and the purchaser of the apparatus must exercise his own ingenuity in applying the means at his command to the ends he desires to accomplish.

‡"LIGHT.—The form of radiant energy that acts on the retina of the eye and renders visible the objects from which it comes; the illumination or radiance that is apprehended by the sense of vision. . . . According to the *undulatory* theory, now generally received, radiant energy is propagated in waves that vary in length, and only those that effect the eye are known as *light*."—Standard Dictionary.

*It must be borne in mind that the infra-red and also the luminous portion possess actinic properties, though less in degree than the ultraviolet, and this latter exhibit, thermal properties, though less in degree than the others.

†*Deutsche medicinische Wochenschrift*, September 26, 1901.

‡*Münchener medicinische Wochenschrift*, May 8, 1901.

¶*Archives d'Électricité Médicale*, March 15, 1902.

the objections mentioned, and at the same time be of simple construction and convenient of manipulation.

The result is here shown.

FIG. 2. The author's hand arc-lamp.

I need not detail the problems that confronted me at nearly every turn, and it was only through the courtesy of the Waite & Bartlett Manufacturing Company that I succeeded in bringing about the result that I sought to accomplish. This firm kindly permitted me to oversee this work at their factory, and placed at my disposal an exceedingly competent mechanic.

Briefly described, the lamp has the general outward form shown in the illustration. The terminals are of iron and solid, and by giving free ventilation I am enabled to dispense with the water tubes. One of the terminals is fixed, and to this I prefer to attach the cord carrying the positive current. The other is movable, and by means of an adjustable spring is maintained at a proper arc-ing distance. The lamp may be attached, with proper resistance in series, to any outlet connected with a commercial 110 volt D. C. circuit. The fuse wire connected to the outlet on the wall should be capable of carrying at least six amperes.

The conducting cords with the rheostat in series are furnished at one end with an attaching plug and at the other with sockets for connecting the lamp. The cords should be insulated with asbestos and not with rubber or gutta percha. When the lamp is to be used I strongly recommend that it be first connected with the cords, and the cords afterward connected with the desired part of the house service. The current should now be turned on at socket. To produce the arc the push button on the handle is moved forward until the terminals are in contact, and then brought gently back to permit the arc to form. The arc may be broken at any moment by simply blowing it out as one would blow out a candle, and this should always be done *before* turning off the current at the wall socket. The tube that projects from the front of the lamp carries a quartz plate, and is left purposely open at the sides to permit a free circulation of air.† The strong actinic light escaping from the sides of the tube will naturally impinge on and effect the neighboring parts unless they are properly protected. This may be readily accomplished by means of a shield of non-actinic paper. They should be about three and a half inches in diameter with a central aperture of one and a half inches and may be slipped over the tube before it is attached to the front of the lamp. Should the skin lesion be quite small, a suitable diaphragm can be readily made out of the small paper disk, that is cut from the center of the larger one.

The entire outfit, including the rheostat, weighs about eight pounds, and may therefore be easily carried to the clinic or the house of a patient, if necessary.

The lamp here described, in common with the Bang lamp, furnishes radiations that are comparatively richer in ultraviolet than the Finsen and its numerous imitations. In this respect, however, they are inferior to the radiations from the spark lamp.

It must be remembered that no matter what phototherapic lamp is used the part to be operated on must be deprived so far as possible of its circulating blood. This may be accomplished by compression as employed by Finsen, or better and more conveniently, I believe, by the cataphoric introduction of adrenalin as originally proposed by myself (MEDICAL RECORD *loc. cit.*). I use a solution of chloride of adrenalin, 1-1000, and in hundreds of applications have found it efficient and free from any inconvenience or misadventure. In a few instances recently I have added the di-hydrochlorate of quinine to the adrenalin solution. This addition does not appear to impair the desanguinating property of the adrenalin, but I am not at the moment prepared to say that any actual therapeutic advantage accrues from this addition. This can only be determined by further experiment.

256 WEST FIFTY-SEVENTH STREET.

†The lamp may be furnished in addition with a *quartz* lens, which, mounted in a suitable adapter, will furnish at will either parallel or converging rays.

EARLY OPERATIONS IN ABDOMINAL TROUBLES.*

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THE remarks I am about to make do not apply to all physicians, for the majority of men doing general practice are keen to make early diagnosis and prompt to call surgical aid. Still there are many who do not make their diagnosis early and do not call surgical aid until the case is almost beyond human help. If you wish to be conservative, you must be prompt in diagnosis and early in operation. The general practitioner is sometimes apt to consider lightly surgical cases, saying, "I always call a surgeon for such work," and I will add, "often too late." The high mortality in abdominal troubles does not come from the operation, but from the delay in having it performed. How can you have an early operation unless you can make your diagnosis? How can you diagnose unless you are perfectly familiar with surgical cases? How can a surgeon diagnose unless he is equally familiar with medical cases?

I dare say there is not a man present but who can recall certain patients who would be alive to-day had there not been delay. Of course, delay comes often from the family, but the majority of the laity to-day appreciate the dangers of late operation and will censure not only the surgeon who "kills the patient," but also the family physician who

*President's annual address before Vermont State Medical Society, Bellows Falls, Vt., October 15, 1903.

waited too long. To help things along and smooth them over, the newspapers add "so-and-so dies as the result of an operation," thus adding still more discredit to late surgical work. What should be the attitude of the surgeon to the general practitioner? Here is a common case: A patient is taken suddenly ill with appendicitis, and the diagnosis is not made. To allay pain, an opiate is administered, and this repeated as required. In the morning the patient seems a little better, but still a diagnosis is not made, or the physician waits another day before calling a surgeon. The following day the patient is much worse, and the surgeon is called; he finds the patient with a rapid pulse, leaky skin, and a hard abdomen. Operation reveals the general peritoneal cavity, and system in general infected. There is profound collapse at the end of the operation, and the patient rapidly sinks, and dies, or, after a hard struggle full of pain and suffering, he makes a slow, tedious, and imperfect recovery. Immediately after the operation the friends talk to the surgeon about this way: What are the chances? How do you find him? Was the operation early enough? Would it have been better if performed two days ago? Now, in the cited case, I ask was the operation early? Can the surgeon say to the family: "Yes, the operation was early, still there is no hope?" Can he risk his reputation, and try to convey to the family that it was in time, when he knows, as do also the family, that it was too late. No, he cannot do that; he must say: "The earlier the operation, the better are the chances." Such cases bring discredit to the surgeons, but they hurt the general practitioner far more. The laity expect that their family physician will protect them; that he will, if necessary, call a surgeon, and call him promptly, and if he does not, they will blame him. The surgeon is often called to operate upon delayed cases that are almost sure to die. Shall he operate? A very eminent surgeon said to me when we were discussing these cases, "I do not operate upon them, I simply say that it is too late." There is truth in this, still there are cases that seem almost hopeless in which recovery does occur. For this reason I think if the family desire an operation, after fully understanding the situation, they should have their wish gratified. I do not, however, think the surgeon should shield the general practitioner to the extent of making statements that are untrue. If the general practitioner delays, he should assume the responsibility.

What do we mean by early operation? Is it twenty-four hours, or three days? As I mean it, there is no stated time; in one case twelve hours is late, in another case three days is early, depending entirely upon the condition. Among the cases demanding earliest operation, are those of perforation of the stomach, intestines, appendix, or gall-bladder. In stomach perforations there is often a history of gastric ulcer or gastric disturbance. I was called at noon to see a young man of about twenty-five years, a carpenter by trade. While working, he was suddenly taken with severe epigastric pain and collapse; the pulse was very rapid, the respiration catchy, and the face anxious, the abdominal muscles were tense, especially in the epigastric region, and tenderness was present in the same region; but a little to the left of the median line there was loss of liver dulness. A diagnosis of perforating gastric ulcer was made, and he was urged to go to the hospital, only a block distant, and have an operation as soon as the first shock was over. He flatly refused, even after the consequences were explained to him. He continued to get worse, and the next morning his condition was hopeless. The family then requested an operation, and this was acceded to, but no hope was offered. When the abdomen was opened it was found filled with stomach contents and sero-pus. A perforation was found in the posterior wall of the stomach. This was closed and the abdomen was flushed and drained. The patient died twenty-four hours later. Very similar to this is the following: A servant girl after a hearty evening meal, was taken with severe pain, vomiting, and collapse; she was stimulated and made comfortable during the night. I saw her early in the morning in the following condition: the pulse and respiration were very rapid, the temperature was subnormal, the abdomen hard, distended, and tender. There was a loss of liver dulness, the face was anxious and the eyes were sunken. A diagnosis was made of stomach perforation, and little hope was offered. Operation revealed a large ulcer; this was sutured, and a large amount of stomach contents and sero-pus was washed out of the abdomen; drainage was used. She died a few hours after the operation—that is, twenty hours from the onset of symptoms. In this case fourteen hours was late. If you had a stab or gun-shot wound of the stomach you would not wait fourteen hours, then why wait in a similar condition due to ulceration? It is surprising how rapidly infection follows perforation, and what a large amount of pus can form in a short time. A man of about thirty-eight years, a draftsman, had worked hard all day, and was as well as usual. After eating his supper, he was taken with severe pain in the abdomen and collapse. Morphine and stimulants were used. I saw him the following day at noon, fourteen hours after the onset. The pulse and respiration were very rapid, the face was anxious, the eyes sunken, and the body bathed in perspiration; the abdomen was distended, tender, and very hard. Liver dulness was absent. Gastric perforation was diagnosed, and the prognosis was death with or without operation. Operation was, however, requested. The gas in the peritoneal cavity was under such pressure that when the abdomen was opened, there was a distinct sound of explosion and pus spurted in every direction. In this case there were quarts of what appeared pure, yellow pus; of course, some of it was stomach contents. The intestines were fiery red and covered with patches of white lymph. The abdomen was flushed and drained, but the patient died a few hours after. This was a late operation. Intestinal perforations give very much the same history. A laboring man of middle age was taken while at work with pain and collapse. The pain was located over the appendix. I saw him twenty-four hours later. Collapse was marked; the abdomen was enormously distended, tender, and boardy; the pulse was over 150. Operation was not advised. The symptoms were those of a large perforation of the appendix, and the location favored the diagnosis. Autopsy showed a small (typhoid) perforation of the ileum.

Another misdirected idea is that of interval operation for appendicitis. Of course, the patients that get well and are afterward operated upon in the interval give a very small death rate, but when you add to this those that die during the attacks while waiting, you have a much higher mortality than if you established the rule to operate in every case as soon as the diagnosis was made, and made the diagnosis early. Interval operations in a large hospital, or where the patient can be watched by experienced diagnosticians and trained nurses, may do, but for the country practitioner, they are dangerous, and he will lose more patients than if he adopted the other rule.

I have seen so many lives lost by the waiting idea, that I am firmly convinced that every patient should be operated upon as soon as possible after the diagnosis is made. Some years ago, I was summoned one night to see in consultation and operate upon, if necessary, a young lad of about twelve years. There was some discussion between the council, and part were opposed to operation, advising "to wait for an interval operation." It was a typical case of suppurative appendicitis with general peritonitis. I cite it simply to show that many good practitioners do not grasp the full understanding of interval operations, and I again emphasize that it is safer for them to adopt the rule to operate in all cases as soon as the diagnosis is made. To return to our case, upon opening the abdomen, pus was present everywhere. A gangrenous appendix was found resting on a coil of small intestines. It was so septic that where it came in contact with the intestines it had produced gangrene. About eight inches of intestines were black and gangrenous. A foot of small intestines was resected, and the ends stitched to the abdominal wound. The abdomen was flushed and drained, and the intestine was irrigated, and filled with saline solution and brandy. The patient recovered. Three months later the ends of the intestines were freshened and joined by a Murphy button. The boy is now perfectly well. This is an unusual condition. I have many times seen small areas gangrenous from contact of a septic appendix, but never before eight inches absolutely gangrenous throughout its entire thickness. You will all admit that the operation was late, and that it was not a suitable case for an interval operation.

It is not always possible to make a positive diagnosis at once, but you can take your symptoms, and by grouping and by exclusion you can soon decide the question: Is it safe to wait, or must the operation be done at once, regardless of the diagnosis? I saw a boy of ten who was taken suddenly sick with a pain in his abdomen. There was tenderness over the appendix and the abdomen was distended. The muscles were rigid, but not hard. The temperature, pulse, and respiration were all considerably elevated. It appeared like a well-marked case of appendicitis, except the muscular rigidity. Cough, however, was present that excited suspicion of pulmonary trouble, but examination of the lungs was negative. The following day the cough was more severe; an examination of the lungs showed pneumonia of the lower right lung. In this case it was twenty-four hours before appendicitis could be excluded and pneumonia diagnosed. Other chest complications may simulate abdominal trouble, and must be borne in mind.

In abdominal troubles there are certain symptoms common to all, varying somewhat according to the lesion and its severity. Pain, tenderness, and muscular rigidity are present in almost all cases. Pain indicates a lesion. Tenderness tells where it is, and muscular rigidity shows nature's effort to protect the diseased areas. This combination always indicates trouble that should be watched with care. If over the appendix it is pathognomonic of appendicitis, and here you must remember that the appendix is not always in the same location; the left iliac, the right lumbar region, or the pelvis may be occupied by this uncertain organ. If the pain is over the gall-bladder, it is equally significant of gall-bladder disease; if over the stomach, it may mean gastric ulcer; if it is in the lower abdomen, just above the pubes or to one side, it is suspicious of tubal or ovarian disease. In the last named, a vaginal examination will often decide the diagnosis. A servant in my home, a young girl of eighteen, was apparently well; she had had two slight attacks of colic lasting only about a quarter of an hour, after which she was well as usual. One day when doing her usual work, she was taken with severe pain in the epigastric region and collapse. Morphine and stimulants were given, and it looked as though she would die at once. The pain was agonizing; the muscles over the abdomen were rigid, especially the right rectus in its upper half, and tenderness was most marked here. From the character of the symptoms, I thought at once of perforation, probably of a gastric or intestinal ulcer, or of an appendix pointing upward and unusually high. Liver dulness was present, showing that there could not be much gas in the peritoneal cavity. While the symptoms were those of a perforation, the gall-bladder could not be excluded, as we had pain, localized tenderness, and muscular rigidity over a point midway between the navel and lower costal cartilages of the right ribs. There were the sudden and severe onset, collapse, a pulse of 140, and a temperature in a few hours of 105°; an anxious facial expression, and sunken eyes, rapid respiration, tympanitis, and constipation. The diagnosis was between an abnormally high located appendix that had perforated, a perforated gastric ulcer, or gall-bladder disease. There was no history to aid, no jaundice, no vomiting of blood, or stomach disturbance, no previous attacks of appendicitis or of uterine disease. The grouping of the symptoms left no doubt regarding the advisability of an operation. This was proposed and refused. For two days she improved, then suddenly became worse. She then consented to an operation. Upon opening the abdomen, a mass of adhesions was found. Upon breaking these up, a large tense gall-bladder appeared with a perforation in its posterior wall, this was covered by an adhesion of omentum. Upon opening the gall-bladder about fifty stones and a few ounces of pus were found. The largest stone was about the size of a large walnut. The gall-bladder was emptied and stitched to the incision and the abdomen drained. The patient made a good recovery. The collapse evidently took place at the time the perforation occurred.

Another gall-bladder case of interest, from its rarity, is the following: A man of sixty-five was taken with an ordinary typical attack of gall-bladder inflammation, pain and localized tenderness were present over the gall-bladder, very marked muscular rigidity over the entire abdomen; the abdomen was like a board, but not much distended. He had been sick nearly a week, his temperature and pulse were running up, and an operation had been urged. He did not look, however, very sick. Upon opening the abdomen it was found full of bile and seropus, and all the intestines were red and covered by lymph the gall-bladder was gangrenous, gray, green in color, and perforated in many places. On removing the diseased parts, the gall-bladder was found to be so rotten that it was picked away with the fingers up to the common duct. It looked like a hopeless case. The abdomen was washed out, large strips of gauze were carried in various directions, and the wound was left open. Collapse was marked. The man, however, made a good recovery, and is now working hard each day. There are two things about this case. First, Mayo Robinson says that there is only one case on record of total gangrene of the gall-bladder and that case ended fatally. Second, the extreme muscular rigidity was the symptom of warning and when present generally means severe trouble.

Intestinal obstructions always demand prompt action; here hours count. Two symptoms are most pronounced, constipation and vomiting; these are also common in sepsis, but certain symptoms will

always aid you in making an early diagnosis. These cases generally hold up until the last, and then go to pieces in a hurry. A boy of ten was apparently well Saturday. The evening of that day, he was taken with colicky pain and vomiting; the bowels were constipated. He had had an attack like this about a year before, and it was a week before the bowels could be moved. Sunday the vomiting and pain continued, still the bowels could not be moved. I saw the patient Monday morning, thirty-six hours after the onset. The vomiting was regurgitant in character, brown and offensive with fecal odor. The abdomen was distended and tender; the face pinched, eyes sunken, pulse rapid and thready, respiration accelerated. The diagnosis was intestinal obstruction, and little hope was offered. He had failed very rapidly in a few hours. Operation was asked for by his parents. Upon opening the abdomen there was a gush of brown, offensive serum. Distended and collapsed intestines were soon found that led to a strangulation by a band caused by an old appendicitis. Several feet of intestines were found strangulated and gangrenous. An artificial anus was made. The boy died a few hours later—thirty-six hours after the onset—but too late for such a condition. In this case there was a history of a previous attack, and a recovery without operation. Because a patient has recovered once, twice, or more times from sim ilar attacks, it is no sign that he will recover from the next, and you must not be misled or influenced by such a history.

Floating kidney sometimes give rise to severe symptoms, and as this is a very common condition, it should be borne in mind in making a diagnosis. A young woman of thirty-five was operated upon by me five years ago for acute appendicitis. At the time of the operation an ovarian cyst was found and removed. She made a good recovery. A year later she began to have pain in the epigastric region, tenderness, vomiting, and some fever. These attacks increased in frequency. Examination showed a freely movable kidney which, when displaced, occupied about the region of the gall-bladder, but nearer the umbilicus. Some jaundice was present. She was running down, the fever was getting higher with each attack, and the pain, tenderness, and muscular rigidity were becoming greater over the right hypochondriac region. The urine contained hyaline casts, but aside from this was normal. Operation was advised. An incision through the upper right rectus muscle showed a mass of adhesions, a very large liver, and a distended gall-bladder. Pressure in the back threw the right kidney into the wound. The gall-bladder was opened and stitched to the wound. An incision was next made in the back, and the kidney, partially stripped of its capsule, was anchored, the wound being left open. The kidney was very soft and friable. This case was of interest because it so closely simulated gall-bladder disease, and, in fact, an eminent physician had diagnosed it as such, excluding floating kidney. Cases giving such a history should be operated upon early, not put off from year to year until the kidney is destroyed and the other organs injured by pressure. Gall-bladder cases give such good results that they should be classed among cases demanding early operation. There is no excuse for allowing a patient to go through life with gallstones that are giving trouble every little while. If they don't give trouble, they may be left alone.

The pelvic diseases demanding operation are many; operation in these cases is, as a rule, delayed too long, especially in the septic cases. We will pass by them, however, and consider a condition formerly thought rare, but now known to be common—that is, extrauterine pregnancy. I was called to see a case thought to be one of appendicitis. The woman had been sick about a week with tearing pains in the abdomen, associated with some collapse and tenderness and muscular rigidity over the lower abdomen. Examination showed the cul-de-sac occupied by a pulsating and fluctuating mass. There was a history of delayed menstruation and irregular flowing; also of stomach and breast disturbances. Operation showed a mass of adhesions and blood-clots in the abdomen. After these adhesions had been broken up, an abdominal pregnancy was revealed. A full four months' fœtus was quickly removed with the placenta and cord. Hemorrhage was terrific, and controlled only by compression of the abdominal aorta and a firm compress of iodoform gauze filling the pelvis. A good recovery followed. Such patients are in the greatest danger, for a fatal hemorrhage may occur at any moment. I was called a short time ago to see a young woman who thought she had miscarriage. She had run over her period two weeks, was nauseated, and had breast symptoms; the flow started freely, and considerable pain was present. She had been flowing over a week, and the pains were more severe; a little elevation of temperature was present. I curetted considerable material from the uterus. Bimanual examination revealed a retroverted uterus, with prolapsed tubes and ovaries, one tube being somewhat enlarged. There was a history of two severe attacks of appendicitis, several years before. The patient improved for a week, when the flow returned and the pains increased in severity, being of a tearing character. A few days later another examination was made and the tube was found somewhat larger. A diagnosis of tubal pregnancy was made, and an operation was performed the following morning. Free blood, old clots, and serum were present in the abdomen, to say nothing of adhesions. After a while, a pregnant right tube was found and removed. The appendix was adherent to it. The tube had not ruptured, but hemorrhage had taken place from the fimbriated end. The woman is now making a perfect recovery. These patients must be operated upon early, otherwise a great many will die, or, if they do not die, will have a long severe sickness before they recover, and the recovery may be only partial. You must consider that most of my reported cases have been severe ones. I could report many simple, mild cases that turned out to be equally severe, simply from waiting. Always treat a mild case promptly and carefully, and each year you will have less severe ones.

In closing, let me simply say, if you wish to do right by your patients who put their utmost confidence in you, diagnose and operate early. If you wish to be conservative and have a small death rate, diagnose and operate early. If you wish to be up to date and have the respect of the medical profession, and help its cause along, diagnose and operate early.

Massage in the Treatment of Fractures and Sprains.—According to Eisendraht, the contraindications to the use of early massage in fractures or sprains are the following: (1) Tendency to displacement of fractures in fractures. Under such conditions it is best not to begin either massage or movements until the union is firm (fourth to fifth week). (2) In compound fractures until the wound is healed. (3) Wherever the condition of the skin is such as to permit of infection; for example, the presence of blebs, or extensive abrasions. (4) The presence of fragments which project but do not penetrate the skin.—*Chicago Medical Recorder.*

TWO CASES OF ABDOMINAL TRAUMATISM.*

By A. B. ATHERTON, M.D. LL.D.
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CASE I.—M. K., aged forty-eight years, farmer, French-Canadian. At 2 P.M., on June 2, 1901, while he was endeavoring to discharge an old loaded musket it hung fire. On lowering it to examine the cap the gun went off, the butt end striking with great force against the right side of the abdomen. He suffered much pain at once and had some vomiting. Owing to unavoidable delay in sending into town for a doctor, I did not visit him till 10.30 P.M. I found him still having severe pain in the belly, but not apparently suffering much from shock. His pulse was 88. The abdominal walls were hard and tender, but there was no distension.

I at one administered ½ gr. of morphine hypodermically, and then made arrangements for his immediate removal from his home to the hospital in Fredericton, a distance of ten miles. He was placed on a bed in an ordinary express wagon and conveyed to the city over a rough road, the journey occupying about four hours. He suffered considerably from the jolting on the way, and required ½ gr. or more of morphine to keep him at all comfortable. On arrival I found the pulse about 100, and the abdomen below the navel somewhat distended. The muscular rigidity still continued. Respiration thoracic.

After a hasty preparation, I operated at 6 A.M. A short incision was made below the umbilicus, which was subsequently enlarged to six or seven inches. Some turbid serum first ran out. Then the omentum and several coils of inflamed and distended bowel presented themselves to view, all more or less matted together with fresh lymph. I had to allow a number of coils to escape before I found the ruptured one lying to right side and having a ragged opening extending at least two-thirds across it; a good deal of its contents was extravasated in the neighborhood, consisting of a thin, yellowish fluid. After isolating the injured portion by means of sterilized gauze pads, I trimmed off the torn edges of the tear, and united them with two rows of silk sutures. Then the abdominal cavity was well washed out with warm boiled water, and a larger rubber drainage tube and a strip of iodoform gauze placed in pelvis. A second strip of gauze passed back into the lumbar region and another down in the direction of sutured gut. The abdominal wound was then closed with through-and-through silk-worm gut sutures, leaving, of course, openings for the rubber and gauze drains. The usual antiseptic dressings applied, with broad bandage over all.

During and after operation he showed signs of quite serious collapse, for which he received $\frac{1}{20}$ gr. of strychnine hypodermically, and a saline transfusion of 30 oz. This rallied him for a time, but by 10 A.M. his pulse became very feeble again, beating at 132. I now gave another $\frac{1}{20}$ gr. of strychnine under the skin and an enema of alcohol (½ oz.) in warm water (10 oz.) At noon the pulse had fallen to 120, but it was still very weak. A third dose of the strychnine given as before. The wound also redressed, as there had been a free discharge of blood-stained serous fluid.

At 5.30 P.M. the pulse was 108 and stronger. His countenance looked better also. A fourth dose of strychnine had been given at three o'clock. Dressing changed.

10 P.M.—Had ½ oz. of alcohol in 10 oz. of warm water by rectum two hours ago. Pulse, 100; temperature, 99°. Dressing changed

June 4. 9 A.M.: Slept about two hours. No opiate since operation. No vomiting. Has taken a few ounces of milk and lime water. Dressing changed every six hours, as discharge continued free. Pulse, 100; temperature, 98.6°.

As the large bowel was found pretty full of fæces at the time of operation I ordered 1 gr. of calomel every hour till 6 gr. were taken.

4 P.M.: Calomel caused vomiting. A large round worm brought up. Gas has passed. At 5 P.M. a good movement occurred.

June 5. 9 A.M.: Had quite severe pain in abdomen during the evening and night. About ½ gr. of morphine given altogether for it. Iodoform gauze and drainage tube removed from pelvis, and a smaller tube put in. Also, as the discharge was somewhat foul-smelling, I injected a mixture of peroxyde of hydrogen and water 1:3. Pulse, 80; temperature, 99.8°.

June 6. Considerable pain in back during night. Had ⅛ gr. of morphine; slept three or four hours. Pulse, 76; temperature 100.8°. Bowels moved by enema. Dressing changed every eight hours now; strips of gauze all removed; washed out with peroxyde of hydrogen again.

June 8. Skin adjoining the wound reddened for last two or three days. Also cut surfaces look somewhat sloughy. Complains at times of feeling "bad all over," and has had ⅛ gr. of morphine once or twice in twenty-four hours. Bowels rather loose; pulse, 80; temperature, 99.4°.

June 11. Doing fairly well. Pulse, 80; temperature, 100°. Both the wound in abdomen and the one made in the arm for transfusion are sloughy-looking. A coil of distended bowel inclined to protrude through the opening in the former. A silver wire suture put in to retain it in place.

Was very troublesome in night, and on two occasions got out of bed and wandered into another room. Is sensible when spoken to, but keeps up a moaning a good part of time.

June 12. For the last two days belly has been somewhat full and tender on right side, near anterior superior spinous process of ilium. Under cocaine I made an incision and let out nearly a pint of thin foul-smelling pus. The probe runs from this opening to loin. A rubber drainage tube eight inches long inserted.

June 15. Bowels continue rather loose. Abdomen flat. Takes food fairly well. Pulse, 84; temperature, 99°. Was very unruly last night, and tore off dressings and pulled out tubes. Quiet and civil enough in day-time, but becomes restless and quarrelsome when night comes on. Can scarcely be kept in bed then.

Chloroform given this morning and a drainage tube put through from loin to opening near anterior spinous process, its ends being tied together. The tube also replaced in pelvis. As the abdominal wound was being forced open by distended coils of gut, I put four or five silver wire sutures in.

June 20. Continues noisy at night. Often requires a dose of morphine to quiet him. Drainage tube removed from pelvis, as there was very little discharge from there.

June 21. On dressing wound this evening a considerable amount of fecal matter found in the discharge. The temperature has taken a sudden rise to-day, reaching 102.5°.

July 2. Doing fairly well. Has had a bad cold with cough and free expectoration for the last two weeks. Is taking iron and quinine. As the wire sutures had become loose I removed them. The

*Paper read at the Maritime Medical Association at St. John, N. B.

abdominal wound is quite open for three or four inches, a coil of adherent intestine filling up the gap.

July 12. Doing well. Belly flat. Less fecal matter discharged. Cough better. Pulse, 80; temperature about normal.

August 7. The discharge being slight, I removed the drainage tube.

August 14. As fecal matter can still be detected in the discharge, I put a very small rubber tube through from back to front again. The abdominal median wound about healed.

August 17. Allowed to have clothes on and be up out of bed for the first time. The discharge from drainage tube very slight.

In the afternoon he hailed a passing carriage and got on board for home.

On September 4 he presented himself at my office. He had taken out the small drainage tube a week before, and there has been only a very slight discharge since.

On October 5 he returned to hospital because of increased discharge. Fecal matter still found in it. A small tube put through from back to front again. He left for home on October 25, having the tube in.

On the 17th of April, 1902, he came to see me again. The tube had been out for some weeks. The opening in loin had closed, but a trace of fecal matter and thin pus still came from the anterior one. After trying pressure with pads and adhesive plaster for a month with only partial success. I finally cauterized the three-inch sinus which remained with nitrate of silver coated over a probe. After the slough thus produced had come away, renewed pressure, as before applied, was successful in permanently closing the sinus in two or three weeks.

Remarks: The result of operation for a rupture of the intestine depends very largely upon the time that has elapsed from the receipt of the injury. Generally speaking, the chances of recovery are fair when it is done within ten or twelve hours. After that length of time they become rapidly less, and in most cases death intervenes within thirty-six hours when nothing is done. In the case reported the abdomen was opened after sixteen hours had passed, and considering the fact of his having been during that time conveyed ten miles over a rough road in the dark, not to mention his subsequent refractory conduct. I think both the patient and operator may congratulate themselves that recovery took place, even after a rather long illness. It would have, of course, been better had I operated when I first saw him at his own home, but the surroundings were such that I dare not do so. Besides, I had no skilled person to assist me, and it was nighttime.

The small intestine is the part of the bowel generally torn in these cases, and the jejunum, ileum, and duodenum are the portions, in the order given, most frequently injured. I think from the character of the extravasated matter and the position of the torn coil, in this case the ileum was the seat of rupture.

The fecal fistula arose, I suspect, from the drainage tube. It did not form until eighteen days after the operation, and the character of the discharge was such as to lead me to think it came from the large intestine. The infection of the wounds arose doubtless from contact with the intestinal matter.

As to the diagnosis of rupture of the bowels, we may be pretty sure of it, if after a blow upon the abdomen there is agonizing pain with vomiting, associated with thoracic breathing and rigid tender abdominal walls. Shock may or may not be present. I once met with a case of nearly complete rupture of the duodenum from a kick of the boot, in which the man walked about half a mile after the injury. He was nevertheless dead in thirty-six hours.

When shock is marked just after the accident one should, of course, wait for it to pass off before operating, but there should be not an hour's unnecessary delay. The median incision will usually be chosen, unless the seat of the trouble can be clearly located to one side. We shall to some extent be guided to the injured coil by the greater amount of extravasated material and the inflammatory signs in its neighborhood. After closing the tear the peritoneal cavity must be thoroughly cleansed by mopping with gauze pads or irrigation, or by both.

The question of drainage is somewhat an important one, and is to be decided by the amount and character of the extravasated intestinal matter, and by the length of time this has lain in the peritoneal cavity and the consequent amount of mischief it has set up. When we are satisfied that everything of an offending nature can be removed by swabbing or irrigation, the abdominal wound should be at once completely closed. If doubts exist as to this, then drainage should be used either with strips of gauze or rubber tubes or with both. In the case reported I should have probably avoided the subsequent formation of the large abscess had I made an opening in the right loin at the outset and thus have secured through-and-through drainage.

Case II.—I was called by telephonic message from Dr. Wade of St. Andrews, N. B., on February 9 of this year, to go by train on the following day to see Wm. McQ., aged forty-five years, who had about noon, received a bullet wound from a small rifle of 22 caliber. The missile had entered the left loin about five inches from the spine and between the ninth and tenth ribs, lodging somewhere inside the abdomen. Within the first twelve hours the patient vomited about two quarts of blood. When I arrived at the farmhouse where he lived, twenty-seven hours had elapsed from the time the accident had occurred. I found him in fair condition, though somewhat weak. He had not much pain, though he had required about five grains of opium to relieve his sufferings before my visit. No vomiting for several hours. Pulse, 72; temperature, 99°. Not much distension or rigidity of abdomen.

After a consultation with Drs. Wade and Gove it was thought best to operate.

4 P.M.: Dr. Gove administered the anæsthetics ether and chloroform being used alternately. Dr Wade assisted me. One or two laymen had to be called in to hold the patient on the table, as he kept up an almost continual struggling from beginning to end of operation in spite of a very free use of the anæsthetics.

The abdominal incision extended from near the ensiform cartilage to the navel. As soon as the peritoneal cavity was opened, the intestine was forced out by the straining due to his struggling, which very much interfered with the different steps of the operation. A somewhat blackened opening was first observed near the inferior border of the cardiac end of the stomach. The peritoneal coat covered in the hole in the deeper coats, and had to be slit up a little so that I might place some through-and-through silk sutures in them. Afterward the peritoneal wound was closed by Lembert sutures of the same ma-

terial. I now noticed the bullet, of small size, entangled in the omentum and removed it. A bit of blackened omentum in the neighborhood ligatured and cut away. After a pretty long search, made longer by the patient's struggles, I found the posterior opening, about two and one-half inches from the anterior one, and treated it in the same way as I had the latter. As there had been no extravasation of either blood or gastric fluids, I then closed the abdominal wound with silk-worm gut sutures without drainage.

Pulse was 72 at the end of operation.

The after-treatment was carried out by Dr. Wade, to whom I am indebted for the following notes:

February 10. 6 A.M.: Pulse, 86; temperature, 100°. 4 P.M.: Pulse, 84; temperature, 99.8°.

February 11. 7 A.M.: Pulse, 84; temperature, 99.2°.

February 12. Had a natural movement of the bowels with some decomposed blood in it yesterday. Pulse and temperature normal to-day.

February 14. Bowels opened by enema. Some iced milk and lime-water allowed.

February 20. Sutures removed. Wound healed.

On February 22 solid food first given.

March 5. Patient is up and about the house.

Remarks: It may, perhaps, be questioned whether this man would not have recovered if no operation had been done. No extravasation of gastric contents had taken place, doubtless because of the small size of the wounds and their oblique direction, and it is quite possible that they might have closed without such escape having at any time occurred. Whether the presence of the bullet would ever have given trouble must, of course, remain doubtful. One's course should in a case of this kind be largely influenced by whether the medical man in immediate attendance on the patient is accustomed or not to abdominal surgery. If he is familiar with such work then the expectant method of treatment can be more safely followed. Seeing, however, that the hæmatemesis almost certainly proved that the stomach had been perforated, we felt we were justified in opening the abdomen at once.

I may say that the difficulty experienced in anæsthetizing the man was probably due to his being rather a hard drinker.

COMMON DUCT STONE WITHOUT CHARACTERISTIC SYMPTOMS.

By GEORGE EMERSON BREWER, M.D.,
NEW YORK.

The following case is reported as an example of a practically symptomless stone in the common duct; certainly an exceedingly rare condition, and contrasting strongly with those cases of common duct stone, accompanied by septic cholangitis.

C. S., female, aged twenty-two years, was admitted to Roosevelt Hospital during the summer of 1903. For the past four years the patient has complained of occasional attacks of rather indefinite abdominal pain, some of which were accompanied by slight jaundice. Four months ago she had an attack which was, somewhat, more severe than the others, and was accompanied by well-marked jaundice, but without fever. The attack lasted three or four days and then gradually subsided. Since that time she has had more or less discomfort in the upper right quadrant of the abdomen, but no acute pain. The patient has been able to work without interruption, is apparently well nourished, and has shown no sign of jaundice since the last attack.

On examination, the patient presents a clear, healthy skin. The abdominal exmaination was absolutely negative, with the exception of slight tenderness, on deep pressure, over the region of the gall-bladder. Heart, lungs, liver and spleen, normal; examination of the urine, negative. No leucocytosis. The diagnosis of cholelithiasis was made and an exploratory operation advised.

Under ether anæsthesia an incision was made along the outer border of the right rectus muscle. The gall-bladder was found to be normal and free from calculi, as was the cystic duct. Palpation, along the free border of the gastrohepatic omentum, revealed the presence of a hard, movable body in the common duct. This was easily brought to the surface of the wound, by the finger placed within the foramen of Winslow. The duct was cleared and a short, longitudinal incision made, through which a single, round calculus was removed. A probe introduced into the common duct passed easily into the duodenum. The wound in the common duct was closed by the Mayo method, a small strip of gauze tape being left leading to the duct wound. The abdominal wound was partly sutured and dressings applied. The drain was allowed to remain in place twelve days, after which the wound promptly closed. She made an interrupted recovery.

The Buried Animal Suture.—Dr. H. O. Marcy sums up the advantages of buried animal sutures as follows: All aseptic wounds closed with buried aseptic tendon sutures will remain aseptic, and in well-vitalized structures will be followed by primary union. There is no danger of subsequent infection, no expensive and troublesome dressings are required; the subsequent nursing and care are very greatly reduced; no sutures are to be removed, relieving greatly the dread and anxiety of the patient; safety is greatly enhanced and the period of convalescence is shortened. When the work has been done with care the resultant cicatrix is scarcely visible, a matter of much importance in some portions of the body. Operations hitherto impossible have been rendered feasible by the use of buried absorbable sutures—for example, the reconstruction of the pelvic structures, the closing of rents in the peritoneum, etc. The reconstruction of the obliquity of the inguinal canal for the cure of hernia in the male has become an almost everyday occurrence, and should bey et much more widely practised.—*The Maritime Medical News.*

The Use of Hard or Soft Paraffin for Subcutaneous Injections.—Dr. Albert E. Stein concludes, as the result of his experiences, that soft paraffin is less dangerous and more simple of application, and so is preferable for subcutaneous injections. He thinks that the use of paraffin for the prolapses in hernia, etc., is contraindicated, on account of the large amount of paraffin necessary. He sums up his conclusions as follows: (1) The method of paraffin injections is mainly adopted for the correction of small and superficial deformities, such that do not require the injections of large amounts of paraffin. (2) The paraffin to be used should have a melting point of about 41°C. Harder paraffin should only be injected to fill up existing cavities with solid walls. In all other cases it is contraindicated, on account of the greater danger of producing embolism. (3) The mass should never be injected in a fluid from, but is to be used in the form of a paste. (4) There are no sound practical nor theoretical reasons to justify our giving up the use of the soft in favor of the hard paraffin. (5) It is not advisable to inject more than 3 c.c. at one sitting. (6) The injected mass is not absorbed but encapsulated, grown through with connective tissue, so that the result in all cases is a lasting one. (7) The œdematous swelling immediately following the injection, generally disappears in a few days.—*Deutsche medicinische Wochenschrift.*

MEDICAL RECORD:

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THE CONSOLIDATION OF THE STATE SOCIETIES.

THE plan of consolidation of the Medical Society of the State of New York and the New York State Medical Association presented by the sub-committee of the Joint Committee on Conference has been published sufficiently in advance of the Albany meeting to give ample opportunity for the profession of the State to deliberate on the provisions of agreement and to be prepared to ratify the same intelligently. The appeal to the medical profession of the State by the American Medical Association through the chairman of its Committee on Organization is also equally timely as a companion document, inasmuch as it gives the necessary reasons for the union in question. It was peculiarly appropriate that the National Association should take the initiative in the matter of reconciling the differences in the State organizations, and nothing more appears to be required than a cordial acceptance of conditions offered.

The appeal for unification embodies certain principles which must impress the good judgment of all who wish for harmony of action and the broad equity of common justice to all parties concerned. The hitherto vexed question of ethics has solved itself in a natural and reasonable way. The national body has evolved the solution of the problem by the steady growth of its own consciousness of justice and right, and in the true interests of the profession at large. The motive of conciliation is thus placed on the high level of sound reasoning and impartial interpretation of mutual interests. In 1882, when the Medical Society of the State of New York took its high and liberal stand against professional sectarianism, and declared against mere ethical differences of opinion among legally licensed practitioners of other schools, the innovation was resented by every similar organization throughout the country. At that time the MEDICAL RECORD emphatically declared itself in favor of the measure and virtually stood alone in its advocacy of the new idea. As is well known, the profession of the State was so radically divided regarding the wisdom of such a course that many hundreds of good men and true withdrew their allegiance from the parent society and formed an independent organization since so well known as the New York State Medical Association. Thus New York gloried in two societies differing radically with each other on the question of proper interpretation of the National Code of Ethics. The older society was quite consistently denied representation in the national body, but stood firmly to its convictions. Time only was required to prove that it was in the right. In the light of recent events there can be no question as to the integrity of such a position. The only fault of the society was that it was twenty years ahead of its time and the profession was not willing to endorse what then appeared to be an ill-considered and premature movement.

Fortunately, however, the difference of opinion did not materially affect the strictly scientific work of these separate organizations, as each prospered in its way. In the course of time, however, the original cause of dispute was so far forgotten that the two county societies enjoyed to a certain extent a common membership, making it strikingly evident that there was merely a technical division where there should be a rational union. To a certain extent also the two State societies became reciprocally interested in composite membership. Thus while the roots were appropriately buried, the upper branches easily intertwined. It was a natural method of growth with a proximity of interests. Each party has proved its point as to right of opinion; but now that the original issue is permanently buried by the decision of the higher court, the hitherto divided sections of the profession virtually stand upon a common plane. It logically follows when the cause for secession has been removed, the seceding body ceases as such to exist, and the original State society reinstates itself. In admitting this condition of affairs there is no damaging compromise for either party in the suit. Unification is then only a matter of detail. With common privileges there is to be merely one society instead of two.

There does not seem to be any doubt as to the way this can be effected. At the Albany meeting the proposed amendment to the charter of the old State society should be duly endorsed and the recommendations of the sub-committee unanimously approved. Therefore "let us have peace," one purpose, one motto, and one heart.

VIOLET AND ULTRAVIOLET RADIATIONS.

KNOWING as we always have, that without the radiant energy of the sun, life on this planet would be impossible, it was but a step for the scientist to utilize the various elements of which this energy is composed just so far as he was able to isolate them and guide them to the accomplishment of special purposes.

The present amazing activity in this direction unquestionably dates from the discovery of Röntgen, revealing to us as it did, forces that were hitherto unknown and even unexpected. Other forces as radiant heat and light were known to us in a vague way, but as regards light but little attention was given to it until the persistent Finsen forced us to take cognizance of its wonderful power as a therapeutic agent in the treatment of certain cutaneous affections. Finally radium comes to us suddenly from the unknown, and exhibits phenomena that in some respects appear to shake the very foundations on which much of the physical science of to-day is built.

Of the Röntgen ray we now, after eight years, know that it is an agent capable of much good and also of great harm, but the thousands and thousands of exposures that have been made, have taught us that we may utilize its virtues and protect our-

selves and our patients in great measure from its vices. Of the therapeutic value of radium as compared with other remedial agencies we, as yet, know nothing. Our present knowledge is limited to the bare fact that exposure to the emanations of radium of a given potency and for a sufficient length of time will result in the destruction of tissue. If malignant tissue lie in the path of its radiation, it is destroyed, but so also is normal tissue, and it is to be feared that while much good may be done, much evil will also develop from the indiscriminate use of this powerful form of radiant energy. In time, however, when the various radium preparations are carefully standardized and their effects studied by competent investigators, we may hope to be able to use them so as to do the most good and the least harm.

Of the effects of light and of the obscure radiations that accompany it, we fortunately have a better knowledge, but even this is insufficient to enable us to answer many of the questions that daily confront us. We know that a portion of the visible spectrum composed of the shorter wave lengths (blue-violet) can penetrate the body to a certain depth, and the photographic experiments of Franklin and of Kime teach us that some of the radiations can completely traverse tissues of even notable thickness; we know further that these radiations readily traverse glass and the other bodies that we commonly term transparent. Finsen more forcibly than any one else, has taught us that these luminous radiations can be controlled and their energy directed to the accomplishment of a beneficent purpose.

In addition there are other rays, so-called, that are of shorter wave length than those of violet light, but which are invisible to us and are made known only by the effects they produce on other bodies. These ultraviolet rays are, in a measure, utilized by Finsen. Of them, however, we know that they will readily traverse disks of quartz cut from the natural crystal, ice, rock-salt, and Iceland spar, but utterly refuse to traverse the clearest glass; and their direct action on the skin is extremely superficial. Despite this fact, unexplainable as it now is, there is no question as to their powerful action on some forms of morbid tissue.

One of the most interesting features connected with the violet and ultraviolet radiations is the effect they produce on certain minerals, in developing the phenomena of fluorescence and phosphorescence. For instance, if the violet rays be isolated and caused to impinge on the mineral willemite a greenish glow is immediately perceived, and if a piece of glass be interposed the fluorescence persists. If, however, the ultraviolet rays be isolated and caused to impinge on the same mineral the fluorescence is much more brilliant, but ceases immediately if the mineral be protected by a piece of glass as thin as a spectacle lens. Willemite from Franklin Furnace N. J. now scarce and difficult to obtain is sometimes associated with calcite. If such a piece of mixed mineral be exposed as before to the violet rays, the willemite will fluoresce, but the calcite is apparently unchanged. On exposure, however, to the ultraviolet the calcite immediately changes to a bright pinkish-red.

These tests appear to us to be of considerable practical importance, as it will enable the operators in great measure to differentiate the rays and in time to determine which are the more useful and efficient in the treatment of disease, concerning which we have but very vague and uncertain information at present.

THE ANNUAL REPORT OF THE BUREAU OF ANIMAL INDUSTRY.

This report contains several papers of more than general interest. Dr. D. E. Salmon, presenting the report of the committee on animal diseases and animal food to the American Public Health Association, takes strong ground against Koch's view of the distinctness (and therefore the reciprocal incommunicability) of bovine and human tuberculosis. The author reviews at considerable length the more recent work in the direction of infecting animals by inoculation with infected human tissues or cultures. He considers that these investigations are now sufficiently numerous and sufficiently harmonious in their results to establish the following conclusions: (1) the bacillus tuberculosis found in human tuberculosis differs greatly in its pathogenic powers as obtained from different cases; (2) two types of tubercle bacilli may be obtained from man, namely, one which is somewhat difficult to cultivate, which grows slowly, and the bacilli of which are short, stubby, and free from beading—the so-called bovine type, and a second, which is quite easily cultivated, grows rapidly, is longer, thinner, and inclined to show beaded and curved forms—the so-called human type; (3) virulent cultures may be obtained from both of these types, which, when inoculated according to the methods used by Koch and upon the species of animals specified by him, produce progressive and fatal tuberculosis; (4) the contention that human tuberculosis cannot be transmitted to asses, sheep, goats, swine, and especially to cattle, has been completely disproved; and (5) Koch's failure to produce tuberculosis in the animals named, with bacilli from human sources, was probably due to the use of bacilli of low pathogenic power.

Salmon then cites several cases of recent record as to the transmission of bovine tuberculosis from cattle to man, and says: "Considering these facts in connection with those of similar bearing previously reported, it may be said that the transmission of bovine tuberculosis to man is fairly well established. The apparent inoculation of a human subject with bovine tubercular material, the development of a tubercular process at the point of inoculation, the isolation from the human tissues months afterward of a tubercle bacillus having the characteristics of the bovine bacillus constitute a chain of evidence that is conclusive." And he reaches the following conclusions: Recent investigations show that while the bacilli of human tuberculosis are often of feeble virulence for cattle, there is a considerable proportion of cases in which these bacilli are virulent for cattle as well as for other animals. Bacilli of both the bovine type and the human type have been obtained from cases of human tuberculosis. Bovine bacilli introduced into the human tissues by accidental inoculations have lived, multiplied, and produced disease at the point of inoculation, and have been recovered after a considerable time with

their vitality and virulence unimpaired. Various statistical studies indicate that a considerable proportion of the cases of human tuberculosis, and particularly with children, originate through the ingestion of the bacilli with contaminated food.

Prof. F. C. Harrison gives the results of his studies upon the viability of the tubercle bacillus in cheese. From his original experiments carried out in Switzerland, we are, he considers, safe in concluding that hard cheese—especially Emmenthaler—is quite safe for human food as far as tuberculosis is concerned. Both Cheddar and Emmenthaler are seldom eaten until they are four months old or more; at this age all tubercle bacilli which they may have contained will be dead. We should also remember that the number of tubercle bacilli likely to be present in cheese as commonly made is very small, and that in all probability those will die sooner than bacilli put into cheese in the course of experiments like these. Besides this, the original number of such germs in milk will be reduced by being carried off in the whey. From the experimental data it would seem advisable to use the milk of tuberculous cows, segregated according to Bang's system, for making cheese rather than butter—that is, on the assumption that the latter is made without proper Pasteurization of the milk or cream. The whey from such milk should be heated to 85° C. (185° F.), which would not only kill any tubercle bacilli that might be present, but would also have other excellent economic results. Since his return to America, Harrison has extended his observation to American cheeses. These later experiments fully verified the conclusions first reached, and justify, in the author's opinion, this statement: If Cheddar cheese, as commonly made in the United States and Canada, happens to contain tubercle bacilli, naturally present, it may be assumed that none of these germs will be living when the cheese becomes ten weeks old; hence no danger need be apprehended of acquiring the disease known as consumption by eating well-cured Cheddar cheese.

Reporting from the committee above mentioned, Dr. Salmon emphasizes strongly the too prevalent apathy toward rabies in this country. The one method of controlling the disease, the muzzling of dogs, will not be tolerated by the sentimentally minded, and it appears that the medical profession has contributed somewhat to the popular errors concerning this disease by uncertainty of doctrine and by failing to take as decided a stand as it should upon a question of so great importance. In 1901 in Minnesota the State Board of Minneosta had knowledge of eighty-five cases (ten dogs, seventy cattle, four hogs, one horse), and of seventy-three cases for the first ten months of 1902. The Bureau of Animal Industry made a positive diagnosis of rabies in twenty-five cases in and around Washington during the year ending June 30, 1902, one of them being in a woman, yet there are no measures enforced for the suppression of the disease. Salmon also sounds a warning as to other animal diseases communicable to man, especially glanders, of which three cases were reported to the Minnesota Board of Health in 1902, and anthrax, which appears to be increasing in frequency and territory.

The long period that this infection may remain active in certain soils makes an outbreak of it in any locality a very serious matter, since it is never known when or how often the disease may reappear. Great care should be taken in handling carcasses of animals dead of either glanders or anthrax. All contaminated soil should be scraped up and buried with the carcasses, the whole being well covered with quicklime. Autopsies on such diseases should be made with the greatest care, one of the three Minnesota cases having originated in this way.

Malaria and Its Prevention.

Major Ronald Ross read a paper on "Malaria in India and in the British Colonies," at a recent meeting of the Royal Colonial Institute.

In the first portion of the paper the author referred to the extent to which malarial fever prevails in the tropics, a prevalence far more widespread and with a much greater mortality and sick-rate, than is commonly supposed. For instance, in India, the British troops in 1900 numbered 60,653; among these there were, during that year, admitted to hospital for malaria 19,445 men, fifty deaths occurred, while the constantly sick were 710. These figures were taken from the report of the Sanitary Commissioner with the Government of India. The same report states further that out of 305,927 persons comprising the European and native armies and the goal population, no less than 102,640, or about one-third, were admitted into hospital for malarial fever during the year 1900, and among the entire population of India no fewer than 4,919,591 deaths were attributed to fever within twelve months.

Major Ross said that "as a whole, however, India is by no means an intensely malarious country. The attacks from the disease among French troops in Algeria vary from 65 per cent. to 221 per cent. of the strength per annum, the death rate reaching 2 per cent. of the strength. Among the British troops in Sierra Leone from 1892 to 1898 the admission rate averaged 213 per cent., and the death rate 4.2 per cent. per annum."

With regard to prevention the author points out that there are many difficulties in the way of successfully so doing, not the least of which is the incredulity manifested by the community at large as to the mosquito being chiefly instrumental in spreading malaria. In Africa itself, notwithstanding the fact, that four years have passed since the discovery was made that mosquitos are the carriers of malaria, the bulk of Europeans in Africa reject it, so that if the prevention of the disease depends upon the conversion of the public, many years must elapse ere definite results are obtained. From these considerations, argues Major Ross, it follows that for immediate results at least we must look chiefly to State action which does not depend upon the conversion of the public, but only on that of the rulers; it can be adopted immediately; and moreover will benefit the largest number of people for the least amount of money and expense. State measures for the repression of malaria have already been tried in Sierra Leone, Havana, Legros, Ismalia, the German Colonies, Hongkong, and many other places. In Ismalia the results have been conspicuously successful, and the crusade against the mosquito in Havana has reflected great honor on those who conducted the sanitary regeneration of that city of evil reputation.

Major Ross concluded by saying that "we may rest assured that if we wish for a continuous policy against malaria and the other great diseases of the tropics, the sanitary system must be reorganized. . . . On the whole, perhaps, malaria can be dealt with more easily and effectually than any other great disease—than tuberculosis, cholera or plague, for instance; and at the same time it constitutes a

most serious bar to the development of many countries."

It is always a difficult matter to bring the general public to a realization of the true facts of the case relating to the origin and propagation of disease. Even an educated layman is inclined to believe in old-time views, rather than in what he often regards as the fantastic theories advanced by modern men of science. As for the general masses, they do not take enough interest in affairs outside their own sphere, to concern themselves with the manner in which a malady like malarial fever is spread. Therefore, Major Ross is probably in the right when he contends that at present the repression of malaria should be conducted by the State.

Degeneracy of the British Children.

The question of defective children is one that is being widely discussed in Great Britain at the present time. The poor of great cities, and especially of London, are, owing to a variety of causes, greatly handicapped in the battle of life. The children are born, in many instances, mentally and physically deficient, and their environment, lack of proper food, and pressure of education tend to accentuate these failings. Dr. George Still has recently written on the subject and presents the theory that wrong-doing in children is not ordinary "naughtiness," but moral imbecility. In fact, many children are born degenerates and are not responsible for their actions. Associations, too, exercise a great influence on the child's nature, and when the taint is present, the subject grows up and develops into a criminal. Education, it is declared, is of no avail to render such children respectable members of society. On the contrary, it only has the effect of making them worse.

The London School Board has recognized that these "moral deficients" must be dealt with in an exceptional manner, and are organizing homes in which they can be segregated and carefully watched. It has also been proposed to appoint a royal commission to decide what measures shall be taken with mentally and morally defective children. According to the *London Daily Mail*, "in the minds of some of the promoters of this step is the idea that means should be devised to separate such children, when of an age to be out of the control of any scholastic authority, from the rest of the world. Such a course is held to be necessary if the growing evil is to be checked."

Great Britain does not have a monopoly of degenerate children. In New York and other large cities of the United States moral imbeciles are by no means unknown. It might be well if the example of the London School Board were followed and efforts made to grapple with the evil.

Therapeutic Value of Yeast.

The *Journal of the British Royal Army Medical Corps*, December, has an editorial dealing with yeast as a therapeutic agent. Beer yeast, the product referred to, has long been known as a home remedy for boils, carbuncles, and other inflammatory conditions. According to the editorial in question, Preston and Taruella (*Revista de Med. y Cirurgia*, June 15, 1901) were the earliest workers to adduce experimental proof of the value of yeast, the most important of their conclusions being the following: (1) Beer yeast exercises a local and general curative action upon streptococcal and staphylococcal infection in rabbits, when administered hypodermically for five to twelve days in 10 c.c. doses of a well-grown culture; (2) similar injections repeated for four consecutive days render rabbits immune to these coccal infections; (3) the curative principles of yeast are intracellular and act only after liberation by a leucocytic or humoral ingestion of the cell; (4) blood serum of rabbits treated by yeasts has an agglutinating action upon streptococcus and staphylococcus albus and aureus. Yeast cultures in beef and barley medium show this same power after two days' growth and lose it when heated to 55° C.: (5) mixed cultures of yeast and streptococcus and staphylococcus produce attenuation of the virulence of the latter; (6) in the pus of a subject treated by yeast the pyogenic organisms decrease in number and in virulence.

It is further stated that only about seven-tenths of an average sample of beer yeast consists of saccharomyces cerevisiæ, the rest being impurities. If a yeast be kept in a dry but cool place it is capable of secreting its soluble ferments after a long lapse of time; moisture and warmth alter its character rapidly, mainly by enabling the impurities to replace the true saccharomyces cerevisiæ. The results obtained by yeast in the treatment of boils and carbuncles are apparently due to its antiseptic, phagocytic, and immunizing action, not to any specific action upon particular pathological lesions. Infantile diarrhœa infective and micromembranous enteritis or dysentery, have all been much relieved by the action of beer yeast.

In 1895 Cassaët recommended beer yeast for the treatment of diabetes mellitus, its beneficial action in this disease depending upon the conversion of all starchy elements into alcohol. Boigey confirms these statements.

Many other diseases are said to be much benefited by treating with yeast. The claim is not made for yeast that it is by any means a universal panacea, but it is asserted that, judging from experimental and clinical facts, it is a valuable remedy.

The Bacillus Coli Communis as an Indication of Sewage Contamination of Water Supplies.

Major W. H. Horrocks, British Royal Army Medical Corps, writes at length on this subject in the journal of the corps for November. The author points out that although the bacillus coli communis has been regarded as one of the most important indications of sewage contamination of water, nevertheless much confusion exists as to the cultural characteristics which are to be considered diagnostic of this particular organism. He then shows that the cultural reactions may vary to a wide extent when the organisms are grown on ordinary nutrient media.

The experiments conducted by the author are illustrated by a somewhat elaborate table, to which he constantly refers when explaining the results of his investigations, so that within the limits of an editorial it would be almost impossible to follow his reasoning. His conclusions, however, are as follows: (1) The bacillus coli communis is the only organism of the coli type on which implicit reliance can be placed as an indication of sewage contamination. (2) The bacillus coli communis should not be present in 200 c.c. of water derived from properly protected deep wells and springs. (3) If bacillus coli communis be not found in 10 c.c. of upland surface waters it is practically certain that the supply has not been contaminated with human fecal material. At the meeting of the American Public Health Association, held in Washington in October last, Mr. H. W. Clark and Stephen D. Gage of Boston read a paper "On the Value of Tests for Bacteria of Specific Types as an Index of Pollution," which was reported in the Medical Record

November 14. In the course of their paper the authors pointed out that tests for bacillus coli at the Experimental Station at Lawrence had agreed well with results obtained by chemical analysis and by inspection of the sources of the samples. Surface waters having the greatest relative population on their watershed had shown bacteria of the colon type more frequently than others with less population. Ground waters, on the other hand, unless grossly polluted, never showed bacteria of the colon type. Samples of shellfish from sources polluted and unpolluted had almost invariably shown the presence of bacillus coli in the polluted samples, and their entire absence in the non-polluted samples.

Judging from the conclusions arrived at both by the British writer and by the American writers, the presence of the bacillus coli communis is a sure indication of sewage contamination of water supplies.

News of the Week.

Medical Society of the State of New York.—The annual meeting of this society will be held at Albany Tuesday, Wednesday, and Thursday, January 26, 27, and 28, 1904, under the presidency of Dr. Algernon T. Bristow of Brooklyn. The first morning will be devoted to executive business, chiefly a discussion of the plan for the union of the two medical bodies in the State. On Tuesday afternoon there will be a symposium on "Diabetes," and on the evening of the same day President Hadley of Yale University will address the society on the "Conflicting Claims of General Education and Professional Education," and the president of the society will deliver his annual address. On Wednesday afternoon there will be a symposium on "Abdominal Pain," and on the same evening very appropriately will be eaten the annual dinner preceded by the reception of the President at the Hotel Ten Eyck. On Thursday morning there will be a symposium on "Nephritis," which it is hoped will be of sufficient interest to prevent the usual stampede of the last day of the meeting.

Jubilee of the New York Infirmary for Women and Children.—The fiftieth anniversary of the founding of this institution was celebrated at the Waldorf-Astoria on Saturday evening, January 16. An address was made by Dr. William H. Welch of Johns Hopkins University. He congratulated the infirmary on its great work in the past and wished it success and prosperity. The infirmary anticipated the need of trained nurses, he said, and marked in a small measure an epoch in the development of hospitals and the care of the sick poor in this country. Women had demonstrated that they had the same fitness as men for the study of medicine, he said, and there was no reason why the same opportunities should not be afforded to them as to men. An address by Dr. Emily Blackwell, read by Dr. Robbins, said that with the growth of the institution and the increasing cost of modern requirements for hospital equipment and management, a point had been reached where broader support had become necessary for the successful carrying on of the work. The trustees felt that the fifty years' work of the infirmary had proved its value in the city, and justified them in asking from the public effective assistance in the effort they had initiated to place the institution on a secure foundation. Addresses were also made by Miss M. Carey Thomas, president of Bryn Mawr College, and Dr. Annie S. Daniel. The report of the trustees stated that an effort was being made to raise an endowment fund of $400,000. Up to the present time only about $50,000 of this fund had been subscribed.

Quarantine of a Hospital.—On account of the development of diphtheria in two of the patients, the Orange (N. J.) Memorial Hospital has been placed under quarantine by the Board of Health. The patients have been placed in an isolating pavilion, but no new patients can be received at the hospital until the quarantine is raised.

The Duval County, Florida, Medical Society.—At the recent annual meeting of the Duval County Medical Society, at Jacksonville, Fla., the following officers were elected: *President*, Dr. R. H. McGuinness; *Vice-President*, Dr. Edward N. Liell; *Secretary* and *Treasurer*, Dr. Jay H. Durkee.

The Medical Club of Philadelphia.—At a collation given by the Medical Club of Philadelphia on January 15 a loving cup was presented to Dr. Guy Hinsdale, for five years secretary of the club, and who is about to remove to Hot Springs, Va. The following officers were elected for the ensuing year: *President*, Dr. E. E. Montgomery; *First Vice-President*, Dr. Roland G. Curtin; *Second Vice-President*, Dr. Wharton Sinkler; *Secretary*, Dr. J. Gurney Taylor; *Treasurer*, Dr. F. Savery Pearce, *Governor*, Dr. E. L. Duer; *Executive Committee*, Dr. Hobart A. Hare, Dr. Alexander McAllister, Dr. Walter L. Pyle, Dr. Ernest Laplace, Dr. W. H. Warder.

The Orange Mountain Medical Society held its annual meeting on January 8, at the home of Dr. H. P. Gerbert, Main Street, Orange, N. J. Dr. Gerbert was the retiring president, and he read a paper on "Rheumatism in Children." The officers were elected as follows: *President*, Dr. T. S. P. Fitch; *Vice-President*, Dr. R. Newton; *Treasurer*, Dr. J. Minor Maghee; *Secretary*, Dr. R. D. Freeman; *Reporter*, Dr. H. A. Pulsford; *Executive Committee*, Dr. Chandler and Dr. Bradshaw.

University of Chicago.—Plans for the enlargement of the medical department of this university will involve the addition of three new clinical departments—medicine, surgery, and obstetrics; the erection of new laboratories on Marshfield, opposite the Hull biological laboratories, the provision of a temporary dispensary near the university; the provision at the earliest date possible of five hospitals for medicine, surgery, obstetrics, diseases of children, and contagious diseases, to cost, with endowment, $1,000,000 each; the raising by Rush Medical College of $1,000,000; the completion of the group of buildings, of which the Senn Memorial is the first part, cost $350,000; the organization of a school of dentistry, and a nurses' training school.

The Physician's Fee.—A Philadelphia judge has given expression to the opinion that "the life of a rich man is worth more than the life of a poor man, and the physician has a right to charge the millionaire more for his services than he does the laborer." He went on further to say that "The physician is unlike the merchant, who has goods of different quality to sell at various prices. He must give his best service in every case. But it does not follow that the service is worth the same in every case. Human life has a pecuniary value of variable quantity, greater in the millionaire than in the laborer. Thus, the practitioner of common sense has a maximum and a minimum charge, and makes out his bills to suit the pecuniary circumstances of his patients." From this view there will be no dissent on the part of right-thinking people.

Prevention of Tetanus.—The members of the Academy of Medicine of Cincinnati have taken steps looking toward the suppression of the toy pistol and blank cartridge, which, in this section of the country at least, have been the cause of many sad deaths from tetanus. The Fourth of July celebra-

tion always has its list of victims. In the past year there were five in Cincinnati alone. The patients are of course usually young and vigorous boys, who but for these dangerous toys should have grown to be useful citizens. The Academy has, through the Health Officer, Clark W. Davis placed a resolution before the City Council requesting that an ordinance be passed making the sale or use of toy pistols, blank cartridges, and torpedo canes an offense against the statutes.

Loss of a Bequest.—Mrs. Harriet W. Wykes of Springfield, Ohio, left in her will the sum of $2,500 to Christ's Hospital, Cincinnati. The will provided that a large farm belonging to Mrs. Wykes be sold and the bequest paid from the proceeds. After making this will Mrs. Wykes deeded the farm to Miss Clara Crane of Springfield, so the bequest must go unpaid.

Typhoid Fever in Columbus.—Typhoid fever is still on the increase in Columbus, Ohio. During the forty-eight hours ending January 14, fifty new cases were reported. The Health Department has warned the citizens not to drink the water from the Scioto River without previous boiling.

A Crowded Hospital.—On January 12 the number of patients in the Cincinnati Hospital had reached 630, the largest number ever in the hospital at one time. This condition was brought about by the large number of cases of typhoid fever, measles, and influenza, with an increased number of accidents due to the slippery streets. The number of cases treated in the past year was greater than ever before in the history of the hospital.

Graduation of Nurses.—The Cincinnati Hospital Training School held its annual graduation exercises on January 14. Eighteen nurses were graduated.

Philadelphia Polyclinic and College for Graduates in Medicine.—Corporator's Day was observed on January 11, in addition to the presentation of reports by the trustees, the faculty, the Training School Committee, the hospital, the college department and the election of trustees, the enlarged children's ward, the new nurses' home, the new power and electric-light plant and the new laundry building were formally opened, and the hospital and laboratories were inspected.

Hospital for the Treatment of Infectious Diseases.—A new hospital will be constructed soon on the south side of the city of Chicago. Plans are now being considered for the erection of buildings where the work of the Memorial Institute for Infectious Diseases will be carried on, and its scope greatly increased. Special provision in the shape of a laboratory will be made at the new hospital for a continuation of investigation of scarlet fever and other diseases.

Radium in the Waters at Bath.—It is stated that Professor Dewar has found helium in the gases arising from one of the mineral springs at Bath, England. Some weeks ago a quantity of the iron deposit collected in the tanks and pipes of the New Royal Spring was obtained and sent to the Hon. R. Strutt, son of Lord Rayleigh, who made a careful investigation of the material, and reported he had found that the deposit contained radium in appreciable quantities, though not enough to make extraction profitable. He thought there could be little doubt that the helium of Bath owed its origin to large quantities of radium at a great depth below the earth's surface. A little of this radium was carried up by the rush of hot water and was found in the deposit.

High Death Rate in Philadelphia.—For the week ended January 16 there were reported to the Philadelphia Bureau of Health 736 deaths, the largest number in any week for three years. More than 25 per cent. of the entire number were due to acute affections of the air-passages, including the lungs. There were from pneumonia 93 deaths and from bronchopneumonia 37 deaths, and 12 deaths were attributed to congestion of the lungs.

American Laryngological, Rhinological, and Otological Society.—The annual meeting of the Eastern Section of this society will be held at Fall River, Mass., on Saturday, January 30, under the chairmanship of Dr. George L. Richards of Fall River. The secretary of the society is Dr. Wendell C. Phillips, 40 West Forty-seventh street, New York City.

Examination for Medical Clerk.—The United States Civil Service Commission announces an examination on February 17 and 18, 1904, at the usual places, to secure eligibles from which to make certification to fill eighteen vacancies in the position of copyist (male), at $900 per annum, in the Bureau of Pensions, and other similar vacancies as they may occur. The examination will be in letter-writing, penmanship, copying, anatomy and physiology, diagnosis, general and special pathology, and surgery and surgical pathology. The age limit for candidates is twenty-five to thirty years. Only graduates of recognized medical schools may be examined. Persons who desire to compete should apply to the United States Civil Service Commission, Washington, D. C., for application Form 1312, which should be properly executed and filed with the Commission at Washington.

St. John's Guild has published its thirty-seventh annual report for the year 1903. It maintains two floating hospitals and a seaside hospital. It carried 35,549 women and babies on its boats last summer and treated 955 cases of illness among the latter.

Neglect in the Registry of Births.—Registrar Evans of Cincinnati complains that physicians and nurses will not send to the Board of Health any report of births in the city, and consequently the statistics are faulty and misleading. Several physicians, he says, when asked for reports have refused to make them, saying they could not be compelled to do work for nothing.

Census of Physicians in Germany.—The annual "Medical Calendar" of Dr. Schwalbe, just published, states that there are 29,997 medical practitioners in Germany, an increase of 864 during the year. Berlin has 2,572 physicians, or one to 734 inhabitants; Charlottenburg, one to 373; Dresden, one to 952, and Elberfeld only one to 1,843. Twelve women obtained from the Government, in 1903, the right to practise medicine. The number of dentists has increased much more rapidly proportionately than that of physicians. In 1876 there were but 498 dentists in Germany, with a population of 35,000,000, but in 1903 there were 1,922 dentists in a population of 58,000,000.

Bequests to Philadelphia Hospitals.—By the will of the late Henry B. Ashmead of Philadelphia, his estate, valued at $500,000, is to revert to the Episcopal Hospital, as a memorial to his wife, after the death of his widow and his daughter. By the will of the late Louis C. Vanusem the sum of $25,000 is devised to Jefferson Medical College Hospital.

The Michael Reese Hospital of Chicago is to be rebuilt at a cost of more than $250,000. A special committee recently met to provide funds for demolishing the old structure and erecting a new one. The committee decided that to build a suitable

edifice at least $250,000 would be required. Already $115,000 have been subscribed.

Superintendent of the Presbyterian Hospital of Chicago.—Dr. Arthur B. Ancker, for twenty-one years superintendent of the city and county hospital in St. Paul, Minn., has been appointed superintendent of the Presbyterian Hospital of Chicago. He will take charge February 1.

Bellevue Hospital Appointments.—At a meeting of the Trustees of Bellevue and allied hospitals, held January 8, 1904, Drs. Frederick Peterson, Joseph Fraenkel, Edward D. Fisher, and Bernard Sachs were appointed alienists and neurologists to Bellevue Hospital.

Consulting Sanitarians to the Health Board.—Health Commissioner Darlington of New York has appointed Dr. Ernst J. Lederle, whom he superseded as commissioner, and Prof. Charles F. Chandler, who served as one of the commissioners of health several years ago, as members of the advisory board in the capacity of sanitary officers.

Suit for Rontgen-ray Burns.—A resident of Chicago has sued a physician of that city for $25,000 damages, alleging that the doctor burned his face with the *x*-rays. He says that before treatment he had a heavy mustache and beard, and that now the beard will grow on only one side of his face.

Smallpox in New York State.—The weekly bulletin of the State Board of Health reports that new cases of smallpox have appeared during the past week in Salamanca and West Salamanca, Plattsburg, Middleport, Cambria, and Massena. The epidemic which had prevailed extensively in the village of Medina appears to have subsided. The young women students at Wells College, Aurora, are under quarantine because of a case of varioloid among them. All the students have been vaccinated, and it is hoped there will be no more cases in the college.

The Ills of Royalty.—The Emperor of Russia is reported to be suffering from pleurisy supervening upon an attack of influenza. The cable reported a few days ago that King Edward was suffering from a serious throat malady, but this has been contradicted, and it is said the report originated in the fact that he had a very slight catarrhal sore throat while visiting in Derbyshire, and consulted the local physician because of it. King Christian of Denmark, who has been sick at Gmunden, Austria, for some time, has so far recovered that he was able to return to Copenhagen on Sunday. The German Emperor is reported to have recovered entirely and read his speech at the opening of the Reichstag last week in a clear ringing voice. The Empress Augusta Victoria of Germany is suffering from a slight injury of the foot, which has necessitated the postponement of certain court functions.

The Late Dr. Cyrus Edson.—At a meeting held January 12, 1904, the Medical Board of the Willard Parker and Riverside Hospitals adopted a resolution to the effect that "In the death of Dr. Cyrus Edson the profession has lost a broad-minded physician and a progressive and scientific sanitarian, who labored with tireless energy, intelligent effort, and marked executive ability in the office of Commissioner of Health and the subordinate offices in the Health Department which he held before he attained the commissionership." And also that "The Medical Board holds in affectionate remembrance the uniform courtesy and kindness of which each of the visiting staff of these hospitals was the recipient during Dr. Edson's administration of the Health Department. Ever ready to discuss projects for the welfare of the hospitals, he gave them full consideration and approval, if possible, and the aid of his executive power in their accomplishment."

Obituary Notes.—Dr. FREDERIC W. VANDERSLOOT died at York, Pa., on January 13 at the age of seventy years. He was graduated from the University of Maryland in the class of 1856.

Dr. HENRY L. TOLMAN died at his home in Evanston, Ill., on January 14, at the age of fifty-five years. He was a member of the faculty of the College of Physicians and Surgeons of Chicago.

Dr. WM. H. IRELAND died at Camden, N. J., on January 12 at the age of sixty years. He was graduated from the Medical Department of the University of Pennsylvania in the class of 1867.

Dr. EDWARD Dolan of Worthington, Minn., died suddenly on January 2 at the age of thirty-five years. He was born in Waterville, Minn., in 1868 and was graduated from the Bellevue Hospital Medical School in 1892. He practised in Worthington, except for a period of study in Europe, until 1898. At the outbreak of the war in that year he organized Company H, Fifteenth Minnesota Volunteers, and was commissioned Captain. At the close of the war he spent some months in post-graduate study in this city and then resumed his practice in Worthington.

Dr. PULASKI F. HYATT died at Jersey Shore, Pa., on January 17 at the age of sixty-nine years. During the Civil War he was a surgeon to Carver Hospital, Washington, D. C. In 1876 he was sent to Florida as the personal representative of Samuel J. Tilden, to superintend the counting of the vote in that State. In 1891 he was appointed a trustee of the Danville Hospital, and in 1893, United States Consul to Santiago de Cuba.

Dr. EDMUND S. HANNA, for many years a practising physician of Pittsburg, died of apoplexy January 18, at his residence, East Orange, N. J. He was born in Steubenville, Ohio, seventy-five years ago, and was graduated from Jefferson Medical College, Philadelphia, in 1850. He began practice in Pittsburg and was surgeon of the Allegheny County Workhouse, the Children's Church Home, the Baltimore and Ohio Railroad, and the Allegheny Valley Railroad for many years. He retired in 1888 and moved to Boston, but took up his residence in East Orange eight years ago.

The Fatality of Whooping-cough.—Eliza H. Root calls attention to the fact that this disease is too little dreaded by the medical profession, and that it is by no means the simple affair that many seem to suppose. From the United States census of 1900 we find that 663 died in New York from whooping-cough, and 549 from scarlet fever. In Chicago 141 died from whooping-cough, and 373 from scarlet fever. Philadelphia, 179 from whooping-cough, 182 from scarlet fever, and so on in the different cities. Death from whooping-cough occurs most frequently from pneumonia as a complication, that induces heart failure, or a bronchitis may occur that ends in suffocation. Asphyxia or marasmus, due to the continued ejecting of the food or loss of appetite may cause death. Cerebral apoplexy, external hemorrhage, and emphysema of the subcutaneous tissues after rupture of the larynx is occasionally given as the cause of death. Even when death does not occur, severe disturbances of the nervous system may remain, as weakness of the intellect and memory, imbecility, hemiplegia, with consequent chorea, epilepsy, etc. Visual defects, strabismus, blindness and deafness, partial or complete, and even deaf-mutism may remain. Whooping-cough, it is evident, should be under the control of health authorities, subject to quarantine and other preventive measures as much as scarlet fever.—*Woman's Medical Journal.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

PROPOSED HOSPITAL BOARD—SLEEPING SICKNESS—HOSPITAL SATURDAY FUND—BART'S AND KING'S HOSPITALS—STATISTICS OF HOSPITAL PATIENTS—OBITUARY NOTES.

LONDON, January 1, 1904.

IN the general lull of the holiday time and the interest excited by appeals to charity it is interesting to note that the questions involved in the subject of hospital management have found expression in the *Times*. One correspondent, whose communication is assigned great prominence, suggests the formation of a small competent central board by the King's, the Sunday, and the Saturday funds. Some such central advisory board is no new proposal, but as this one is supported by a leader in the *Times* it is gaining a good deal of attention. The three funds have given a great impetus to the collection of money, and have also exercised a good influence on managers who have so long felt no restraint on extravagance. They are also promoting amalgamation of competing institutions, though success in this direction is less than might have been anticipated. It is doubtful whether such movements will eventually lessen the evils they are designed to meet. Competition may have redeeming qualities, and those who dislike the distribution arrangements are disposed to ask why, if amalgamation be a panacea, do not these three funds begin at home with the process and present themselves as the united central advisory body. Such a board would exercise enormous influence as long as it confined its efforts within its proper sphere of advising, because, its advice, when followed, would be supported by pecuniary contributions.

Two natives from the Congo Free State were landed at Birkenhead on Monday suffering from sleeping sickness. They were taken to the Liverpool Tropical School. Three patients left the Congo, but one of them—the wife of one of the two survivors—died of the disease when nine days out from Matadi. The two arrivals are probably between twenty and thirty years old and only appeared rather drowsy, so that an inexperienced observer might not have noticed their condition.

The incident gives point to a paper on the disease read at the last meeting of the Epidemiological Society by Dr. Sambon, whose name is indissolubly connected with the subject. You will remember that as soon as Castellani discovered a trypanosoma in sleeping sickness many at once guessed that a fly might be the carrier. Guesses were very well, but Sambon and Brumpt set to work to settle the question and both announced simultaneously a successful search. Their researches were undertaken to support Castellani's discovery by a study of the distribution and life-history of tetse-flies on the one side and the epidemiology and distribution of sleeping sickness on the other.

At the last annual meeting of the British Medical Association, Dr. Sambon stood alone as a supporter of the causal relationship of Castellani's trypanosome and sleeping sickness. He said then he saw no difference between that and Trypanosome gambiense, and pointed out that its so-called posterior extremity was in reality the anterior. Further, he pointed out that it played the part also of an alternative host. After reviewing some other contributions, Dr. Sambon gave details of experiments undertaken to determine whether the glossina palpalis carried the infection of sleeping sickness. Flies fed on patients and then, after eight, twenty-four, and forty-eight hours, on monkeys, were employed. About two months later the trypanosomes were found in the blood of these monkeys. Similar results were obtained at Entebbe. As to these, certain objections had been made, and Dr. Sambon considered them inconclusive. This seems obvious, as the flies were not fed on patients but caught and used at once. It is a striking fact that monkeys bitten by flies not fed on patients contracted the disease in the course of two or three weeks, while those bitten by flies which had previously been fed on patients did not contract it for eight weeks. That showed that the flies did not get the parasite from the blood of the patients, who, as a rule, seldom had them in the peripheral circulation, but that, while biting, they emptied themselves of some of the parasites they were carrying.

Sir P. Manson made a long speech, in the course of which he related how he had at one time been convinced that the source of infection was the filaria perstans, but the hypothesis had been destroyed at a stroke when it was found that the disease prevailed extensively in districts in which this filaria was hardly to be found. Now he believes that the trypanosome is the cause, but is constrained to admit that the proof is not absolute. Until that is the case he thought there was reason for refraining from advising extensive public measures on what possibly may turn out to be an erroneous hypothesis. He urged the injection of pure cultures of trypanosomes into monkeys (or if any experimenter was self-sacrificing, to try it on himself) as the first test.

Prof. Ray Lankester felt interested from a natural-history point of view, but doubted whether it was correct to call these parasites in mammalian blood trypanosomes, though he knew that a competent naturalist took an opposite view. He quite supported Sir P. Manson's attitude, and remarked that they were learning so much about minute parasites in mammalian blood in the tropics that the greatest care was required in forming conclusions. The possible coexistence of another parasite should not be overlooked.

Dr. M. E. Brumpt of Paris referred to the doubts that had been expressed and stated his belief that his researches in Africa, followed by those in Paris, in conjunction with Dr. Wurtz, established an absolute coincidence between the presence of the parasite and the disease.

The year has been a good one for the Hospital Saturday Fund. It is cheering to hear, among the many statements of failing resources, that this fund has received nearly £15,000 more than in any previous year, and the greater part of its income is derived from the penny-a-week collection. It is expected that £6,000 or £7,000 may yet be sent in by the local committees and the accounts will not be closed until January 11, in order to include every sum for the year 1903.

The post office has secured the refusal of a part of the site which was thought to be at the disposal of Bartholomew's Hospital. If the post office take it over that will settle the scheme for local enlargement advocated by many. Probably the post office would be willing to forego its right in favor of the hospital, if public opinion be expressed with sufficient explicitness.

The Lord Mayor's appeal for the Middlesex Hospital is being widely circulated, the good work done in reference to cancer giving point to the plea for help.

With the close of the year statistics of all kinds are being discussed. Here is an example: The number of patients in the fever and smallpox hospitals last week was 2,601; in 1902 at the corresponding date, 3,628; in 1901, 5,071; in 1900, 4,185. The population of London according to the census of 1901 was 4,536,541.

Dr. Charles F. Moore of Dublin died on the 25th ult., aged eighty-three, after a very brief illness. Only three days previously he was at work. In early days he practised a little while in London, but soon returned to his native country where, in the course of his long career, he filled many offices—Medical Officer of Health, Physician to the Fever Hospital, Inspector of Seamen, Certifying Surgeon under the factory acts. This last he retained up to his death, and was engaged in connection with it on the Monday before his death. He had been president of the Dublin Academy of Medicine.

The death is announced, on the 23d ult., of Dr. R. J. Blair-Cunninghame, J.P., ex-president of the Royal College of Surgeons of Edinburgh. Born in 1841, he took M.D. Edin., 1862, with gold medal in Forensic Medicine, became F.R.C.S., Ed., 1866, and M.R.C.P., Ed., 1877. He was also F.R.S., Ed., Superintendent of Statistics in the Registrar-General's Department, Scotland, and had held many other offices in the course of his career. He was president of his college in 1892.

Anæmia Infantum Pseudoleukæmica of von Jaksch.—marks that it seems to be a disease with too much leucocytosis to be classed with pernicious anæmia; too little leucocytosis, a spleen too enlarged in proportion to the size of the liver, and too little lymphatic infiltration, for leukæmia; and with none of the enormous conglomerate enlargement of the lymph nodes seen in pseudoleukæmia. It is possible that the disease is really a transition stage of one of these three. The spleen is very large and hard and shows a hyperphasia of all its tissues, with an increased quantity of leucocytes in its structure. The liver is less enlarged, of uniform consistence and shape, and shows no lymphatic infiltration. The lymph nodes are moderately enlarged and do not fuse together. As to blood changes, the erythrocytes are reduced to 400,000, and show many of the degenerative changes of severe anæmia. The leucocytes run from 20,000 to 100,000 with the relative proportions of the several varieties, not always the same in different cases.—*St. Louis Courier of Medicine.*

OUR LETTER FROM CONSTANTINOPLE.

(From Our Special Correspondent.)

THE HAMADIEH HOSPITAL—THE MILITARY MEDICAL SCHOOL AND HOSPITAL—THE STATUS OF MEDICINE IN TURKEY—CHLOROFORM SYNCOPE—NECROLOGY—HEALTH OF THE CITY.

CONSTANTINOPLE, November 15, 1903.

THE building of the Hamadieh Hospital at Constantinople —to which allusion has been made in former letters—may be considered as marking a period of medical progress in Turkey. This establishment, though generally known as the Children's Hospital—was intended for the treatment of women and children. It was founded by his present Majesty Sultan Abd-ul-Hamid—the second—February 2, 1898, and is named "Hamadieh," after its founder. It was constructed after the model of the hospital "Reinicken-Darf," near Berlin, under the superintendence of Dr. Ibrahim Pacha, who was sent to Germany with the special object of studying and selecting a model hospital for children. The inauguration took place June 5, 1899, with the usual religious ceremonies, conjointly with those of the circumcision of an Imperial Prince.

The site of the hospital is at Chichli, a suburb of Constantinople, and no more beautiful nor healthy site can be imagined for the purposes of an hospital. It was the wish of His Majesty that it should be constructed and arranged on the most modern principles, and be fully equipped with the most recent appliances. It is really a series of well-built stone pavilions, scattered over a large extent of garden, where grow shady trees under which the patients may lounge and play.

GENERAL VIEW OF THE HAMADIEH HOSPITAL.

Attached to the hospital is a policlinic with its special departments of pharmacy, laboratories, and reserved chambers, with comfortably furnished consulting and waiting rooms. The policlinic is also furnished with ophthalmic dark chambers and all necessary appliances and instruments for this branch of medical science. Special consulting rooms for internal diseases, gynecology, and diseases of the nervous system, ears, and throat; arrangements for electrotherapeutic purposes, and a large saloon is set apart for surgery, in which are displayed an array of surgical instruments, sterilizing and other apparatus of the most recent kind.

The staff of the hospital and policlinic consists of the most distinguished native doctors. Dr. Ibrahim Pacha, director and physician in chief Two distinguished operative surgeons, Drs. Kambouroglon and Djemil Pacha; chemists bacteriologists, radiographers, pharmacian in chief, with four assistant pharmacians, specialists in diseases of eyes, ears, throat, etc., dressers, dentist, and bandagist.

The nursing staff is superintended by the Sister Superior of the German Deaconesses Nursing Establishment of Zehlendorf near Berlin, with four other German nurses, and male and female trained native assistants. To the policlinic alone are attached a score of doctors who, for five days in the week, alternate their services. Women and children of all nationalities are attended, and the value and utility of these services in a country like Turkey will be appreciated from the fact that since the opening of the hospital, May, 1899, to the end of February, 1902, the total number of women and children treated was 45,178—Moslems, Greeks, Armenians, Jews, and foreigners. Since the foundation of the hospital other useful pavilions have been erected.

The medical officers attached to hospital and policlinic are graduates of the Imperial School of Medicine, who have mostly been sent to France and Germany to complete special studies. Thus the staff, titular and honorary, are competent to meet the requirements of progressive medicine and surgery. His Majesty, the Sultan, takes a special and personal interest in the development of this hospital, and no expense is spared to maintain it as perfect as possible.

Another medical institution of Turkey is worthy of notice, *i.e.* the new Military Medical School and Hospital at Haidar-Pacha, on the heights of the Asiatic shores of the Bosphorus. On the anniversary of His Majesty's accession to the throne—this month—the establishment was formally inaugurated with much pomp and religious ceremonies. There is not a more imposing edifice of its kind in Europe. It has accommodation for 1200 students, and when completed and fully organized will provide instruction in every branch of medicine and surgery. Museums of physics, natural history, large botanical gardens, chemical and bacteriological laboratories, and an autirabic institute are parts included in the program of the future. The Military Medical School of Gul-Hané will be transferred to this building, which has been several years in course of construction.

These two institutions, full of promise, are, and it is hoped will continue to be, monuments of a reign which has been characterized by educational advancement. For whatever may be thought of other branches of national education in Turkey, the progress of medicine and its allied sciences have had a very remarkable development during the last fifteen years.

In many respects it may be imitative—indeed, is so—yet a very sound and solid spirit of emulation has been aroused, and we find Turkish teachers of medicine stimulating their students by referring to the teachings and practice of their Moslem—Turkish and Arab—forefathers, who cultivated medicine as a science centuries before

Europe did, and regretting that instead of profiting by the teachings of their own learned ancestors, they should have to borrow from Europe the elements of a science that had been highly developed in the East centuries ago, and further illustrating the subject by references to the contagion of phthisis and plague, the etiology and treatment of syphilis and itch, quoting from the writings and teachings of Avicennes, the Haralies-Mehmed bin Ehou-Bekir-il-Razis—Seid Mehemmed—Iben Bechir, and other learned Moslem medical writers of the past. In short, that medicine had reached its apogee in the Ottoman Empire three or four centuries ago!—a somewhat conservative Moslem view of progressive medicine, but none the less praiseworthy.

The Medical Society has resumed its winter meetings. Djemil Pacha related a case of great interest. Operating on a man thirty years of age, for anal fistula, who had inhaled 10 grams of chloroform, heart syncope occurred. After two minutes' trial of ordinary means to restore animation without success, he opened the thorax and practised massage of the heart, which had ceased to beat. The heart movements were reëstablished, and some respirations secured. Unhappily the patient succumbed.

It is gratifying to record that the CO_2 process of Mr. P. Apery of Constantinople for destroying rats on shipboard has been recommended by the International Congress of Paris.

The death of Dr. Khorassandjiau, a practitioner of repute, house physician to the Hamadieh Hospital, and professor of pathology, is a distinct loss to the profession.

The health bulletins of Constantinople and suburbs have shown for some months past a notable decrease in the number and mortality of infectious diseases, especially typhoid fever.

OUR BERLIN LETTER.

(From Our Special Correspondent.)

THE KAISER'S HEALTH—THE SOCIAL DEMOCRATIC PARTY AGAINST THE MEDICAL PROFESSION—RADIUM RAYS AND THEIR EFFECT ON MICROBES—FINSEN'S TREATMENT OF ERYSIPELAS—PANCREATIC JUICE AND DIABETES—THEORY OF DIABETES

BERLIN, December 15, 1903.

THE Kaiser's health is almost restored. His Majesty lately received the members of the Imperial Reichstag, and hardly any hoarseness could be noticed. Preparations are made for his sojourn on the Mediterranean on board the imperial yacht *Hohenzollern*.

At one of the recent debates at the Reichstag reference was made to the position of the medical profession in regard to the clubs, "Kassenvereine." The Imperial Chancellor Count von Bûlow was denouncing the Social Democratic party, which obtained a vote of three millions at the last election, and he referred to the terrorism which the leaders of the medical clubs, mostly members of the Social Democratic party, applied to the physicians of the clubs. It will be remembered that the position of the profession to these clubs is gradually decreasing through the enormous increase of medical men in Germany. Consultations at the rate of forty pfennig (ten cents) are frequently given. Only very recently the medical profession has organized itself against the clubs. An organization, whose head is the Leipsic Union, has been formed, and several places where a dispute between the doctors and the clubs had originated have been boycotted, and *mirabile dictu* the medical profession succeeded in its efforts. As in Germany, every workman is a member of such clubs, it is obvious that the clubs form a great clientèle, and young physicians generally commence with them. Efforts are made to adopt a system which enables the workman not to be compelled to consult the very physician who belongs to his club, but to give him a chance to consult any physician belonging to a certain association. A centralization of the clubs with one head office is also aimed at. This would be advantageous to the doctors as well as to the clubs, for there are several clubs, such as the tailors' and dressmakers' clubs, whose members are almost always ill, and constantly have to consult the doctor; whereas others, the members of the butchers' clubs, for instance, enjoy a robust health.

At a recent meeting of the Berlin Medical Society, Dr. Miethe reported on the physical qualities of radium. When the *x*-rays were discovered some years ago similar rays were sought for in the light of the moon. But no likeness could be found between *x*-rays and rays of the moon. Though there are many kind of rays which have a photochemical influence none are analogous to the *x*-rays. It was Becquerel who found in the element uranium some characteristic rays resembling the *x*-rays. He found that photographic plates were affected, when pitchblende was near, the effect being due to the radium contained in pitchblende. Whether radium is one element, or whether it is a combination of several elements, has not yet been ascertained. Radium is found, together with other minerals, in very small quantities. Giese was the first who succeeded in separating this radioactive part through fractional crystallization. The principal quality of radium is the capacity of sending out rays by itself and also of making other bodies fluorescent. The radium rays penetrate all bodies, neither metal nor boric offering an obstacle whereby they differ from the *x*-rays. Dr. Caspari continued the subject and reported on the bactericidal action of radium. Together with Dr. Aschkinass he has experimented at the Institute of Infectious Diseases. He found that radium rays prevent the growth of microbes and that they kill pathogenic microbes. Similar experiments have been made by Pfeiffer and Friedberger. Caspari injected radium into the body of animals suffering from various diseases, but no definite results were obtained.

The effect on carcinoma is known. Several patients have been treated with radium rays at the Moabit Hospital and at the Charité, but no definite statement as to the results of such treatment can be made at present.

Finsen's red-light treatment of erysipelas was the subject of discussion at the Medical Section of the Silesian Society by Dr. Paul Krause. He treated twenty patients suffering from erysipelas with red light. Of his patients eighteen suffered from erysipelas of the face, and they were treated in 11.5 days (on an average). Krause thinks, however, that the therapeutic effect is no better than with ichthyol.

Neisser demonstrated some photographs of patients suffering from variola vera treated with Finsen light. Red light was employed, and in all cases complete restoration resulted, no signs of a scar remaining. According to Neisser, the red-light treatment can have no effect on erysipelas, as the red rays have no influence on microbes, but only on inflamed tissue.

Blumenthal read a paper before the Society for Internal Medicine on the glycolytic ferment and on diabetes. His interesting report may be summarized as follows: According to the latest scientific researches there exists but one organ capable of causing diabetes, namely, the pancreas. The liver only regulates the glycolysis. The piqûre of Claude Bernard and extirpation of the suprarenal glands do not cause diabetes but glycosuria. Only through the extirpation of the pancreas is a real diabetes caused. Lepine thought that the pancreatic juice contained an element capable of destroying sugar, and that diabetes was caused through disease of the pancreas then incapable of destroying the sugar of the human body. But this view could not be proved through experiments made by Kraus and Minkowski. Glycolysis is due not only to the pancreas, but every organ may form it. Cohnheim of the Physiological Institute of Heidelberg has found that there is glycolytic ferment in the muscles, a ferment which gives a real diabetes when pieces of the pancreas are added. From these facts Cohnheim concludes that diabetes is not caused by one ferment only, but that two are always necessary. Miss Hirsch found in the liver 23 per cent. of sugar, but pancreatic juice added to it gave 63 per cent. In the blood Nadine Lieber has found that fibrine is a strong glycolytic ferment, whereas blood serum contains a strong antiglycolytic ferment, so that glycolysis is rendered impossible in the blood. For if a glycolytic process took place in the blood it would soon be saturated with carbonic acid, whereas a glycolytic process in the muscles causes an increase of the body temperature and kinetic energy results. Therefore the leucocytes only imbibe the ferment and transport it to the pancreas, where the juice forms active glycosuria, *i.e.* diabetes. Blumenthal's conclusions are that all organs have a glycolytic ferment, which transforms sugar into carbonic acid and water, not alcohol, that the pancreatic juice in combination with a special ferment, causes active glycosuria, and that in diabetes the ferment of the pancreatic gland is missing.

The gold medal for scientific researches has been awarded to Professor Ehrlich of the Serotherapeutic Institute of Frankfort-on-Main by the Imperial Government.

Local Anæsthesia for Inflamed Tissues.—A valuable local anæsthetic for inflamed tissues can be had by adding a few drops of 1-1000 solution of adrenalin to a ½ to 1 per cent. solution of cocaine. In injecting this, the first result is an anæmia of the skin, due to its action on the vasoconstrictors, followed by a deep anæsthesia. Incisions can be made into inflamed tissues with the loss of very little blood, and the method is well adapted for furuncles, anthrax, etc.

SUBMUCOUS RESECTION OF THE NASAL SEPTUM.

To the Editor of the Medical Record:

Sir: An article with this title, by Dr. Felix Cohn, has appeared in a recent issue of the Medical Record. Dr. Cohn's references in it are exclusively German, and I should like to call his attention to American work on the subject in the form of two articles by me. "The Correction of Deflections of the Nasal Septum with a Minimum of Traumatism," *Journal of the American Medical Association*, March 8, 1902, and "The Window Resection Operation for the Correction of Deflections of the Nasal Septum," *Journal of the American Medical Association*, Vol. XLI, 1903. In these papers I advocate the continuing of the resection as far back into the bony septum as necessary and describe an original set of instruments made by me for the work, and a technique developed by my experience with sixty operations.

Contrary to Dr. Cohn's views, my results have shown me that the resection method is an ideal one for all varieties of deflections of the septum. I have had but one perforation in ten cases, due to my early awkwardness in performing the operation. Of late I feel practically certain of not perforating. There have been no complications following the operations, and in all but two of my first cases the nostril has become entirely freed from obstruction.

I am greatly pleased to find an advocate for the resection operation in Dr. Cohn, and think that he may advise its employment with less reserve than he has shown in his article. By giving me credit for my work on the subject you will greatly oblige me. Otto T. Freer, M.D.

288 Huron Street, Chicago.

THE PSYCHICAL RELATIONS OF TUBERCULOSIS.

To the Editor of the Medical Record:

Sir: In your issue of the 2d of January there appeared an article by Dr. S. A. Knopf, entitled "A Plea for Justice to the Consumptive," in which this author devotes a great deal of space to the discussion of a recent article of mine on "The Psychical Relations of Tuberculosis in Fact and Fiction" (*New York Medical Journal*, August 1 and 8, 1903). In view of the attitude which Dr. Knopf assumes against me, and in view of the fact that he has not only invoked the authority of such men as Osler, Tyson, Janeway, Bowditch, Biggs, etc., in his attack upon me, but has actually proposed for adoption certain resolutions relative to this matter before the Society of Medical Jurisprudence, I am forced to appeal to you for an opportunity of justifying myself in the eyes of your readers by stating my side of the case.

Those who know Dr. Knopf personally or through his extensive writings, know how enthusiastic he is on the subject of phthisiophobia, and how persistently he has waged a battle against this mode of thinking. In his quest for examples of phthisiophobia among physicians he has come across my article, and straightways has seized upon it as on valuable clinical evidence of this very rare disease among the medical men of this country. It is with regret, therefore, that I am obliged to correct Dr. Knopf's diagnosis in my case, and to submit incontrovertible proof of the fact that I am free from phthisiophobia. It is a pity; for in the cause of science one is always glad to find an example of an extremely rare disease.

The only explanation which occurs to me for Dr. Knopf's diagnostic error in my case is that he has not cared to read my article in its entirety, for the same reason that he "has had no time or inclination to refute all my conclusions." Had he taken this trouble, he would certainly not have presented me before the Society of Medical Jurisprudence, as his "star case" of phthisiophobia among physicians.

The article to which Dr. Knopf refers does not pretend to advance new or original views on the subject of the mental characteristics of the tuberculous patient. It is merely a synthetic review of this theme, based chiefly upon the works of such authorities as Heintzelmann, Letulle, Cornet, Dettweiler, Bernheim, Chartier, Skulteki, Cioffi, Mircoli, Mafucci, and others. Analyzing the mental state of the tuberculous, it touches briefly upon the relations of tuberculosis, insanity, and crime—questions which are by no means solved as yet, and which I present simply in their unfinished condition, as a guide to further researches by those who are competent to pursue them.

From this article Dr. Knopf took two sentences and used them for the construction of two questions which he sent out to such eminent authorities as Osler, Tyson, Janeway, etc. In speaking of one of the cases reported in a previous paper, by Dr. Fanoni, in which a man spat everywhere deliberately, so as to prevent his young wife from surviving him, I say: "*Here* psychasthenia, the loss of self-control, and the rise of brute selfishness have combined to distort the clearness of ethical perception," meaning, of course, by "here, *in this case*. I cite also a number of other cases of crimes committed by consumptives under circumstances which warrant a suspicion that there may be a connection between the disease and the crime. Nowhere do I say that a greater tendency to crime has been noted among consumptives than among other individuals, nor that the *average* consumptive, as the result of the mental peculiarities of which I have spoken, exhibits a distorted ethical perception. Yet this is exactly what Dr. Knopf represents me as saying in his letter of inquiry sent to Professors Osler, Tyson, Janeway, Biggs, etc. I am not at all astonished that not a single one of these gentlemen endorsed such statements, and should have been greatly astounded if they had done so.

To those of your readers who have not the time or the inclination to go back to my article for proof, let me quote a few sentences which will satisfy any unbiased man that I have been placed in an untenable position by distorting my own statements and by omitting all explanation:

"I do not pretend that my analysis is complete or that every consumptive is bound to exhibit the specific traits that I have discussed, *much less* that every consumptive is a mental degenerate or a candidate for the jail or the lunatic asylum." "(6) In all probability there is a connection between tuberculosis and insanity, the tuberculous toxin contributing, *with other factors, in persons rendered susceptible by psychical and somatic degeneration, to the derangements of the mind.*" Does this signify that the *average* consumptive is inclined or predisposed to insanity? "(7) The criminal tendencies of consumptives have been observed *with sufficient frequency* to justify an investigation into the medicolegal question of restricting the responsibility of a criminal on the ground that he is tuberculous." Does this tally with the impression which Dr. Knopf gives your readers, that I consider the *average* consumptive inclined to immorality and crime as the result of a distortion of ethical perception? Does a man who advocates, as I do, leniency for a criminal under the law, on the ground that he is consumptive, discriminate *against* the consumptive, as Dr. Knopf would have me do, or does he, on the contrary, discriminate *in favor of* the unfortunate victim of tuberculosis?

As regards the mental traits of the average consumptive, I show upon the authority of every observer who has written on the subject, that tuberculosis is to a certain extent responsible for the mental make-up of the patient, especially in the advanced stages of the disease. The only theory which has sufficient experimental and clinical basis, as regards the mental changes in the consumptive, is that of toxic poisoning of the central nervous system by the products of the tubercle bacillus. Neurasthenia and psychasthenia are prominent factors in a great many consumptives, and as the result of this, there comes into play the keynote of most of the later mental changes in tuberculosis, namely, the gradual loss of will power, of self-control, and the ascendance of selfishness. These traits have been commented upon by a number of writers on the psychology of tuberculosis. Nowhere do I deny that the noblest characters, the greatest minds, are found among consumptives. To do so would be to manifest glaring ignorance and violent phthisiophobia. On the contrary, the wide range of variations in mind and temperament among consumptives, according to the previous character of the sufferer and the gravity of his condition, is fully brought out in my article. The abnormally increased susceptibility to external mental influences, the extreme variability of temper, and the increased tendency to rapid nervous and psychical fatigue in consumptives, are too well established to need any comment or defence.

One of the speakers in the discussion of Dr. Knopf's paper characterized as ridiculous the resolutions proposed against my conclusions, as Dr. Knopf conceived them. No man who is in his right senses could say that all consumptives are insane or are inclined to be criminal, and, aside from the fact that not a jot or tittle of the laws of the universe can be changed by passing resolutions against them, a resolution against an absurdity, dangerously borders upon the antithesis which is often so close to the sublime.

But one more word as regards the term "phthisiophobia." Such words have no business in medical terminology. They introduce a spirit of bias into the consideration of questions of fact. The texture of medicine should be made up of experimental, statistical, biological, and physiological data, and into its woof and warp should not be brought the threads of passion and prejudice. To brand a man with a name implying that he is an evil-wisher of the race, or of a large part of it, is not consistent with the calm, subjective, unbiased methods of modern medical research. Nothing can be proved

pro or *contra* in this matter of tuberculosis and crime by calling any one a phthisiophobe, any more than by adopting resolutions to the effect that two and two do not make five, all opinions to the contrary notwithstanding. No physician can be a phthisiophobe if he has put an elementary knowledge of the etiology of tuberculosis as brought out by modern study. No physician can be a phthisiophobe who possesses the instinct of his calling—the ideal of his destiny—the consciousness of his power for mankind's welfare.

G. A. DeSantos Saxe, M.D.

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Progress of Medical Science.

The Boston Medical and Surgical Journal, Jan. 14, 1904.

Mercuric Cyanide as a Surgical Disinfectant.—Charles Harrington has made careful experiments to determine the germicidal property of mercuric cyanide. He used silk threads impregnated with various cultures and subjected them to a 1-1000 solution of the pure salt. He believes that his results can lead to but one conclusion concerning the practical value of mercuric cyanide. A substance which, when employed in the strength recommended, cannot destroy all known species of pus organisms within three hours, and in double that strength accomplishes nothing in thirty minutes, can hardly be classed among the efficient germicides.

Intermittent Hydronephrosis.—M. H. Richardson reports this case of intermittent hydronephrosis. The patient was a man twenty-three years of age. For six months he had had pain in the left side about two inches below the ribs. He had been completely disabled for this time. There was a large tender mass in the region of the left kidney. It was impossible to see if fluctuation was present. Examination of the urine was negative. Examination of the blood showed nothing abnormal but a leucocytosis. Within five days the mass had entirely disappeared. The history for the next few months was about the same as before. An incision over the site of the tumor was made. The peritoneal cavity was opened sufficiently for a thorough exploration of the right kidney and other abdominal organs. Examination of the left kidney showed its pelvis much enlarged and thickened. But it contained no stones. The case was clearly one of hydronephrosis, caused by a sharp bend in the ureter at its origin at the pelvis of the kidney. A careful dissection was made of the renal pelvis and of the ureter to show the relation of the parts and the cause of the obstruction. An incision about an inch in length was then made extending through the pelvis of the kidney and down half an inch on to the ureter. The middle of the incision corresponded to the sharp angle of continuity between the pelvis and the ureter. This longitudinal slit was converted into a transverse one by appropriate sutures, a small wick was placed at the line of suture on the left. In a month the patient was entirely well and able to work.

The Bicycle as a Therapeutic Agent.—Luther Halsey Gulick calls attention to that class of cases in which the patient is constantly demanding treatment for either real or imagined functional disorders. In discussing the indications for treatment, the writer says that in bicycling alone do we find both the physiologic and psychic conditions adequately met. This exercise has various factors in its favor. It is taken out of doors. Rarely are rooms so well ventilated as to be as fresh as country air. The direct effect of sunlight upon the tissues is secured out of doors and not indoors. One of the immediate results of bicycle riding is a large increase in the respiration. The effects of these increased respiratory movements upon the viscera constitute one of the important beneficial results of the exercise. The alternate pressure and relaxation which the diaphragm exerts upon the liver is a large factor in promoting the various circulations within that organ. Success or failure depends upon the accurate adaptation of the exercise to the individual need. The writer always tests the capacity of the individual for the exercise. He counts the heart beat after a certain time given to the exercise and then calculates the proper amount of exercise and its distribution in point of time. The bicycle saddle must be properly adjusted and the patient's spine must not be bent in the dorsal or lumbar regions. The spine may be erect or inclined forward. The writer believes the bicycle to be a useful therapeutic agent in cases in which it is desirable to quicken the general organic functions of circulation, of respiration, and of digestion. It offers besides ample diversion and out-of-door air. It provides for exercise of the large muscular masses by a great number of small efforts. It is automatic and so productive of comparatively little fatigue.

Journal of the American Medical Association, Jan. 16, 1904.

A Parasitic Maggot in the Skin of an Infant.—F. L. Washburn reports a case of this nature, the laws being that of *Gastrophilus epulepsalis*. The patient was a female infant three weeks of age, born prematurely at the seventh month and bottle-fed from birth. One of these maggots came from a pustule on the back of the neck, one from the palm of the hand, one from beneath the jaw, and one from between the great and second toes of the right foot. The infant had slept in its carriage out of doors for many hours nearly every day since its birth.

The Immediate Relief of Hysterical Manifestations of the Larynx.—H. W. Loeb says we must gain the confidence of the patient and then apply suggestion. He informs his patient that the first word the latter will utter after treatment is finished is the word "home." He inserts the right index-finger into the pharynx and presses the epiglottis over the glottis until the patient becomes somewhat uncomfortable, when he withdraws the finger and says in a loud commanding voice, "Now, say home, home, home!" The patient responds, and the command is continued as often as necessary until the patient repeats not only "home," but any word suggested, and leaves the office cured (!) He reports various cases of hysterical aphonia from different causes treated in this way.

Sources of Plague.—W. J. Calvert gives an historical sketch of the early plague epidemics and describes the bacillus isolated in 1894 by Kitasato and Yersin. The disease originated in Egypt, formed new endemic homes, and has spread along the routes of commerce. The bacillus is tenacious of life, and is spread by merchandise, rats, and convalescents. It thrives best in unhygienic places and affects mostly the lower classes of society. As to direct transmission, it is to be borne in mind that as septicæmia develops in the course of the malady all the excretions become infected. Of special importance are the urine, fæces, and sputa. In pneumonic cases the sputa are laden with bacilli, and in delirium may become a dangerous source of infection, as the bacilli may be spread broadcast over the room and those in attendance.

Medical News, January 16, 1904.

The Surgical Treatment of Acquired Incontinence of Urine in Women.—Charles Greene Cumston discusses in this paper only the condition of acquired incontinence of urine. He first considers incontinence having a traumatic urethral origin. Injury of the internal aspect of the urethra is a condition which is particularly met with in various cases of dilatation of the canal. The dilatation may be pathological, produced by the passage of a calculus or a neoplasm. Surgical dilatation of the urethra is far less often resorted to now than formerly, on account of incontinence of urine which often follows it. Incontinence sometimes follows later, the traumatism acting on the vaginal wall of the urethra. Forceps or manual operations during labor may injure the urethra. Some patients progressively develop an incontinence of urine when no former history of traumatism of a surgical or obstetrical nature can be elicited. In certain cases of uterine displacements, especially in prolapsus uteri, incontinence develops. Vaginal cicatrices are at times associated with incontinence. The surgical treatment of this affection will vary according to whether the urethral canal is present or not. In cases of abnormal traction on the urethra, due to prolapsus uteri, appropriate treatment must first be directed to the uterus before considering the bladder symptoms. In cases of abnormal adhesions between the bladder and the uterus, the adhesions must be freed. This can be accomplished by making a transverse incision over the anterior aspect of the cervix and then peeling the bladder off the organ. The wound is packed with gauze and allowed to granulate. If incontinence follows operation for vesicovaginal fistula, examination should be made for cystitis. If this is negative, there may be present bands of cicatricial tissue which drag upon the urethra. These bands should be divided, and, if necessary, the bladder be separated from the uterus. If more or less destruction of the sphincters exists, electricity, combined with massage, will sometimes restore the tone. Operation may, however, be necessary. When incontinence seems due to a more or less complete destruction of the urethral canal, the urethra must be repaired, and the organs replaced in their normal relations. Much patience must be exercised by both surgeon and patient in all of these procedures.

The Hemorrhagic Diseases and Their Allies in the Light of Modern Pathology.—F. L. Wachenheim, after discussing the nature and causation of spontaneous hemorrhage, takes up the autogenic hemorrhagic diseases. He states that the failure to acquire immunity is the

corollary to his theory of hæmophilia, as the disease itself is a pathological immunization. There is in obstructive icterus an autointoxication that presents a blood condition practically identical with hæmophilia except as to permanence. The presence of agglutinins has been demonstrated in the blood in jaundice, evidenced by its action in cultures of the typhoid bacillus. Such formation of agglutinins requires the presence of a toxin. If biliary obstruction and resorption continue for any length of time, an extensive production of anti-auto-agglutinins is inevitable. The resemblance of idiopathic hæmophilia to icterogenic hæmophilia is striking and convincing. Of the precise nature of the scurvy producing poison, little as yet can be said. Scurvy presents a considerable resemblance to rachitis—a non-hemorrhagic disorder. The writer divides the exogenic hemorrhagic diseases into three classes, on the basis of etiology: Chemical blood poisoning; non-infectious toxinæmia; infectious toxinæmia. The antipyretics of the anilin group offer a characteristic series of blood poisons. The most typical and powerful of the blood toxins is snake venom. Various similar animal secretions, as the venom in the bites and stings of insects, differ from it chiefly in degree, and that only apparently, considering quantitative relations. That all of the infectious diseases may be attended with hemorrhagic symptoms is not surprising when it is considered that they are all more or less toxinæmias. The writer sums up his paper as follows: Hæmophilia, congenital or acquired, is a toxinæmia with secondary autoimmunization to a quasi-normal function; that the scorbutic affections are chemical autointoxications, hemorrhagic only because the blood is especially involved; and that the purpura rheumatica group is only a manifestation of ordinary rheumatism or sepsis. After this exposition of their very diverse nature, it seems clear that the old class of the hemorrhagic diseases has become obsolete, should be relegated to the domain of historic medicine, and cease to appear in our monographs and textbooks to further puzzle the student and physician.

New York Medical Journal, January 16, 1904.

The Relation of Early Diagnosis and Treatment to the Prevention of Tuberculosis.—F. M. Pottenger says that it is not necessary, in order to make a diagnosis of tuberculosis, to wait until bacilli appear in the sputa. A skilful physician should be able to detect the disease from the clinical history and the findings of a physical examination. If these are insufficient, the tuberculin test should be applied. The character of the disease changes completely as it advances. At first it is a pure tuberculosis, but later becomes a mixed infection. Sanatorium care offers the best conditions for a cure. Latest statistics show that over 30 per cent. of all cases thus treated are permanently cured.

Psychic Healing or, Properly Speaking, the Treatment of Disease or Supposed Disease by Mental Influence.—E. W. Lee mentions several of the methods by which charlatanism flourishes, showing that many of the wonderful "cures" performed by non-medical persons are, in cases of real success, merely methods of applying suggestion; but he makes the point that those who do not understand disease have no right to treat it. Often an individual, suffering from a very serious condition, is lulled into a fool's paradise by the plausible incantations of some charlatan, and, for the time being, made to forget his true condition. But herein lies the danger. Such cases often, by rational treatment, could be benefited, but under the influence of quack suggestion, the disease goes on until it is too late to be amenable to scientific treatment.

American Medicine, January 16, 1904.

Malaria Followed by Interstitial Nephritis and Peripheral Neuritis.—Otto Lerch reports this case. The patient was a man of fifty-six years. He had an attack of estivoautumnal malaria. Both albumin and casts were found in the urine. Blood examination showed 30,000 white cells. Plasmodix and a large number of crescents were found. Muscular weakness of the left arm and hand was especially marked, and the sensation of touch and pain of the third, fourth, and fifth fingers of the left hand and the outer part of the thigh was lost. A pin could be thrust deep into the skin without the patient noticing it. The adjoining parts, however, were rather hypersensitive to touch as well as to pain. The sense of heat and cold was not disturbed. Numbness and other abnormal sensations were constant in these areas. The area affected in the hand corresponded to the cutaneous distribution of the ulnar nerve, and that of the thigh to the external cutaneous, though adjoining nerve fibers were involved.

Hallucinations of Vision.—Howard F. Hansell speaks first of errors of refraction. He states that myopes have an inaccurate impression of size, distance, color and detail, and erring their judgments of matters concerning which their information at least chiefly, comes through their organs of vision. The patient with paralyzed ocular muscles receives two impressions of every object, neither of them correct. The mental impression of opacities of the cornea is that of cloudiness; of opacities of the lens, that of a fog; of opacities of the vitreous, that of smoke. Irritation of the rods and cones of the retina and the axes cylinders in the nerve and retina by the pressure of blood or inflammatory material accentuates the normal activity of the tissues, and the field of vision is occupied by brilliant meteoric displays of flashes and circles of light. True hallucinations of vision are independent of ocular conditions, and are properly preferable to mental disorders.

Appendicitis.—J. J. Brownson believes that there are three periods in which the operation for appendicitis can be safely performed: (1) At the inception of the disease before fever. (2) After the fever and distention have subsided and suppuration has taken place. (3) In the interval after all signs of inflammation have disappeared. He says that there have been more deaths from appendicitis since the operative method has been in vogue than during the expectant plan. He believes that this is due to interference being practised at the wrong time. He concludes that the operation for appendicitis ought to be done in the primary or before-fever period. The appendix should be removed, to guard against fulminating cases and those in which rupture occurs into the abdominal cavity. In the secondary period, after suppuration, drainage should be instituted, and nature left to take care of the appendix. In the interval, after all symptoms of inflammation have subsided, the appendix should be removed. The operation ought not to be done in the intermediary period when there is fever and distention of the abdomen, because the danger from operation at this time is greater than the risk of the case becoming fulminating, or the abscess bursting into the abdominal cavity.

The Lancet, January 2, 1904.

Ascites Rapidly Cured by Iodide of Potassium.—The patient of J. A. W. Pereira was a man of twenty-five years, whose abdomen was distended with fluid. The urine contained a little albumin, but there was no jaundice, liver enlargement, œdema of eyelids, face, or extremities. The fluid disappeared under purgatives and diuretics, but soon returned, this time involving the legs and genitals. Tapping was thought of, but the man was under the usual age of alcoholic cirrhosis, and did not have the hepatic facies of the tippler. The author concluded that there was some pressure on the portal vein, and that probably a gummy deposit. Accordingly the patient was given iodide in small doses, which acted as a powerful diuretic, and he was soon relieved of the fluid.

Ochronosis.—By this term, W. Osler refers to the pigmentation of cartilages, sclerotics, and the skin in alkaptonuria. He reports two cases, brothers, aged respectively fifty-seven and forty-nine years in whom the pigmentation was distinctly recognized in the ear cartilages, sclerotics, and in one, by a remarkably ebony-black discoloration of the skin of the nose and cheeks. Alkapton is the name given to a yellowish resinous body occasionally found on urine which, on exposure assumes a brownish color. Osler believes that his cases support Albrecht's view that the pigmentation of the cartilaginous tissues is associated with the remarkable disturbance of metabolism heretofore recognized only by the changes in the urine. As far as is known, no symptoms in the few recorded cases have been directly referable to the alkaptonuria. The article contains a brief report of previously reported cases.

An Effectual Means of Dealing with the Conditions of Chronic Obstruction of the Large Bowel Resulting from the Adhesions Which Develop in Consequence of Chronic Constipation.—Basing his plan on the fact that experience had shown that the ileum had been connected with the sigmoid flexure or with the upper part of the rectum to deal with various troubles arising in special and rare cases, such as cancer, obstinate atony of the colon, intussusception, fistulæ, and the like, and that the result had been excellent so far as the nutrition of the patient was concerned, W. Arbuthnot has determined to employ this method as a routine treatment in the definite group of cases of obstruction of the intestine produced by adhesions and by an acquired momentum in which the complete division of these constricting media will not afford relief, the recurrence or continuance of symptoms being produced by their reformation. He makes a very free lateral anastomosis between the lower limit of the ileum and the upper part of the rectum, or the sigmoid flexure if the rectum is too bound by fixation of the sigmoid flexure to allow of its being readily handled. For this purpose an

efficient anastomosis can only be made by sacrificing a portion of the circumferences of both ileum and large bowel sufficient to insure that the resulting lumen at the junction shall not exceed the original size of the large bowel. The result of such operative treatment has been very satisfactory, the patient being freed from pain and tenderness, losing the dirty color and inactivity consequent on the absorption of ptomains, improving in weight, and obtaining regular daily evacuations by means of mild purgatives. The only objection to the lateral anastomosis is that the presence of any very large quantity of solid fecal matter in the vicinity of the opening in the large bowel may possibly cause fæces to pass on into the cæcum. For this reason it now divides the ileum, closing its distal aperture and making its proximal section open into the lower end of the large bowel, so rendering it impossible for any material to enter the cæcum.

Deceptive Signs of Improvement Following upon Septic Intoxication in Acute Appendicitis, Especially in Young People.—W. H. Bennett calls attention to the fact that the subsidence of pain, tenderness, swelling, and rigidity in the right iliac fossa is no evidence that an appendicitis case in a young person is passing out of the danger zone. This fact holds even though, with the foregoing apparent improvement, the pulse may fall and the temperature improve. Under these conditions of apparent safety, a gangrenous condition may be present in the appendix. Two illustrative cases are narrated presenting the abovenamed course of symptoms. In the first, operation disclosed gangrene; in the second, operation was deferred. Bennett finds that decision as to operation in such cases depends on two points: (1) The condition of the temperature, and (2) the aspect and mental mood of the patient. On the latter he lays special stress. A flushed and dusky cheek, black lines under the eyes, furred tongue, dulness, inertness, etc., all suggest danger, while a cleaning tongue, brightening mental state, etc., are signs of improvement. The dulness is due to septic intoxication, and an improvmeent in the local physical signs must not mislead us. Decrease of pain in a septic patient does not necessarily mean improvement, unless it is accompanied by a constitutional betterment. As to temperature, a fall may be a danger signal rather than a sign of improvement. Bennett finds an explanation of all these facts in the sensitiveness of all young patients to septic infection. In any part, therefore, where the lymphoid tissue is very abundant, as it is about the appendix, the end of which is extraordinarily well provided with adenoid tissue, we may be sure that in young and growing subjects any destructive process will often be extraordinarily acute, a fact which partly explains the peculiarity of these cases in the young. The initial changes coming on acutely in the first stage are followed so rapidly by necrosis and decomposition that the commencement of septic intoxication begins almost, as it were, before the constitution of the patient realizes the onset of the condition—in fact, at a point before the actual acute symptoms develop in an adult, the patient, if a young subject, is becoming dull and listless from the effects of the rapid absorption of septic material by the superabundant lymphoid tissue. The peculiarity of the symptoms, then, in young growing subjects, depends, first, upon the tendency to great activity in these detructive processes, and, second, to the rapid absorption of septic matter in a region supplied only too lavishly (for conditions of disease) with ready means of taking up septic material.

The Lancet, January 9, 1904.

Concurrent Urticaria and Malarial Fever.—Geo. Papakosta reports a case of this nature in a man twenty-six years of age. Coincidently with a malarial attack, in which the temperature rose to 103°, a general eruption appeared on the body, at first suggesting measles. Quinine had been taken in previous attacks and had caused hæmaturia. It was not given, therefore, in the present instance, and consequently could not be invoked as the cause of the rash. In a later paroxysm it was given but no rash appeared.

Tuberculosis of the Tonsils in Children.—L. Kingsford examined the tonsils removed post mortem from seventeen children, varying in age from four months to nine years. All showed cervical glandular enlargement, and in eleven it was obviously tuberculous. Of the seventeen, tonsillar deposits were found in seven, but only three exhibited any naked-eye tuberculous changes. Of these three, one showed ulceration, a second, scarring, and a third a caseous focus. Practically all the seventeen were cases of secondary infection from either blood or sputum. The parts of the tonsils which were the seats of the lesions were usually the lymphoid follicles not far from the epithelial surface, but it was not possible to trace bacilli in from the crypts or surface of the organs. The author believes it possible that infection may work through healthy tonsils to the cervical glands, the former becoming infected at a later period.

The Prophylactic Action of Garlic against Tuberculous Diseases.—G. Cavazzani has experimented on guinea-pigs, giving them garlic juice and then injecting dried sputum from tuberculous patients into the larynx. Control experiments were carried on at the same time, and after some weeks all the animals were killed. The results of the necropsies were that the abdominal organs and the lymphatic system of the two guinea-pigs used for control were completely filled throughout with tuberculous formations in different stages of development. The microscopical examination of some tubercles proved the presence of Koch's bacillus. In the bodies of the three animals which had been treated with garlic juice for one month from ten to twenty small tubercles were found, some of them in the liver and some in the spleen. The examination of the tubercles did not reveal the presence of Koch's elements, but instead it showed the presence of numerous fibers of young connective tissue. In the bodies of the other three guinea-pigs, those which had been treated with garlic up to the end of the experiment no tuberculous formations were found, though the most minute examination was made. The small number of animals used in the experiment forbids the drawing of conclusions.

British Medical Journal, January 2, 1904.

Note on the Method of Demonstrating Tubercle Bacilli in the Urine.—Edgar Trevithick finds that the demonstration of tubercle bacilli in tuberculous urine is more simple and certain than when occurring in the sputum. Their numbers are much greater also, in the former. The writer's method of examination is as follows: The lower part of the urine which has been resting in a conical glass is centrifugalized. The supernatant fluid is carefully decanted from the minute collection of deposit at the bottom of the glass. The glass is filled with distilled water and shaken. Again the liquid is centrifugalized and the foregoing process is repeated. From the final centrifugalate the films are prepared. The writer believes that by the ordinary method the urinary salts present both bacilli and pus cells from adhering well to the cover slip.

Reaction with Perchloride of Iron in the Urine in Grave Cases of Hepatic Cirrhosis.—F. Parkes Weber calls attention to the presence of a strong perchloride of iron reaction in the urine of several of his patients with hepatic cirrhosis. On adding a weak solution of perchloride of iron to the urine, the color obtained was sometimes similar to that obtained from the presence of diacretic acid in cases of diabetes mellitus. Sometimes, however, it appeared more like that obtained in the urine of patients taking sodium salicylate. In only one of the cases was there any history of these ever having any glycosuria. The appearance of the reaction sometimes coincided with very threatening general symptoms. The nature of this reaction has not yet been fully investigated. The writer appends the history of several cases.

A Note on Postural Albuminuria.—William H. Broadbent speaks of a group of cases in which the characteristic feature is albuminuria on rising from bed in the morning, usually passing off in the course of the day. These cases are very common, especially in boys and young men working up for examination. The albumin is not due to food. It does not appear if the patient remains in bed to breakfast or after meals later in the day. It cannot be toxæmic. It disappears quickly on lying down. It is in relation with the erect posture after a night's rest in bed, and also with imperfect cardiovascular adjustment to the changed hydrostatic conditions. The amount of albumin is generally small, but may be considerable. This form of albuminuria should be recognized, for the required treatment is just the reverse suitable in renal disease. There is commonly a neurotic family history and invariable cardiovascular instability. The pulse varies greatly in frequency and tension. A high-tension pulse would warrant suspicion of actual renal disease of or juvenile gout. The writer has observed that the impulse of the right ventricle is forcible and the apex beat weak. The second sound is reduplicated when the patient lies down. The prognosis is favorable. Usually all the treatment required is good, simple food, fresh air, and vigorous exercise. Tonics were hurtful in many cases. Constipation should be corrected by aloetic or other aperient of the tonic class.

A Clinical Lecture on Œdema of the Lungs and Its Importance as a Mode of Death.—Isambard Owen declares that the subjective symptoms of pulmonary œdema are few, and not distinctive. Distress of breathing is increased by it. Cough is often increased and becomes more hacking. Expectoration of the œdematous fluid occurs only when the œdema is extreme. Œdema has to be watched

for by regular and systematic examination of the back of the chest. Although œdema of the lungs may be checked more than once by treatment, it is usually the final scene of the drama. Œdema of cardiac origin, as it is seen in the later stages of valvular disease, begins in the most dependent parts and extends upward. This is not always the case in pneumonic œdema. The signs here may sometimes be detected in the scapular regions, or even in front as early as at the base. The writer has noted in more than one actual case of severe pneumonia that signs of œdema have begun to appear before any heart failure whatever was observable. The physician should always be on the lookout for œdema of the lungs in cases of bronchitis. When the patient's condition becomes serious, careful examination should be made to ascertain whether there may not be some condition involved that admits of treatment. In many severe cases of pneumonia, fear of cardiac failure deters the physician from a sufficiently systematic examination of the back. The writer believes that œdema is the most serious danger to life. As to the treatment, the writer states that expectorants are useless. The right side of the heart should be carefully investigated. It is even more important to note the presence of any obstruction of the venous circulation. If these signs are present and the conditions urgent, venesection should be practised. The relief from this treatment is often very marked. Other methods of treatment, less efficacious, are the application of leeches to the front of the chest; watery purgation by elaterin, jalap, or gamboge. Dry cupping is sometimes recommended. Oxygen has its place. Isolated doses of alcoholic liquors, as brandy in hot water, are often of service as a temporary stimulant, but there should not be a continuous administration of alcohol. The writer has great regard for the hypodermic injection of strychnine.

British Medical Journal, January 9, 1904.

The Life-span of the Guinea-worm.—Arthur Powell gives the history of several patients infected with the guinea-worm. The great majority of worms appeared a year and two or three weeks after the date of infection. The shortest period in these cases was 345 days, the longest 435. There is often considerable fever a few days before the worm becomes palpable. Two of the writer's cases also suffered with swelling of the face and hands. This seemed independent of the situation of the parasite. The writer calls attention to the increase of eosinophiles in the blood of these patients.

Glandular Fever.—John W. Byers, in this report, states that his knowledge of glandular fever is based on thirty-three cases. The youngest child was thirteen months; the oldest case was a maid, aged twenty-five years. With the exception of this last patient and another aged twenty-one, all were children or young people under sixteen years. The onset, as a rule, was sudden. The period of incubation was from five to seven days. The symptoms were sore throat, fever, pain on one side of the neck, and tenderness on pressure. There was a swelling of the glands under and in front of the sternomastoid. In most of the cases the deep glands of the corresponding and opposite sides of the neck were swollen. There was only slight congestion in any of the throats, and in the majority it was normal. The glands affected were, as a rule, the deep set under and in front of the sternomastoid. The majority of the children were convalescent in a week. Nearly all the children in a house were attacked. No rash appeared. There were no deaths. The writer believes these cases to be examples of that acute epidemic infectious fever in which there is primary inflammation of the lymphatic glands. The poison of this fever is probably microbial. Invasion was probably through the throat. Certain atmospheric conditions may favor the growth of the infective germ.

Observations on the Pathogenesis of Gout.—Chalmers Watson describes the post-mortem appearances in the case of a fowl which died of acute gout. The synovia in some joints was of the color and consistence of cream; this readily gave the murexide reaction. A deposit of sodium urate was in some extraarticular tissues, mainly in relation to the smaller joints. There was widespread thrombosis, notably in the vessels of the liver, lungs, kidneys, and some larger abdominal veins. Thrombosis appeared to be the immediate cause of death. There was marked congestion of the liver, lungs, and kidney. Some liver cells were atrophied. The kidneys showed areas of necrosis. It was a typical case of gout. There was no condition to indicate chronic disease of any kind. The blood-vessels were singularly healthy. There was catarrh of the intestines. The capillaries were markedly dilated. There was a great excess of lymphoid tissue in the ileum. The pancreatic duct was filled by catarrhal products derived from their lining membrane. The spleen showed congestion. The condition of the pancreatic duct appeared to be an extension from the duodenum. It was very striking. The collecting tubules were everywhere markedly dilated and filled with granular leucocytes. There were also granular leucocytes lying free in the intertubular tissue. There was an atrophy of the epithelial lining of the convoluted tubules. The writer believes that the clinical features of gout—regular or irregular, acute or chronic—are more adequately explained by the light of our present knowledge of infections, relapses, and immunity, than by any other theory. The distinctive feature of the infection in gout is that the toxin or toxins have the special property of disturbing nitrogenous metabolism in a manner favorable to the deposit of uric acid in certain tissues. The addition of a bacterial factor to our present conception of the disease would in no way minimize the importance of attention to dietetics in its treatment. It would correct the teaching of some writers whose standard of dietary has special reference to nuclein-holding foods, and would focus attention on the by-products of deranged digestion of carbohydrates and proteids arising from abnormal bacterial activity in the digestive tract and other tissues.

Münchener medicinische Wochenschrift, December 29, 1903.

A Case of Primary Actinomycosis of the Skin.—Dreyfus describes a case of this unusual form of actinomycosis occurring in a boy of ten. The lesion first showed itself as a swelling in the left mammary region, which, six months later, broke down and ulcerated. It was surrounded by a wide area of ulceration, but glandular enlargement was absent. Excision was followed by recurrence.

The Occurrence of More than One Tænia Saginata in the Same Person.—Riehl says that it is extremely rare for more than one beef tapeworm to be found in the same person, though such cases are on record. His patient was readily relieved of a tapeworm by the use of male fern, but soon after began to pass more links, although the head of the first worm had been found. A second dose of the anthelmintic produced a second head.

The Significance of the Normal Intestinal Bacteria.—Strasburger says that the bacterial flora of the human intestine normally serves a useful purpose, but may also become a source of noxious products. The question of whether animal life is possible with a sterile intestinal tract is still undecided. Nutall and Thierfelder were able to cause an increase in weight in the guinea-pigs they kept sterile from birth, but Schottelius reached opposite conclusions with chicks. It is quite possible that the cellulose envelopes of many sorts of vegetable foods require bacterial agencies for their destruction, as no cellulose dissolving ferment is found in man or most warm-blooded animals. An important function of the intestinal bacteria is probably the prevention of putrefaction in the small intestine. Corroboration of this view is found in the fact that when sterile milk is given, putrefaction occurs in the small intestine, whereas in the presence of the bacillus coli communis and the bacillus lactis aerogenes putrefaction does not extend beyond the ileocæcal valve and only fermentative changes take place in the intestine above. When the bacterial growth becomes excessive, however, it injures the body not only through the amount of nitrogenous material consumed in this way, but also through the absorption of injurious substances that are products of the organisms. The middle ground between excess and deficiency of bacteria is therefore necessary for normal conditions in the intestinal tract.

French and Italian Journals

Neoplasm of the Breast; Acetonuria.—Patel has had under his care a patient afflicted with a growth in the left breast. It has increased rapidly with metastases in the axillary and subclavicular regions. The metastasis in the spinal cord was apparent from violent lumbar pains and prickings in the leg. Intravenous injections of quinine were begun. Acetone was observed in the urine of the patient. This phenomenon has been noted in other cancerous cases. The case is inoperable, as to the mammary lesions, but it is hoped that a tuboovarian castration will arrest or retard the course of the growth.—*Lyon Médical*, December 6, 1903.

The Action of the Nuclein of Pathogenic and Non-Pathogenic Bacteria, or the Bacterial Power of Normal Blood Serum.—Domenico Enea concludes from his experimentation that the nucleus extracted from pathogenic or non-pathogenic bacteria when introduced into the circulation causes an increase of the normal bacterical powers of the blood serum. It is not specific, for the species of bacteria from which the nuclei was taken, and the difference found on the intensity of its action against various forms of bacteria is due to the different powers of resistance possessed by them. This increased bactericidal power is temporary, disappearing, after a few days.—*La Riforma Medica*, November 25, 1903.

Book Reviews.

PSYCHO-THERAPY IN THE PRACTICE OF MEDICINE AND SURGERY. By SHELDON LEAVITT, M.D. Chicago: Garner-Taylor Press, 1903.

HOWEVER much or however little store he may set upon suggestive therapy, the reader of this book cannot fail to be impressed by the earnestness of the author and his unmistakable faith in the value of this method as a means for the treatment of disease. Dr. Leavitt believes that regular medicine is doing itself and humanity an injustice in neglecting a systematic use of psychic means of cure, and in this work he calls upon the profession to rescue from charlatans, "healers," "scientists," *et id genus omne*, what he regards as a most valuable therapeutic adjuvant, supplementing and in some instances doing away with drug treatment. All thinking and observing physicians of the present day admit the efficacy of suggestion or autosuggestion in certain cases, but they also believe that this force can influence the body to only a limited degree. Dr. Leavitt on the contrary seems inclined to put almost no bounds upon its powers. That is, however, the common fault of the enthusiast, and we are sure the author makes no claims which he does not believe he can substantiate. The book will well repay study, and we are convinced that the careful reader of it will find some of his prejudices against psychotherapy softened even if he does not become a partial convert.

THE WORTH OF WORDS. By Dr. RALCY HUSTED BELL. With an introduction by Dr. WILLIAM COLBY COOPER. Third edition. Revised and enlarged. New York: Hinds & Noble, 1903.

THERE is much that is suggestive in this scholarly book, not a little that is instructive, and a few things that are misleading. The work is a series of short disquisitions or dogmatic assertions on various words and their uses. The several chapters are on "Misused Words, Vulgarisms, and 'Words-no-Words,'" whatever that may mean, "Every-day Errors," "Slang," and "How Word-meanings Change." There is nothing easier for a critic than to criticise, especially when the book under review is one which aims to set up rules for the guidance of the ignorant or the careless in manners, morals, or speech. Dr. Bell falls at times into a common error of writers on the use of correct language in assuming that a living tongue, and English of all tongues, is a thing of rules, like Volapük, or Esperanto, or even Latin, and incapable of growth or variation, and he occasionally dogmatically condemns usages sanctioned by masters of English composition. But in these days of newspaperese one should be chary in finding fault with conservatism. The new words and new uses of words will establish themselves quickly enough, and if they are legitimate their right to recognition will be all the stronger if their first advances have been opposed by those who would shield their beloved mother speech from the mutilating and deforming touch of barbarism. Dr. Bell's book is one to be read and reread by all who love good English and strive to use it in their conversation. Writers especially will find the work serviceable not only for what it contains, but also for the habit, which its study will promote, of looking at words with a critical eye, and so of employing them with greater care and discrimination.

HANDBOOK OF DISEASES OF THE EAR, for the Use of Students and Practitioners. By RICHARD LAKE, F.R.C.S., Surgeon Royal Ear Hospital, etc. With Three Colored Plates. New York: William Wood & Co., 1903.

IN twelve chapters the well-known English otologist covers the principal points of ear disease. The matter is well arranged, the type clear and the illustrations good. Scattered through the paper are many statements based on the author's extensive clinical experience and they attest the careful observer and practical teacher. One chapter of especial interest to practitioners is that entitled "Life Assurance," in which the author discusses the relations of deafness, vertigo, tinnitus, and middle-ear suppuration to the question of insurance. A deaf man is not a first-class risk. Vertigo calls for increased premiums, and if associated with Ménière's disease, for probable rejection. Tinnitus is of importance only when the applicant is of a neurotic temperament. Intolerable tinnitus may lead to suicide, and tinnitus assuming the form of voices may signify the onset of insanity. Suppuration, followed by complete recovery, does not invalidate the risk. If there has been no discharge for five years, the risk is still good, but any deviation from this standard begins to call for increased premiums. The book closes with a complete formulary and a good index.

DE LA DÉGÉNÉRESCENCE CANCEREUSE DE L'ULCÈRE DE L'ESTOMAC. PAR Le Dr. C. AUDISTÈRE. Paris: G. Naud, 1903.

IN this monograph on "Cancerization of ulcer of the stomach," Audistère has compiled the literature of the subject and added several observations of his own. The development of cancer in ulcer of the stomach does not appear to be so very rare. Usually ulcers of very long standing and situated principally near the pylorus are more apt to undergo the cancerous change. Even after the development of the cancer the symptoms of ulcer as a rule persist. This makes the diagnosis in a number of cases quite difficult, excepting in those in which a tumor can be palpated. The course of these cases is much severer and more rapid than of simple cancer of the stomach. Hemorrhages and perforations are frequently encountered and often prove fatal. This work of Audistère can be highly recommended for its thoroughness in the treatment of the subject.

THE ART OF CROSS-EXAMINATION. By FRANCIS L. WELLMAN of the New York Bar. With the Cross-Examination of Important Witnesses in Some Celebrated Cases. New York: The Macmillan Company, 1903.

THOSE medical men who have survived the horrors of a cross-examination by the author of this work must derive satisfaction from the fact that others besides themselves have been on the rack. If they have not had this experience, they will certainly at least enjoy the bright anecdotes and pleasant style of the writer, who is a past-master in the art of extorting evidence. Mr. Wellman is one of the very few lawyers who are equipped in medicine as well as their own profession, and the present volume contains references to many notable medical cases.

If any further criticism were needed, it would be that he has neglected to publish the cases in which the doctor on the stand has got the best of the lawyer, but this can hardly be expected. The work teaches among other things that even the most conscientious physician has no place on the witness stand unless he is able to take care of himself, and a man may be an expert in every sense of the word, and still lack utterly in his ability to maintain his position in court.

DISEASES OF THE HORSE, A Special Report by Drs. PEARSON, MICHENER, LAW, HARBAUGH, TRUMBOWER, LIAUTARD, HOLCOMBE, HUIDEKOPER, STILES, and ADAMS. Revised Edition. Washington: Government Printing Office, 1903.

THIS report on diseases of the horse has been prepared evidently with great care, by a number of the most eminent members of the veterinary profession in the United States, each of the authors treating of the subject most familiar to himself and upon which consequently he could speak with the most authority. The result has been the production of a treatise upon which farmers and stockmen may rely with the greatest confidence when called upon to minister to a horse diseased in the absence of a skilled veterinarian. In this revised edition a chapter on "The Examination of a Horse," written by Dr. Leonard Pearson, has been added, and one on shoeing has been written by Dr. J. W. Adams.

The work is published under the supervision of Dr. D. E. Salmon, Chief of the Bureau of Animal Industry of the Department of Agriculture, and is issued for free distribution by members of Congress, to whom those desiring a copy of the book should apply. The Department of Agriculture, we understand, has no copies for this purpose.

MONTHS AND MOODS, A Fifteen-year Calendar Versified and Diversified. By EDWARD CURTIS. New York: The Grafton Press.

If I help you fix a day
So you fail not, nor estray,
If I bring you to a mood
Working ever for the good,
Fulfilled my end!

On your desk or boudoir-table
Then, in order serviceable
At your elbow let me lie,
For the new-come century
A ready friend!

IN the lines here quoted Dr. Curtis has prefaced this happily conceived calendar, which will do service for the first fifteen years of the new century. Under each month is a page containing the fifteen calendars followed by verses appropriate to the season. A charming book to while away the weary minutes of the patient waiting his turn for consultation with the busy doctor, or to solace the tedious hours of the fledgling doctor waiting for the call of the casual patient. And before the calendar is exhausted, may his days be so full that he needs turn to the book in the evening to clear his weary brain and soothe him preparatory to refreshing sleep!

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

One Hundred and Eighty-fourth Regular Meeting, Held Friday, December 4, 1903.

CHARLES STEDMAN BULL, M.D., PRESIDENT, IN THE CHAIR.

A Case of Paget's Disease.—Dr. HERMANN H. BIGGS presented a man, seventy-one years old, an Italian, who came to the United States thirteen years ago. He was a laborer but had never done any work in this country on account of his age and the poor condition of his health. His family history was negative, and excepting the diseases of childhood his only illness had been an attack of kidney trouble of an indefinite kind about thirty years ago. His habits were always temperate and he gave no history of venereal disease. The patient stated that when he came to this country his legs were perfectly straight: soon after his arrival he began to suffer from pains in the knees and the joints became swollen; these symptoms were especially severe in wet weather. Subsequently, the femur, tibia, and fibula began to curve outward and forward, and he became more bow-legged year after year until it had become very difficult for him to walk. He also suffered a great deal from headache prior to his admission to Bellevue Hospital three months ago. He has had no constitutional symptoms of any moment, and a physical examination revealed nothing of any especial importance. The lungs were normal; the heart slightly enlarged. He had a large left inguinal hernia. The right malar bone was apparently thickened, and the bones of the cranium were perhaps somewhat enlarged. Dr. Biggs said there were comparatively few cases of Paget's disease or osteitis deformans, of which the patient was an example, in this country: perhaps fifteen or twenty had been reported. Nothing was known as to the etiology of the disease. It generally occurred in males during middle or later life. Constitutional symptoms were usually lacking. In some cases there was considerable pain; in others, none. The tendency of the bones to curve was due to the presence of a rarefying osteitis. It affected particularly the long bones, especially those of the lower extremity. An *x*-ray photograph of Dr. Biggs' case showed this rarefied condition in the end of the affected bones. Usually the bones of the upper extremities and the facial bones were also affected, and frequently also the ribs and the spine. The changes in these latter bones in this case were not very distinctive; the striking changes being in the bones of the lower extremities only.

Dr. FRANCIS P. KINNICUTT said that Paget's disease, of which the case shown by Dr Biggs was apparently an example, was rarely met with in this country. The majority of recorded cases were from English sources. The long bones and those of the cranium were the ones usually affected by this rarefying and deforming osteotitis, while the bones of the face escaped. The deformity of the legs was very similar to that seen in rickets, resulting from softening of the bones and a relaxation of the ligaments. Apparently nothing was known concerning the etiology of the disease. It was an interesting fact that many of the cases had been found associated with malignant tumors—carcinoma and sarcoma.

Dr. W. GILMAN THOMPSON said that an interesting feature of Dr. Biggs' case was the localization of the trouble: the preponderance of the appearances in the lower extremities. In a patient shown by Dr. V. P. Gibney, some years ago, the bones of both upper and lower extremities were affected, as was the condition in the patient so fully reported by Dr. J. C. Wilson of Philadelphia. In Dr. Biggs' case the localization was chiefly confined to the knees and feet. The patellæ were enormously enlarged transversely.

Plastic Operation for Deformity of Nose.—Dr. ROBERT F. WEIR presented a man who was admitted to the New York Hospital three years ago. He had had an epithelioma of the right side of the nose which had been treated before coming into Dr. Weir's care by means of a caustic paste, and as a result of the action of this remedy the side of the nose was laid open so that a cavity remained which was an inch and one-half long and an inch wide, extending from the ala to the eye. In order to close this, Dr. Weir dissected a flap of skin from the forehead between the eyes, and without severing its pedicle, he twisted it and carried it down over the nose. The result of the plastic operation was excellent. At the end of ten days the flap was divided at its twisted part and the frontal replaced so as to diminish materially the space left by the forehead flap, the only cosmetic defect remaining being a small depression just above the tip of the nose. This was subsequently remedied by a subcutaneous injection of softened paraffin. Dr. Weir also showed the photograph of another case in which the tip of a man's nose had been bitten off by a horse. An attempt had been made by another surgeon to close the gap with a flap taken from the cheek, but the result had not proven entirely satisfactory, the new ala being very thick. The defect was remedied very happily by taking a flap from the inside of the thickened nose and carrying it downward, so as to serve as an edge to the nostril. The formation of a satisfactory nasal edge, Dr. Weir said, he had found the most difficult part of nasal reparative work. The operator, in dealing with these cases, must adapt himself to the indications to be met: no hard and fast rules could be laid down. The speaker said he preferred the plastic method to that of skin grafts: his experience with the latter on the face had not been very satisfactory. As to the resulting color, which was impaired frequently by the thinness of the implanted layer and more particularly by the many visible veins so often found in such grafts.

Intraneural Injection of Osmic Acid for Supraorbital Tic.—By Dr. ROBERT ABBE. The patient was a young man who had already been shown at the previous meeting of the society. He was then suffering from a severe form of facial tic, limited to the supraorbital branch of the fifth nerve. Since then Dr. Abbe had operated on him as follows: Under local cocaine anæsthesia an incision was made beneath the eyebrow and all the fibers of the supraorbital nerve isolated at the supraorbital foramen. This bundle of nerve fibers was then elevated and thoroughly infiltrated with a 1½ per cent. solution of osmic acid, the slight excess being wiped up immediately after the injection. The operation caused very little pain. On the day following, the painful tic occurred about fifteen times, as compared with forty to sixty shocks daily before operation. On the second day it occurred eight times, on the third day five times, and on the fourth day three times. On the fifth and subsequent days it did not occur at all, and with the exception of a slight, passing flutter of the nerve fibers on one occasion, the patient had remained entirely free from pain since. The operation, which was done on November 4, had resulted in partial anæsthesia of the scalp, which still persisted. The cornea and conjunctiva were not affected. The patient had resumed his occupation as a clothing salesman, which the facial tic had compelled him to give up. In reply to a question as to whether the relief would be permanent, Dr. Abbe said he did not know. In some of the cases on record the pain had not returned after several years.

Dr. WEIR asked whether this method of injecting osmic acid had not been advised several years ago and fallen into disuse from the unsatisfactory results that had followed the employment.

Dr. Abbe replied that at the previous meeting Dr. M. Allen Starr mentioned a case of sciatica in which the method had been resorted to twelve years ago. Some cases had also been reported in England. The method,

he thought, should only be used in sensory nerves, as motor paralysis would be a serious sequel.

Dr. Weir said there were a number of cases of sciatica on record which were apparently cured by intraneural injections of cocaine.

Dr. Abbe said the influence of an injection of cocaine upon sciatic pain rarely lasted over half an hour—perhaps an hour.

Dr. GEORGE L. PEABODY said that in an extremely obstinate and severe case of sciatica which he saw last winter, after exhausting all the usual remedies and methods of cure, he injected two centigrams of cocaine into the spinal canal. The injection produced symptoms of cocaine poisoning which yielded immediately to a hypodermic of morphine, and after three or four hours' sleep the patient awoke entirely free from pain and remained so for at least five months, when he was lost sight of. No paralysis followed the injection. The patient gave a history of a previous attack of sciatica, for which he was treated in a hospital in the West, where nerve-stretching had been tried without relief. Dr. Peabody said he had been induced to resort to the spinal injection by the report of a favorable case in a German medical journal, which quoted a communication from Cavazzoni of Venice in the *Gazzetta degli Ospedali* (Milan) May 4-18, 1902. His attention had been attracted to the subject by Dr. Foster, one of the present house staff of the New York Hospital; in that instance, the relief was said to be permanent.

Dr. CHARLES L. DANA said the injection of cocaine solution into the spinal canal for sciatica had as a rule only given temporary relief. It had also been resorted to in tabetic cases to relieve the pains. In the case reported by Dr. Peabody the patient was perhaps "ripe" for a cure when the injection was given.

The Use of Lumbar Puncture in Medical Diagnosis.—By Dr. CHARLES L. DANA. (See page 121.)

Dr. VIRGIL P. GIBNEY said that for the purpose of rendering lumbar puncture painless he had employed methyl chloride with very satisfactory results. When the parts were frozen by this method, quite a large-sized needle could be introduced, both in children and adults, with very little pain.

Dr. E. G. JANEWAY said he had not been inclined to resort to lumbar puncture to any great extent for diagnostic purposes, and he thought the knowledge gained by it could usually be obtained by other means. The procedure was comparatively simple and thus far no bad results had been recorded from its use. In France it was done very freely. Dr. Janeway said he had resorted to it for therapeutic more than for diagnostic purposes, and he was not prepared to admit that it should be adopted as a systematic procedure. The information gained by it could not always be absolutely relied upon.

Dr. KINNICUTT said that while the value of cytodiagnosis by lumbar puncture in the class of cases mentioned in Dr. Dana's paper was still *sub judice*, lumbar puncture for certain diagnostic and therapeutic purposes must be admitted to be of great value. It was commonly practised under his direction in the wards of the Presbyterian Hospital, and definite observation which could be secured in no other way was obtained by it, in addition to the relief that occasionally followed the withdrawal of a certain amount of fluid from the spinal canal.

As an interesting illustration of the practical diagnostic and prognostic value of the method, Dr. Kinnicutt said that three cases of meningitis were recently admitted into his wards in the hospital, and it was utterly impossible to classify them by the ordinary methods. In all three the symptoms of cerebrospinal meningitis were present. Lumbar puncture was done in each case, with the following results: In the first case a pure culture of diplococcus intracellularis was obtained; in the second case a pure streptococcus culture was found; while the third culture proved sterile. In the first case, although the patient was apparently in a desperate condition, remaining comatose for five or six days, a possible recovery was predicted upon the strength of the bacteriological examination, and the patient eventually did recover. In the second case, although the patient's condition did not appear to be as serious as that of the first, a positively unfavorable prognosis was given. The third case was regarded as tuberculous, and a similar unfavorable prognosis was made. The diagnosis was subsequently verified at autopsy. The second case also proved fatal and the autopsy confirmed the diagnosis. In all three of these cases an exact clinical diagnosis could not have been made in any other way than by lumbar puncture.

The speaker had never seen any evil results follow the procedure. He mentioned a case of cerebral hemorrhage, with enormously increased blood-pressure, in which lumbar puncture resulted in the withdrawal of a bloody fluid and temporary decrease in the blood-pressure and an improvement in the symptoms.

Dr. M. ALLEN STARR said while he believed that lumbar puncture possessed considerable value in a certain class of cases, he had been rather reluctant to resort to it. In looking up the literature six or eight months ago he found a very valuable paper by Dr. Blumer of the Butler Hospital for the Insane in Providence. In that paper the writer stated that in the cerebrospinal fluid of paretics, the number of cells was increased, ranging from 80 to 123 to the cubic centimeter, and he regarded this as a very valuable diagnostic point in the early stages of paresis, when it was often difficult to differentiate that disease from neurasthenia.

Dr. WEIR said the alarming symptoms that occasionally followed spinal cocainization had been attributed by some surgeons to the increase of pressure produced by the injection, and in order to obviate their occurrence it had been advised that a syringeful of cerebrospinal fluid be withdrawn before introducing the cocaine. Others had attributed the bad effects to the cocaine itself, which, in their judgment, was the more correct view. In speaking of the loss of cerebrospinal fluid, Dr. Weir said he had often wondered how great a loss of that fluid could be tolerated. It sometimes escaped freely in various forms of fracture of the skull, and unless infection subsequently occurred, he had never seen much damage result from such a leakage. Very recently he had had a case of fracture at the base of the skull, and together with other characteristic symptoms there was an oozing of clear serum from the left ear, which continued for six days, amounting, it was estimated, to from ten to twelve ounces per day. The fluid was not analyzed. The only symptom complained of was a slight headache. The patient recovered without any permanent effects.

Dr. Starr, in support of Dr. Weir's statement, referred to two cases of operation for brain tumor in the service of Dr. McCosh at the Presbyterian Hospital. In the first case, from the date of the operation to the time of the man's death, which occurred about four months later there was a constant drainage of cerebrospinal fluid, which was estimated and practically proved to be about sixty ounces per day. In the other case, the patient lived five months after the operation, and during that time there was a daily drainage of cerebrospinal fluid of about forty ounces per day. In neither case was the cerebral tumor located. In fractures of the base involving the ethmoidal sinus there was sometimes a free escape of cerebrospinal fluid through the nose. Very little was known about the physiology of the fluid. Was it constantly being secreted and in active circulation in the brain, or did this only occur after an injury?

Dr. Peabody said that in his general hospital practice he had limited lumbar puncture largely to cases of suspected tuberculous meningitis. The insertion of the needle was at times so painful, however, that he formerly had the patient lightly chloroformed before resorting to it. He now used cocaine locally, which seemed to deaden the

sensibilities down to the spinal canal. The only pain complained of was when the needle struck the periosteum. Dr. Beverley Robinson had recently called his attention to an article that appeared in the *British Medical Journal* last October in which the writer recommended the use of this procedure in cases of well-developed uræmic coma, basing his recommendation on the old theory that the symptoms were due to pressure, as indicated by the preceding headache. The writer reported two cases in which he tapped the spinal canal after the usual methods of depletion had failed to give any relief. He withdrew something less than an ounce of fluid in each case, and in both the symptoms cleared up immediately. In one of them—a case of acute Bright's—the man was practically well when he left the hospital. Since reading this article, Dr. Peabody said, he had had an opportunity to try the method in two cases of uræmic coma, one a boy of twenty-two, who had been operated on unsuccessfully years before for an empyema. A sinus persisted for which he had been operated on four or five times. When Dr. Peabody saw him there was considerable deformity of the left chest, and a deep sinus, which still drained pus. Subsequently, albumin and casts appeared in the urine, pointing to an amyloid kidney, and without warning the patient had a series of convulsions in quick succession. He was first given urethane, under the influence of which the convulsions diminished in frequency but did not cease. The spinal canal was then tapped and six drachms of fluid withdrawn. The convulsion ceased and the following day patient was perfectly clear and bright. The second case was one of chronic nephritis, with high arterial tension. The urine was of low specific gravity; it contained many casts and a trace of albumin. The patient was becoming comatose and an ounce and one-half of fluid was withdrawn by spinal puncture. The arterial tension was markedly diminished, but otherwise there was no improvement. The somnolence gradually increased and a fatal outcome was expected. Dr. Peabody said he was inclined to look upon the improvement after lumbar puncture in his first case as a coincidence. He had never seen any harmful result follow the operation, but he knew of an instance in which the needle was broken and had to be dissected out.

Dr. Joseph D. Bryant said that the plugging of the needle which Dr. Dana had encountered in some of his cases of lumbar puncture was probably due to the fact that he used an ordinary aspirating needle, which had an inner cutting edge. If a needle were employed with the inner edge dulled or entirely removed, especially at the throat of the implement, he believed that less difficulty would be encountered.

Dr. W. Gilman Thompson said that Dr. Dana's paper was an exceedingly valuable contribution to a subject which was still in its infancy. The value of the clinical conclusions of the method was still in doubt, and rightly so, because deductions based upon the numerical preponderance of a certain kind of white blood cell were apt to be misleading. Similar investigations in connection with pleuritic exudates had thus far proven of questionable value. This field of research was one which should not be too strictly criticised at present, but it certainly should be investigated further. It was a curious fact that so many different diseases could produce these numerical differences in the white blood cells.

Dr. Peabody said that in doing spinal puncture he had found that the easiest method was to have the patient lie down on his side, bowing the back and flexing the thighs on the abdomen. This widened the space between the vertebræ, and the needle readily entered the spinal canal, although it was not unusual to have it impinge upon the laminæ several times before it finally passed between them.

Dr. Bryant said the widest space was between the fourth and fifth lumbar vertebræ, and by bending the back, as suggested by Dr. Peabody, the needle could be readily introduced and there was less danger of injuring nerve tissue than by puncturing between the laminæ further up.

Dr. Beverley Robinson said that about two weeks ago he saw in consultation a case of uræmic dyspnœa which soon terminated fatally. In such a case, with pupillary contraction and rapidly developing œdema, the suggestion made by Dr. D. C. McVail in the *British Medical Journal*, October 24, 1903, to puncture the spinal canal might prove of considerable value.

Dr. Joseph Fraenkel said the method discussed in Dr. Dana's paper was a very recent one. From 1900 until recently it had been practised exclusively in France. The French observers (Widal, Sicard, Ravot, Marie, Guillaine, Déjerine, Babinski, Nageotte) were somewhat enthusiastic in their views regarding its value. Marie believed the lymphocytosis of the cerebrospinal fluid to be of equal diagnostic value as the pupillary and reflex phenomena, particularly in cases of tabes and general paresis. Widal formulated the following rules for the interpretation of cytodiagnostic findings: (1) Increase of lymphocytes (mononuclear), denoted tuberculous disease; (2) increase of lymphocytes (polynuclear), denoted acute infectious disease; (3) increase of epithelial cells denoted the mechanical origin of the disease. Dr. Fraenkel said that forty-four examinations of the cerebrospinal fluid made by him gave the following results: Fourteen times he obtained no fluid; this occurred at the beginning of his investigations and was apparently due to defective technique. The thirty cases in which the cerebrospinal fluid was obtained were divided thus: Seven cases of tabes; three cases of general paresis; seven cases of multiple sclerosis; two cases of brain tumor; three cases of syphilis of the nervous system; four cases of paralysis agitans; one case of poliomyelitis; three cases of neurosis. Generally, he was able to corroborate the statements made by the French observers that there was an increase of the lymphocytes in the cerebrospinal fluid in cases of syphilitic and metasyphilitic disease of the central nervous system and in cases of multiple sclerosis. Confirmatory results were also obtained by Schoenborn in his examinations made at Erb's clinic in Heidelberg. The speaker said that the untoward symptoms of lumbar puncture observed in the course of his investigations were headache and nausea lasting from one hour to three days after the operation. This occurred only in four instances and was considerably ameliorated by saline injections. In one case of suspected disease of the posterior fossa of the skull, and in which no fluid was obtained, the mere introduction of the cannula brought on a rather serious condition of collapse.

Dr. Dana, in closing, said that Babinski had recently reported the cure of a number of obstinate cases of tinnitus aurium, combined at times with vertigo, by tapping the spinal canal. Dr. Dana advised that more attention be paid to the technique of lumbar puncture; as ordinarily done, it was painful and disagreeable.

Spondylosis Rhizomelia.—Dr. Dana exhibited the spine of a case of spondylosis rhizomelia, or chronic stiffness of the spinal column. A history of the case from which the specimen was obtained appeared in the *Medical News*, November 25, 1899.

About two years after this report of the case, the patient died from an intercurrent affection. The vertebral column was removed and preserved as a separate specimen. It showed ankylosis mainly of the laminæ of the vertebræ, and, to a much less extent, of the bodies. The spine was perfectly rigid, like a single piece of bone, but was not deformed. There appeared to be a simple proliferation of bony tissue fastening together the processes, but without producing any great amount of bony hypertrophy or bony protuberances.

WESTERN SURGICAL AND GYNECOLOGICAL SOCIETY.

Thirteenth Annual Meeting, Held at Denver, Col., December 28 and 29, 1903.

(Continued from page 120.)

Intestinal Perforation in Typhoid Fever.—Dr. BYRON B. DAVIS of Omaha, Neb., referred to the statistics of Taylor, Osler, Finney, Keen, and others, and said that even under the past dilatory tactics the results had been very gratifying. The first twenty-four operations for typhoid fever reported showed six recoveries, or 25 per cent. When it was considered that a very large number of the operations thus far reported for typhoid fever had not been done until general peritonitis had been fully established, 50 per cent. of recoveries did not seem unreasonable, if operation was done before the advent of the peritonitis. The latest statistics from Johns Hopkins gave 41 per cent. of recoveries. There they were striving to operate for the perforation merely, but several cases were recorded with a fully developed peritonitis. Another point affecting the mortality was that a small per cent. of the cases dying after operation did not die from the operation *per se* or the perforation, but as a result of the general typhoid infection. The author thought such cases should not be charged against the operation. In the author's own limited experience, the most marked symptoms had been abdominal pain, localized tenderness, thoracic breathing, and muscular rigidity. Sudden decline of temperature and the phenomena of shock had not been so constant. Three cases were reported that had come under the writer's observation. The first was operated on the third day after the perforation symptoms arose, death following twenty-four hours later. The second was operated on twenty-six hours after perforation, and was followed by death in eighteen hours. The third was seen only seven hours after the perforation occurred, and there was so much doubt about the diagnosis that no operation was done. As the later history and the autopsy showed, this was the most favorable case among the three for operation, and had served to stimulate the author to a study of the subject and to revise his opinions as to the treatment of this condition. In the last case he could not help thinking that frequent estimation of the hæmoglobin and a red blood-cell count might have been of material value in differentiating between intestinal perforation and hemorrhage.

Dr. E. J. A. ROGERS of Denver, Col., said the main point to be reiterated was that if one waited for a positive diagnosis, it would be too late probably to operate. In very few cases of typhoid fever could a diagnosis of perforation be made. He mentioned an interesting case in which an operation was performed for perforation of the intestine eight hours after it occurred; but the patients survived only thirty-six hours thereafter, and died from what was thought to be general peritonitis.

Dr. VAN BUREN KNOTT of Sioux City said his experience coincided with that of the essayist. He had encountered two cases of perforation of the intestine due to typhoid fever, with two deaths. One of them came to operation eighteen hours after perforation, the other thirty.

Dr. JAMES E. MOORE of Minneapolis, Minn., mentioned a case in which operation was performed on the third day after perforation had taken place. General peritonitis was present, yet the patient recovered.

Dr. A. I. BOUFFLEUR of Chicago referred to the differential diagnosis between perforation and hemorrhage. One case operated on by him was one in which there was a difference of opinion as to whether or not hemorrhage or perforation was present. This case occurred several years ago, before the value of a blood count was emphasized. Operation was performed, and the patient recovered. The case emphasized the point that even in cases of doubt as to whether there was perforation or marked hemorrhage, operation was not necessarily fraught with serious danger.

Dr. C. H. WALLACE of St. Joseph, Mo., recalled a case that came under his observation some eight years ago, the patient having suffered from a second attack of typhoid fever. Perforation had undoubtedly occurred as the man exclaimed that he "felt something escape into the abdominal cavity." Operation was advised, but refused. An ice-bag was applied, peristalsis controlled, and although patient had pronounced shock, with localized tenderness, etc., he recovered. The speaker thought this was a case in which the localized perforation was taken care of by nature.

Dr. H. A. SIFTON of Milwaukee, Wis., had encountered two cases of perforation of the intestines from typhoid fever, when engaged in general practice. He believed that a careful examination would usually reveal perforation, and it did not seem to him that in the majority of cases it was difficult to diagnose perforation. In both of these cases the perforation was confirmed by a post-mortem examination. The first case of perforation he operated on was in 1895, the diagnosis having been made within a few hours after perforation, and the operation resulted in a recovery. The second one occurred two or three years ago, the perforation in this case having been in the appendix. This case resulted fatally.

Dr. CHARLES E. BOWERS of Wichita, Kan., emphasized the element of time in cases of perforation from typhoid fever. In searching for rupture of the intestine from typhoid fever ulcer, he said it seldom, if ever, occurred higher than three feet above the ileocæcal valve. One could shorten time very much by satisfying himself that it did not occur above that point.

Dr. H. G. WETHERILL of Denver, Col., said there had been a number of cases of perforation reported in which operation was done three days later, and other cases in which operation was not performed, with recovery. He called attention to the fact that perforation might give rise by erosion of the mucous membrane to the transmigration of bacteria through the serous coat without actual perforation, and that this condition of things was perhaps more frequent than physicians had heretofore believed. Some cases of perforation were probably of this class. Speaking of diet and the matter of treatment of typhoid fever, he thought the time was not far distant when the general practitioner would reach the conclusion which surgeons had pointed out, that a milk diet was not the best for typhoid-fever patients.

Dr. Davis, in closing the discussion, said the plea of his paper was toward early recognition of perforation and early operation.

Surgical Treatment of Nephritis.—This was the title of the President's Address, delivered by Dr. ALEXANDER HUGH FERGUSON of Chicago. Reference was made to the early history of this subject, and to the priority of the operation. The author added three cases to those he had already published of renal decapsulation and puncture for active diffuse nephritis. The indications for surgical treatment of this condition were pointed out at length and the technique of the operation fully described. In looking over the literature, the author finds that the causes of death after the operation in 123 cases, by different surgeons, were as follows: Four died of pulmonary œdema, 6 of uræmia; 4 of coma; 3 of sudden heart failure; 3 of exhaustion; and 1 each of endocarditis, suppression of urine (ether being used), anuria, general dropsy, collapse, pleuritic effusion, and myocardial thrombosis. There were 27 deaths out of 123 cases within a year after the operation. A closer analysis shows that of these deaths, 6 died within 18 hours after the operation: between one and nineteen days; 2 between two and seven weeks; 3 between two and three months; and 1 lived a year. The vast majority of these deaths should not be attributed to the operation. Even allowing all deaths within a week to be due to the operation, there would be a mortality of only about 9 per cent. When the limitations of the operation were more clearly defined, a

many of the extreme cases left alone, the author thought the mortality should not be more than 5 per cent. in the hands of experienced surgeons. It was fair to conclude that the earlier an operation was performed in these cases, the less would be the fatality, and the greater the benefits.

Multiple Loose Bodies in the Knee-joint.—Dr. JOHN P. LORD of Omaha, Neb., reported the case of a middle-aged man who had suffered from recurrent attacks of arthritis, the result of loose bodies in the knee-joint. The attacks of inflammation and the frequent incapacity resulting therefrom had driven the patient to seek operative relief. Loose bodies in the posterior part of the joint were the chief offenders, and it was thought that no ordinary incision would permit of their successful removal. The writer's attention having been called to the use of the Volkmann incision by the Mayo brothers for suppurating knee joint, it was determined that this method of attack would be required in this case. Transverse division of the patella and the incision of the lateral and crucial ligaments were therefore done, as in an operation for resection. This permitted full command of the articulation. Great difficulty was encountered in removing two of the bodies located behind the condyles. The patella was wired. The capsular ligaments were sutured with chromicized gut. Drainage was instituted and an interrupted plaster dressing applied. Union was primary, and a good result secured, although motion was limited. After two months the degree of flexion amounted to about 30 per cent. Attention was called to the necessity of delaying manipulation after this procedure for fear of retearing of the immature union of the ligaments, thus rekindling the arthritis. After a period of two months, however, active efforts were made to restore function, with greater success, although it was probable that full function could not be regained after such extensive surgical trauma of disarticulation. No precedent in literature was found for so radical an operation for this condition. There were ten of these loose bodies of large size, and so distributed that the ordinary incisions recommended would have been ineffective in securing the bodies, part of which were attached by pedicles. Less radical means would have defeated the object of the operation, and the patient's relief would not have been complete.

Chronic Adhesive Sclerosing Peritonitis.—Dr. H. G. WETHERILL of Denver read a paper on this subject, in which, after reporting an interesting case at great length, he presented the following points: (1) The rareness of the disease. (2) Failure to recognize it generally and to describe it fully on this continent, though it had been long well-known abroad. (3) The pathognomonic sign, namely inability to unite the shrinking peritoneum when once divided during the course of the operation, which, so far as the writer was aware, he was the first to observe and describe. (4) The essential chronicity of the disease, as indicated by long-standing symptoms, otherwise unexplained, and by the shrinking and retraction of the peritoneum at the first operation, sixteen months prior to the patient's death, which proved the previous existence of the malady, and that it was not directly or indirectly the result of the operation. (5) The great importance of covering all denuded surfaces when, before or during the operation, chronic adhesive sclerosing peritonitis was diagnosed. (6) The characteristic subperitoneal connective tissue hyperplasia which was the pathological feature of the disease. (7) The shrinking or contraction of the peritoneum caused by it, the clinical feature. (8) The possible significance of a somewhat similar pathological process taking place in the skin, coincident with unusual gastro-intestinal symptoms otherwise unaccounted for. (9) The danger of serious sequelæ incident to its surgical treatment. (10) The possibility of accomplishing much through medicinal measures, when the etiology of the disease was better understood. Potassium iodide and inunctions of mercury were worthy of careful consideration and trial in any suspected case of plastic peritoneal sclerosis.

Median Perineal Prostatectomy.—Dr. GEORGE E. GOODFELLOW of San Francisco, Cal., had operated by the median perineal route in cases of hypertrophy of the prostate approximately seventy-three times, without any immediate mortality, so far as he was aware. He described the technique of the operation in detail. All of these operations were done under spinal anæsthesia. Recently he had modified the operation a little. Instead of making an incision, as he had previously described in his papers, from the base of the scrotum to the margin of the anus, he now made an incision an inch in length above the perineal center, and through this opening he could enucleate the prostate with his forefinger. If it was necessary to enlarge the opening, he did so in the usual way. But through an ordinary incision he had enucleated a prostate weighing 7½ ounces. In no case had he failed to secure anæsthesia when he had entered the canal. The needle was inserted between the second and third lumbar vertebræ.

Complications and Sequelæ of Prostatectomy.—Dr. JAMES E. MOORE of Minneapolis stated that no single operator had had sufficient experience to enable him to speak authoritatively upon the subject, and such extremes of experience had been reported that it was difficult to estimate the real dangers and difficulties of prostatectomy. It was altogether too grave an operation to be resorted to as a routine treatment for enlarged prostate, and was only applicable to properly selected cases. There would always be a place for palliative measures in neglected cases of prostatic enlargement. The most frequent cause of death following this operation was uræmia, consequently the most important preliminary examinations were those of the kidneys. The next greatest danger was sepsis, and in the presence of an infected bladder it was an ever-present one. The most positive indication for operation was very often a complicating cystitis, and it was for the relief of this complication that the various palliative measures were most frequently employed. The only satisfactory treatment for this complication was drainage, and this was best brought about by perineal prostatectomy. Stone was a frequent complication of enlarged prostate, and should always be sought for and removed during the operation. The incision for a prostatectomy, when too extensive, caused various complications. Hemorrhage was an occasional complication, but its dangers had doubtless been overestimated. A serious objection to the suprapubic operation was the extensive injury done to the bladder; while the most difficult problem connected with the perineal operation was how to avoid injury to the rectum. As sequelæ of prostatectomy, he mentioned impotence and incontinence or dribbling. A communication between the urethra and the rectum was one of the sequels met with occasionally. Epididymitis was quite a common sequel of prostatectomy, sometimes becoming so troublesome as to require the removal of the epididymis. Because the writer had dwelt briefly upon possible, as well as probable, complications and sequelæ of prostatectomy, he did not wish to be classified as a pessimist. Some failures were bound to follow this important operation, as they did every operation of like magnitude. But notwithstanding this fact, it was destined to be one of the greatest boons modern surgery had to offer suffering mankind.

Dr. ALEXANDER HUGH FERGUSON congratulated Dr. Goodfellow upon his remarkable success, but thought he would yet encounter cases that would terminate fatally. Personally, the speaker had operated upon thirty-one or thirty-two patients without a death, without complications or sequelæ, but since then in operating in these cases a death would occur after every few cases. He had had four deaths, so far as he could determine, after having operated in forty cases. In only one of these was death due to the operation *per se*.

The Use of Silver Foil to Prevent Adhesions in Brain Surgery.—Dr. M. L. HARRIS of Chicago said the general principle of the introduction of some foreign substance had been tried in a sufficient number of cases of brain surgery to prevent adhesions, and with results which seemed to justify a belief in its efficacy. Of the materials thus far proposed, the author believed the thin foils were the best, and of these he preferred the silver foil. It was thin, soft, and smooth. It conformed to all irregularities of the surface on which it was laid. As many layers might be applied as necessary to secure a smooth, unbroken surface. It was not only tolerated very kindly by the tissues, but exerted a beneficial influence on granulating or healing surfaces. The foil might be placed directly in contact with the brain tissue between the pia and dura, or wherever it might be necessary to accomplish the purpose desired. The author had used the silver foil in a number of cases of brain surgery, and urged its more frequent use. He cited a case which illustrated the application of the principle.

Resection of Arteries and End-to-end Union.—Dr. O. BEVERLY CAMPBELL of St. Joseph, Mo., detailed forty experiments on animals, in which different methods of operating were adopted. The author stated that from a recognition of the probably correct theory of the coagulation of the blood, and considering the experiments that had been made and the results obtained, eliminating the process of infection, there still remained factors in the production of thrombosis in the suture of arteries yet to be met and overcome before it could be hoped to reëstablish permanently the circulation of the blood following end-to-end union of arteries. The possibilities of permanently reëstablishing the circulation of the blood in arteries following end-to-end union, or resection, was in the author's opinion yet to be demonstrated. In the experiments of Murphy, as well as the writer's, it was observed that where thrombosis did not occur, in the majority of cases an obliterating endarteritis occurred. Murphy observed: "After suture of a vessel there is a tendency to endarteritis obliterans." As this process was one of slow formation, it was one of minor importance as to the ultimate result of arterial suture. While the endarteritis was occluding the vessel, collateral circulation was being established, and the danger of death of the part obviated. The following were his conclusions—(1) The death of the endothelial cells following injury to arteries and the addition of cell death incident to the trauma inflicted from operative measures for the repair of the injury probably furnished the necessary nucleoalbumin needed for the production of the chemical process of coagulation of the blood. (2) That in the resection of arteries and in their suture in continuity, the suture should not penetrate the intima, as the additional death of endothelial cells incident to passing the suture and surrounding it from pressure necrosis might contribute to the coagulation of blood. (3) That the most rigid aseptic technique should be followed in surgical work upon the arteries.

Surgical Treatment of Pulmonary Abscess.—Dr. VAN BUREN KNOTT of Sioux City, Iowa, stated that in two cases which he had seen, although the patients presented all symptoms common to pulmonary abscess, and the physician in attendance, as well as himself, were satisfied of its existence, they were only able to locate it in one case at the autopsy, and in the other suffered the indignity of having the diagnosis confirmed and failure to locate the abscess accentuated by its rupture into the pleural cavity, with empyema as the penalty. While in many quarters attempts to locate the abscess by aspiration had been denounced as unsafe, and injudicious, his limited experience had taught him the inadvisability of attempting to open an abscess of the lung without the aspirator as a guide. The physical signs common to this condition in many cases were alone not sufficient to render its exact localization possible, and while one might be satisfied in a given case that the lung contained an abscess, and from the usual methods of examination had decided as to its location, this point should be corroborated by the aspirator before proceeding with the operation. Two cases of pulmonary abscess were reported. As to the treatment of these cases by other than surgical methods, the author said it promised little, and as the complications of gangrene, empyema, and bronchiectasis so seriously increased the mortality, even in the hands of the best operators, it would appear that a plea made for early operative relief of patients suffering with pulmonary abscess was not inconsistent with the facts.

The Anatomy and Physiology of the Peritoneum and Their Relation to the Treatment of Peritonitis.—Dr. ARTHUR E. HERTZLER of Kansas City, Mo., said the stomata were declared to be artefacts, for the reason that they occurred only when the peritoneum was treated with a silver nitrate solution. They did not appear when dilute solutions were injected into the peritoneal cavity of the living animal. Other reasons had been given in a previous paper. Attention was called to the fact that the universal reference to the deposit produced when a serous membrane was treated with silver as an albuminate of silver was an error. No such substance existed. What was formed was in all probability a silver chloride produced by the action of the chloride in the fluid with the silver. In the silver solution, producing the stable silver chloride. The peritoneum was covered by a layer of fat cells resting on a layer of elastic tissue. Below this were the blood and lymph vessels. Both systems always formed complete channels and the lymph vessels never formed a connection with the peritoneal cavity. In the process of absorption from the peritoneal cavity the fluid must pass between the endothelial cells lining the peritoneal cavity, through the elastic layer, and between the cells lining the blood-vessels. Whether the cells of each of these layers were united with the intercellular bridges could not be stated. The absorption of .7 per cent. NaCl. solution took place more rapidly than any other solution. Salt solutions of more than one per cent. were absorbed more slowly. Certain solutions caused a transudation instead of being absorbed. Chief among these was formalin. It was effective in a dilution of 1-10,000. Absorption was likewise lessened by the production of an artificial hydræmia. Saline solution might be used either by hypodermoclysis or per rectum, the former being the more rapid and certain. Applying these researches to the treatment of peritonitis, the fallacy of salt irrigations was insisted upon. By using this fluid the toxins were hurried into the circulation more rapidly. The logical treatment was to employ those means which retarded absorption. The production of an artificial hydræmia might be accomplished by the injection of the salt solution either under the skin or per rectum. Formalin in the strength indicated was safe, as had been previously determined by intravenous injections.

Cholecystitis, with Special Reference to Etiology and Diagnosis.—Dr. T. E. POTTER of St. Joseph, Mo., after reviewing the subject, said that the most probable cause of infection of the gall-bladder was not through the intestinal walls, nor through the hepatic tissue, nor from the duodenum through the hepatic ducts, but through the blood of the portal system; and from this source we not only had the catarrhal and parenchymatous inflammations, with occasional empyema, but sometimes malignancy caused by the presence of stones. Among the most prominent symptoms he mentioned tenderness immediately under the ninth intercostal cartilage, saying that this symptom was as valuable as tenderness in the region of McBurney's point in cases of appendicitis. This tenderness might extend down for two or three inches. To elicit it, one should press the fingers up under the ribs and require the patient to take a deep respiration. The patient would complain of pain, and if the fingers were held firmly, the act of inspiration was in-

stantly stopped as though there had been a sudden attack of pleurisy.

Treatment of Posterior Perforations of the Fixed Portions of the Duodenum.—Dr. J. E. Summers, Jr., of Omaha, Neb., read a paper on this subject. Retroperitoneal perforations of the duodenum were of such infrequent occurrence that little attention had been directed toward their treatment. After a careful study, he had been unable to find anything written upon the subject that was at all satisfactory. After referring to the surgical work of Kocher, Villard, Jaboulay, Henle, Jeannel, and Mikulicz, the author reported a case of gunshot wound involving the anterior wall of the upper vertical portion of the duodenum and the posterior wall of the duodenum nearer the lower angle. A young man, in attempting to escape from a policeman, was shot in the back by a 38 calibre Colt's revolver, the ball entering one inch below the twelfth rib and through the outer edge of the erector spinæ muscles, coming out in front one and one-half inches below the juncture of the ninth right costal cartilage, with the right rectus muscle. One hour after the shooting the patient was etherized; the abdomen was opened by a vertical incision through the wound of exit. It was observed that the bullet had in its course from behind forward perforated the duodenum and gall-bladder. The wound in the anterior duodenal wall was sutured, likewise both holes in the gall-bladder. Because of the bad condition of the patient, it was decided not to attempt to expose the posterior duodenal wall from in front, but rather to rely temporarily upon an incision from behind, and the introduction of the gauze pack. In the carrying out of this latter procedure the writer discovered that the bullet had made a groove through the lower pole of the right kidney, another reason for the posterior incision. A liberal gauze pack drain was introduced down to the repaired duodenal wound of exit, and the wounds of the gall-bladder, and the abdomen closed so as to admit of the drainage. The patient died three days later, the post-mortem illustrating the cause of death to be a retroperitoneal phlegmonous inflammation without peritonitis. Had the man's condition permitted, the author would have sutured the wound in the posterior duodenal wall after freeing and rotating the duodenum to the left. In the light of to-day one should, in a like case, in addition to repairing the duodenal wound or wounds, occlude the pylorus by means of a purse-string stitch. Either at this same operation or as soon thereafter as reaction permitted, a gastroenterostomy should be made. None of the procedures which he had indicated required much time for handling of the intraabdominal contents. They were the only rational methods of treating a perforation of the posterior wall of the duodenum. It was almost impossible for a gunshot wound of either the stomach or duodenum, which perforated both walls, to be limited to those organs. Therefore, under such circumstances, in addition to the repair of any intraperitoneal organs involved, proper incisions must be made to provide for retroperitoneal drainage.

Election of Officers.—The following officers were elected: *President*, Dr. Charles H. Mayo, Rochester, Minn.; *First Vice-President*, Dr. H. D. Niles, Salt Lake City, Utah; *Second Vice-President*, Dr. L. L. McArthur, Chicago; *Secretary-Treasurer*, Dr. B. B. Davis, Omaha, Neb.

Milwaukee, Wis., was selected as the place for holding the next annual meeting; time December 27 and 28, 1904.

Scarlatina.—Tobeitz, to prevent or cure nephritis, injects 1 c.c. of oil of turpentine into the outer aspect of the thigh and two days later give 25 drops by the mouth in capsule or emulsion. In severe cases he repeats the operation on opposite thighs on successive days.—*Medical Times and Hospital Gazette.*

New Instruments.

A MODIFIED ALLIS INHALER.*

By A. F. ERDMANN, A.B., M.D.,
BROOKLYN, N. Y.

THIS modification is an attempt to make still more serviceable an instrument whose value is most highly appreciated by American anæsthetists. One wishes another inhaler were at hand only when it becomes necessary to turn the head of the patient from the vertical to a more or entirely horizontal plane, for it is decidedly inconvenient to drop ether upon an Allis inhaler when the head is turned far to one side. The Sim's was Skene's favorite position for most vaginal operations, and when I began my anæsthetic service with him I soon wanted either to put aside my Allis, or else modify it to fit my needs. It was in 1898 that I hit upon the idea since then so excellently introduced in the Fowler inhaler, of making the inhaler to open on the side instead of at the top. As I have shown in an old model, this can easily be done by simply cutting out of the rubber cover a half-inch strip across its middle third about three and a half to four and a half inches from the lower edge, and shutting off the air supply from above by merely stuffing in a towel or laying over the metal frame a tight-fitting piece of rubber or sheet metal.

The inhaler can now be used in either way. A towel or bandage pinned around will close the lateral opening, leaving a plain Allis; the side slit can be quickly exposed and the top opening covered to adapt the inhaler for side positions. To be sure this new procedure greatly diminishes the open-air

The Modified Allis Inhaler.—A, B, metal frame. C, side plate pushed back to open fenestra; dotted outline shows it full size and shape closing the opening. D, top plate, with open knob, to fit snugly over metal frame.

space, but not so much as to be of practical interference. Besides, more air, as much as is desired, can be admitted by tilting the upper plate or laying the towel in loosely. When the inhaler is entirely closed it is adapted for the exhibition of ethyl chloride by the German method, and for the use of the bromide of ethyl according to Fowler's directions.

*Presented before the semi-annual meeting of the Medical Society of the State of New York, held in New York October, 1903.

My experience during the past five years has confirmed my opinion as to the utility of this modification, and I now pass the suggestion on that it may be used for what it is worth. Tieman makes the instrument with a reinforced fenestrum, and furnishes two plates with handles. The knob on the side plate is purposely placed eccentrically that the slit may readily be wholly or only partly opened or closed.

The advantages are:

1. The inhaler can now be used in either the vertical or a side position of the head.

2. The inhaler can quickly be converted into either an open or a closed form.

3. The inhaler is adapted equally well for the exhibition of ether, the solutions on the Schleich principle, and for the more fugacious agents.

Since the foregoing was written it has seemed feasible to modify the inhaler further so as to permit the use of both oxygen and nitrous oxide gas. For the former it was necessary only to make the knob on the upper plate patulous: the tube from an oxygen tank can easily be slipped over the knob at any time in the course of the administration and as much oxygen be given as is desired. But this simple method is not sufficiently efficient for the economical use of nitrous oxide. However, the writer hopes to be able shortly to perfect this feature also, and to present an inhaler which, by slight manipulations, is adapted for all anæsthetic agents.

408 NINTH STREET.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending January 16, 1904:

	Cases.	Deaths.
Measles	878	21
Diphtheria and croup	425	59
Scarlet fever	365	21
Smallpox	...	...
Varicella	181	...
Tuberculosis	348	186
Typhoid fever	29	8
Cerebrospinal meningitis	...	7

The Actions of Certain Agents upon the Animal Heat Mechanism, with Especial Reference to Morphine.—Edward T. Reichert concludes from the results of his researches: (1) That morphine exerts coincidently thermodepressor and thermoaugmentor actions, the former being by far the more important; and that the thermodepressor effects may be preceded or interrupted by thermoaugmentor effects. (2) That the thermodepressor action is exerted, practically, solely upon the caudate thermoaugmentor center. (3) That the thermoaugmentor action is exerted chiefly upon the pontobulbar thermoaugmentor center, and to a very limited extent upon the skeletal muscles. (4) That morphine and cocaine are direct antagonists in their actions upon the caudate center.—*University of Pennsylvania Medical Bulletin.*

The Rôle of the Abdominal Muscles in Relation to Hernia.—J. W. Dowden says that, apart from the all-important state of asepsis, there are two factors which greatly conduce to the successful issue of an operation as far as hernia is concerned, and these are the presence of strong abdominal walls, and the freedom of these walls from fat. The advantage gained by the presence of well-developed abdominal muscles is two-fold—first, there are strong, healthy structures to bring into apposition, and second, any orifices that may exist in them are reduced in size by the contraction of these muscles. A lax abdomen should be strengthened for a month or more before operation is undertaken, or if any emergency arise, and an operation has to be performed, exercises ought to be initiated a week to ten days after the event. The abdomen must be "pulled in" as flat as possible, and this tonic contraction maintained as long as possible. In addition to this, which is the best and the only suitable form for immediate post-operative treatment, other exercises may be employed, such as stooping and bending with stiff knees, lying on the floor with the feet fixed against something solid, and slowly raising the body to the sitting posture and slowly resuming the horizontal. It is astonishing how much can be done in reducing the abdominal girth, especially by the operation of pulling in the abdomen.—*The Scottish Medical and Surgical Journal.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended January 16, 1904:

SMALLPOX—UNITED STATES.

		CASES.	DEATHS.
California, Fresno	Dec. 1–31	2	..
Illinois, Belleville	Dec. 19–Jan. 9	12	1
Chicago	Jan. 2–9	1	..
Danville	Jan. 2–9	2	..
Indiana, Evansville	Jan. 6	14	..
Louisiana, New Orleans	Jan. 2–9	3	..
Maine, Milford	Jan. 7	2	..
Orono	Jan. 7	1	..
Michigan, Grand Rapids	Jan. 2–9	1	..
Missouri, Saint Louis	Dec. 26–Jan. 9	6	..
New Hampshire, Manchester	Jan. 2–9	6	..
Nashua	Jan. 2–9	1	..
New Jersey, Camden	Jan. 2–9	2	1
Trenton	Jan. 2–9	1	..
New York, Buffalo	Dec. 26–Jan. 9	5	..
Ohio, Ashtabula	Dec. 28–Jan. 4	1	..
Cincinnati	Dec. 24–Jan. 8	6	1
Cleveland	Jan. 1–8	2	..
Dayton	Jan. 2–9	1	..
Youngstown	Dec. 26–Jan. 9	37	..
Pennsylvania, Braddock	Jan. 2–9	6	..
Philadelphia	Jan. 2–9	83	25
Pittsburg	Jan. 2–9	20	4
Reading	Jan. 4–11	1	..
South Carolina, Charleston	Jan. 2–9	2	..
Tennessee, Nashville	Jan. 2–9	1	..
Texas, San Antonio	Dec. 1–31	6	..
Utah, Salt Lake City	Jan. 2–9	1	..
Wisconsin, Milwaukee	Jan. 2–9	10	..

SMALLPOX—INSULAR.

Philippine Islands, Manila	Nov. 14–Dec. 5	2	1

SMALLPOX—FOREIGN.

Austria-Hungary, Prague	Dec. 12–19	16	..
Trieste	Dec. 5–12	21	..
Brazil, Pernambuco	Nov. 1–31	..	20
British Guiana, Demerara	Oct. 31–Nov. 28	62	..
Chile, Antofogasta	Nov. 1–30	..	8
France, Paris	Dec. 12–26	31	3
Great Britain, Edinburgh	Dec. 12–19	1	..
Glasgow	Dec. 19–26	64	2
Leeds	Dec. 26–Jan. 2	1	..
London	Dec. 19–26	7	..
Manchester	Dec. 19–26	2	..
New Castle-on-Tyne	Dec. 19–26	1	..
Nottingham	Dec. 12–26	11	..
Southampton	Dec. 26–Jan. 2	1	..
India, Bombay	Dec. 8–15	..	4
Italy, Catania	Dec. 17–24	..	1
Messina	Dec. 11–18	..	1
Malta	Dec. 5–19	8	..
Netherlands, Amsterdam	Dec. 19–Jan. 2	6	1
Russia, Moscow	Dec. 12–19	1	1
Odessa	Dec. 12–26	3	..
St. Petersburg	Dec. 5–19	101	2
Warsaw	Nov. 21–28	..	3
Spain, Santander	Dec. 28–Jan. 4	3	1
Turkey, Smyrna	Dec. 13–20	..	6
Venezuela, Maracaibo	Oct. 24–31	1	1

YELLOW FEVER—FOREIGN.

Mexico, Merida	Dec. 20, '03–Jan. 2, '04	4	2

PLAGUE—INSULAR.

Philippine Islands, Manila	Nov. 14–Dec. 5	1	1

PLAGUE—FOREIGN.

China, Hongkong	Nov. 29–Dec. 5	..	1
Egypt, Alexandria	Dec. 5–12	3	2
India, Bombay	Dec. 8–15	..	56
Calcutta	Dec. 5–12	..	13
Karachi	Dec. 6–13	8	7
Mauritius	Oct. 9–Nov. 5	37	211
South Africa, Cape Colony	Nov. 14–21	..	1

CHOLERA—INSULAR.

Philippine Islands, Manila	Nov. 14–Dec. 5	1	11
Provinces	Nov. 14–Dec. 5	643	567

CHOLERA—FOREIGN.

Afghanistan, Herat	Dec. 21	Present	
India, Bombay	Dec. 8–15	..	1
Calcutta	Dec. 5–12	..	38
Japan, Nagasaki	Nov. 30	130	64
Java, Batavia	Nov. 28–Dec. 5	14	2
Straits Settlements, Singapore	Nov. 14–21	..	4
Turkey in Asia	Dec. 7	37	30

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Original Articles.

THE MOVEMENT OF PLAGUE IN THE PHILIPPINE ISLANDS.

By E. L. MUNSON, M.D.,

CAPTAIN AND ASSISTANT SURGEON U. S. ARMY, ACTING COMMISSIONER OF PUBLIC HEALTH FOR THE PHILIPPINE ISLANDS.

SINCE the appearance of the first recognized case of bubonic plague in Manila, from January 1, 1900, to September 1, 1903, there have occurred 970 cases of this disease with 812 deaths, giving a total case mortality of 83.8 per cent. for the outbreaks occurring in the four successive years. Of the above totals, 198 cases with 166 deaths have occurred during the twelve months prior to September 1, 1903, giving a general case mortality for this period also of 83.8 per cent. This case mortality is less than that in Hongkong, in which the rate during the past year has been 87.6 per cent.

The city of Manila appears at the present time to be the only place in the Islands in which plague has gained a permanent foothold. It is true that a few cases have developed outside of Manila, but, so far as known, with but one exception, all the persons so affected had lately been in that city, and had presumably acquired their infection there. There seems to have been no spread of the disease from these persons to those with whom they came into contact. During the four years, thirty-four cases of plague, with twenty-seven deaths—and in the past year, three cases with three deaths—have occurred in transients while on a visit to Manila, nearly all of these persons being from small towns in the vicinity.

Why the disease has not been widely transported from Manila to various other points in the Islands by plague rats is probably due to the fact that cascos, bancas, and lorchas afford no secure retreats in which rats can hide, and the small inter-island steamers tying in the river here are nearly always required to take on and discharge cargo at other ports by means of open lighters, while lying well off shore. It is difficult for rats to spread the disease from Manila by land, as the opportunity for their transportation by rail or vehicle is practically nil, and the numerous canals in and around the city, together with the fact that the latter is practically surrounded by low lands and rice fields which are flooded during a large part of the year, offer few opportunities for the natural migration of rodents. For these reasons, if the inter-island boats are occasionally fumigated to kill the rats thereon, it would seem as if there should be little likelihood of other parts of the islands becoming infected; while if the steamers from China and plague-infected ports are watched, kept out in the bay, unless fumigated and their Chinese passengers subjected to preventive inoculation, there should be little opportunity for new infections to be introduced into the city from the Asian mainland, as has been undoubtedly the case from time to time in the past. If then there remains but one main focus of infection in the islands which can be kept from receiving new injections from outside it should be possible to ultimately exterminate the plague infection by comprehensive sanitary measures, the expenditure of sufficient funds, and the exercise of much discretion and patience. This extermination, however, is not to be regarded as a simple matter. Plague infection is extremely insidious, and sporadic cases develop every now and then, in communities from which it had been thought that the disease had been exterminated. This tendency on the part of plague has frequently led to premature belief that its infection had been eradicted, as was the case in 1902, in Manila, Yokohama, Honolulu, and in various cities of Australia, where, as a matter of fact, the infection had simply been so reduced and controlled that its active existence had been converted into a condition of latency. For this reason, it is important to remember that while proper measures may exert a prompt effect upon the prevalence of the disease, it will not do to relax the precautions needful merely because the disease is greatly diminished as to the number of cases—or even if a case has not developed for six months. A proper time test of the eradication of the existing plague infection from the city of Manila should be regarded as twelve consecutive months, during which period not a case of the disease has occurred among human beings nor a plague-infected rat found.

The cases of plague occurring in Manila from January 1, 1900, to September 1, 1903, have been distributed through the city by districts as follows:

CITY DISTRICT.	TOTAL POPULATION OF DISTRICT CENSUS OF 1903.	CHINESE POPULATION OF DISTRICT CENSUS OF 1903.	PLAGUE CASES IN DISTRICT.	PLAGUE CASES PER 1,000 POPULATION.
San Nicolas	29,059	7,225	312	10.73
Binondo	16,613	6,386	239	13.79
Tondo	37,889	934	140	3.69
Santa Cruz	35,040	3,690	88	2.51
Intramuros	11,463	559	74	6.45
Quiapo	11,149	290	47	4.22
San Miguel	8,838	693	10	1.13
Sampaloc	18,779	347	11	0.59
Malate	8,858	122	4	0.45
Paco	6,725	151	5	0.74
Ermita	12,226	631	3	0.25
Pandacan	2,990	48	3	1.0
Santa Ana	3,255	27	0	.0

From the above figures it is evident that plague has been very closely restricted to certain quarters of the ciy, and chiefly to those quarters in which the Chinese population is relatively large. The districts which have been especially infected are also those in which the poorer and less intelligent classes live and where there is the greatest degree of overcrowding, both of buildings with respect to each other and of persons within them. The disease has especially prevailed along the waterfront, and in the congested mercantile districts, where it evidently secured its first foothold. The buildings in these districts are largely of old Spanish construction, poorly ventilated, insufficiently lighted and generally insanitary. They afford innumerable retreats and runs for rats, from which these cannot be readily dislodged, and when once infected with plague their disinfection becomes a matter of very great difficulty.

As a rule, it is in the most insanitary buildings that the plague cases occur.

During the twelve months prior to September 1, 1903, the cases of plague were distributed throughout the city, by districts as follows:

CITY DISTRICT.	NUMBER OF CASES.
San Nicolas	50
Binondo	42
Tondo	28
Santa Cruz	32
Quiapo	22
Intramuros	8
San Miguel	5
Ermita	3
Sampaloc	3
Malate	1
Pandacan	1

This distribution varies, on the whole, but little from the general distribution of the disease for the entire period of its existence, as shown in the previous table. The plague situation in the Walled City has been much improved, while that for Quiapo district has lately become somewhat less satisfactory. Conditions in the remaining districts have remained practically unchanged. It is possible that all the districts in the city are infected, but, if so, this is certainly the case with regard to portions of the city to only a relatively slight degree. Obviously the plague infection has been practically unable to spread among human beings in certain districts, and it seems, indeed, to maintain its very existence with much difficulty in certain parts of the city. With abundant opportunity at hand for transmission of the infection by human beings and migrating plague rats, there is nothing to have prevented these districts from becoming plague centers, except local conditions and the character, class, and mode of life of the inhabitants. Reasoning from the past, the probability of their becoming seriously infected in the future seems therefore not to be great. Certain parts of Manila may thus practically be disregarded in the application of special preventive measures against plague, with the expectation that if the plague infection can be exterminated by vigorous efforts in such districts as San Nicolas and Binondo it will simultaneously cease to exist in Ermita, Malate, San Miguel, and other sections of the town, as a result of these latter districts no longer being able to acquire new sporadic infections from time to time from the quarters of the city in which the disease has endemically prevailed. The sanitary work against plague, now being carried on, and projected for the future, is based on the fact that plague in Manila seems to be a disease of restricted locality, from which it is apparently able to extend and perpetuate itself only with considerable difficulty. It would appear the part of wisdom, therefore, to concentrate every energy upon the extermination of plague infection from those districts in which the disease has unquestionably secured a permanent foothold.

Using the census figures for 1903 as a basis of estimation, it is seen that from January 1, 1900, to September 1, 1903, the various classes of the population, not including American soldiers, have furnished plague cases in the following proportion by race:

RACE.	NUMBER OF PERSONS, CENSUS OF 1903.	NUMBER OF PLAGUE CASES.	NUMBER OF PLAGUE CASES PER 1,000 POPULATION.
Americans	4,389	6	1.3
Europeans	3,645	6	1.6
Chinese	21,230	578	27.2
Filipinos	189,782	379	2.0
All others	895	1	1.1
Total	219,041	970	4.4

These figures show the disproportionately great susceptibility of the Chinese population to the disease; it occurring relatively about twelve times more frequently among Chinese than among Filipinos and about twenty times more frequently than among Americans. As far as Manila is concerned, plague may, therefore, almost be regarded as a Chinese disease. Similar figures are found in every plague-infected town in which a white and Chinese population co-exist. In San Francisco it is understood that ninety-two consecutive cases of plague occurred among Chinese, with not a single case among whites. In Hongkong, the Chinese population has suffered in respect to the disease to a disproportionately great extent. It is rational to conclude, therefore, that in Manila any special efforts against the disease must be made to apply first of all to the Chinese.

The case mortality of plague for the total period, January 1, 1900, to September, 1 1903, was influenced by race as follows:

RACE.	NUMBER OF CASES.	NUMBER OF DEATHS.	CASE MORTALITY, PER CENT.
Americans	6	4	66.6
Europeans	6	6	100.00
Chinese	578	513	88.7
Filipinos	379	288	75.9
Others	1	1	100.00

These figures show that not only are the Chinese very much more liable to contract plague than are the Americans or Philipinos, but if they do contract it they are far more liable to die from the disease. This experience in Manila is borne out in the epidemics elsewhere, where the relatively slight vital resistance of the Chinese against plague has always been apparent. Thus in Hongkong, during the present year, of 1279 Chinese attacked 1183 died, or 92.4 per cent.; of 84 other Asiatics, 39, or 46.3 per cent., died; while of 36 Europeans but 4, or 11.1 per cent., succumbed. The difference in racial susceptibility to plague and in vital resistance to the disease when once developed, as shown by the above figures, is very striking.

The classification of the plague cases by age cannot be carried out except for the twelve months past, as prior to September 1, 1902, no record was kept of the ages of the persons attacked. For the period September 1, 1902, to September 1, 1903, the number of cases occurring in the various periods of life was as follows:

AGE BY YEARS.	NUMBER OF CASES.	NUMBER OF DEATHS.	CASE MORTALITY.
Less than 1 year	0	0	0
1–5	1	1	100.0
6–10	6	4	66.6
11–15	13	10	76.9
16–20	32	22	68.7
21–25	24	18	75.0
26–30	37	34	91.8
31–35	18	16	86.6
36–40	24	20	83.3
41–45	17	16	94.1
46–50	8	7	87.5
51–55	7	7	100.0
56–60	6	6	100.0
61–65	3	3	100.0
65 and over	1	1	100.0
Unknown	1	1	100.0

So far as the above statistics go to show, plague would seem to be a disease of early and middle adult life. These figures can scarcely be accepted, however, as representing the true facts in the case, as the disease so especially affects the Chinese portion of the Manila population, which largely consists of able-bodied men of the working age, and includes but few Chinese children and old persons, as the latter usually prefer to return to China to spend their last years of life, and relatively few births occur among the persons of this nationality.

Proper understanding of the relation of age to the occurrence of the disease should, therefore, be limited, in the case of Manila, to figures based upon the Filipinos class, the data in respect to which are not as yet sufficiently comprehensive to warrant the basing of any conclusions thereon. From the above figures it would appear that the chances of recovery from plague are best in early adult life.

Plague is a disease which, in Manila, is almost exactly six times as liable to occur in males as in females. Thus out of a total of 970 cases, 829 occurred in males and 141 in females, while for the past twelve months there have been 160 cases in males and 38 in females. This is to be explained by the fact that the disease is largely confined to the Chinese population, which is almost wholly composed of adult males; there being, according to recent estimates, but some three hundred Chinese women in the city. On the other hand, relatively more cases occur among women than men among the Filipinos, which is explainable by the fact that the coolies of the lower class Chinese largely intermarry with Filipino women, who are thus brought into relation with a class peculiarly susceptible to the disease, and are placed under conditions as to habitations and surroundings whereby they become much more exposed to the danger of contracting the plague infection than are their sisters living under more sanitary surroundings. Another factor operating for the occurrence of a greater number of cases in men than women is that the lower class Chinese men usually go barefooted, so that plague infection through accidental lesions of the skin is much more liable to occur than among women, even the poorest of whom ordinarily wears some protection for the feet in the form of the loose slipper of the country.

During the entire period of the existence of plague, of the total number of 970 cases occurring 577 were alive and 393 were dead when found. For the twelve months period, September 1, 1902, to September 1, 1903, out of 198 cases, 107 were alive when reported and 91 were dead. This condition depended upon several factors. The most important of these is due to the common failure on the part of persons of the less educated classes in Manila to call in medical attendance in case of sickness of any character. This is due to ignorance and fatalistic ideas, to dislike of modern medical methods and drugs on the part of both Chinese and Filipinos, and because until recently there was no educated physician in the city who could speak to the Chinese in their own tongue and thus secure their confidence. In probably not a few cases, especially among the Chinese, the nature of the disease was not recognized before death. Where it was understood, its existence during life was wilfully concealed in many instances for the purpose of avoiding the annoyances and interference with business incident to disinfection and quarantine—but such concealment could not be continued after death, since burial could not be had without a permit. Finally, plague is often acute in type, particularly the pneumonic form, and the stricken persons may succumb very rapidly to its influence. The fact that such a large proportion of the cases developing were not found during life has materially hampered the sanitary authorities in the work of stamping out local infections at as early a stage as possible. Lack of coöperation and passive opposition of this sort is a serious obstacle to the attainment of good sanitary results, but obstruction of this sort is naturally so difficult of legal proof as to render it practically impossible to secure the conviction of the offenders before the courts.

The only case of plague infection known to have occurred in those looking after plague cases, developed in a Filipino morgue attendant at San Lazaro Hospital during August, 1903. This man had slightly burned himself with carbolic acid on the outside of his wrist, leaving a raw surface at the time the infection presumably took place. On August 17 it was part of his duty to sew up several bodies dead of plague, upon which autopsies had been performed, and it is easy to understand how during this task a sore located on the outer aspect of the wrist might readily have been bathed in plague secretions and thus become infected. The attendant was warned to protect his sore, but it would appear that he did not do so. On August 19 he developed a high temperature, followed by characteristic symptoms of plague, from which disease he died on August 24. An interesting feature of plague in the Philippines would seem to be the apparent disinclination of the disease to spread directly from sick to healthy persons. Infection seems rarely to have occurred in this way, but to have generally proceeded from some outside source, from which, however, several individuals might have become infected at about the same time. Of 374 plague contacts quarantined at the Detention Camp between January 1 and May 19, 1903, but nine developed plague, and of those but three developed the disease after the fourth day of isolation. With such a small percentage of contacts showing the disease it was thought that their quarantine might safely be abandoned, and this conclusion was also reached elsewhere during the outbreaks in Australia and in Honolulu. So far, there has been no apparent reason to regret having taken such action in Manila.

Plague contacts were at the outset scrupulously quarantined at the Detention Camp for a period of nine days. During the absence in quarantine of the proprietor, his residence or store was necessarily closed, or if opened for disinfection and repairs this was frequently done under circumstances permitting of theft by the dishonest. Any business affected was closed. As a result there was much complaint by the Chinese and a tendency to evade the sanitary regulations relative to plague in order to avoid the great discomfort and financial loss attaching to the finding of a case of this disease. The Board of Health therefore adopted and put into operation the following procedure:

As soon as a plague case has been located a special police is at once placed over the house and no one allowed to pass in or out. All contacts are removed to San Lazaro Hospital, where they are inoculated with antiplague serum, bathed, and their persons and clothing disinfected, after which they are released. In the meantime the patient has been removed to the plague hospital and the house has been gone over thoroughly by the ratcatchers of the sanitary district, and every effort made to exterminate these rodents. After the ratcatchers have finished, the house and its contents are disinfected and the contacts are allowed to return. Sanitary orders are then served for the repairs to be made on the house, which include making it rat-proof in addition to a general sanitary overhauling. Where houses are in too bad a condition to justify repairs, they are closed, condemned, and destroyed. If contacts are allowed to return to the house they may at once resume their business or calling, but are kept under special sanitary oversight during the period of the incubation of plague. By the above plan, the interests of the contacts are interfered with as little as possible and there is little opposition to the antiplague measures taken.

During the past year there were twenty-three

houses infected with plague, which were declared nuisances by the Board of Health and were destroyed by fire after appraisal as to value. These houses were nearly all old and of little value, and were usually insanitary and in such locations that their destruction for any reason would have been a public benefit. This work of destruction was brought to an abrupt conclusion by the Trozo fire, which rendered so many people homeless that it was thought inadvisable to burn down shelters which, with the onset of the rains, would be urgently needed for the population of an already crowded city. During the past few months, therefore, reliance has been had upon the most careful efforts for the disinfection and repair of such buildings, which were again thrown open for temporary occupancy.

It is proposed now to prepare a list of all houses in the city in which plague cases have occurred, or plague rats have been found, during the past four years. These houses are then to be carefully inspected, and any repairs necessary to place them in the best sanitary condition will be ordered, and completion of the work required before the end of the present calendar year, when a cyclic increase of plague under the more favorable meteorological conditions of the dry season might otherwise be expected to occur.

Much has been done in the prevention of plague through the destruction of rats, as there is no question but that these rodents are potent agents in its spread. In fact, so susceptible are they to the disease that perhaps plague should be regarded, like glanders, as primarily a disease of the lower animals, but capable also, under proper circumstances, of transmission to man. During the year 1902, with the great diminution of plague cases and with the energies of the health department concentrated against cholera, the catching of rats, carried on so successfully during the previous year, was discontinued. In February of the present year the recudescence of plague necessitated the organization of a corps of ratcatchers, of whom six were assigned to each sanitary station. In April additional ratcatchers were authorized for the specially infected districts, and a public bounty was offered for rats delivered at any sanitary station. As a result, there have been 75,639 rats destroyed by the health department in the space of six months. The greater number of these rats were captured in the districts worst infected with plague. In addition to the ordinary destruction of rats by householders, some 500 traps were loaned to the Chinese Chamber of Commerce, for use by the Chinese. The sanitary department was, and still is, unable to secure for its purposes a sufficient number of traps, 3,000 of which were ordered some months ago. Of the 2,500 traps on hand, too large a proportion are of the large wire variety, which, experience has shown, rats are relatively disinclined to enter.

In addition to the use of traps, poisoning has been freely practised, but without apparently obtaining results to compensate for the labor involved. Various sorts of poison and all kinds of baits and combinations have been tried, but without satisfactory results. While elsewhere the use of poison has been very successful in rat destruction, here the number so destroyed has been disappointingly small. Relatively few poisoned baits seem to be disturbed and only a small number of rats so killed are found.

A very successful means of destruction is by the ratcatchers exploring likely-looking retreats with their hands or sticks, or in the rainy season by pouring water into their underground burrows. Many of the ratcatchers catch the escaping rats with their bare hands, without regard for the bites which are sure to be received. An effort has been made to secure ferrets for this work, but so far without success. At one or two stations portable furnaces for driving rats out of their burrows by sulphur fumes have been tried. Out of a total of 75,639 rats captured, 35,191 were caught in traps, 36,956 by ratcatchers with their hands and sticks, 3,072 by poison, and 420 were purchased.

As illustrating the effectiveness of the work of the ratcatchers, it may be mentioned that plague was discovered in a rat caught in a large building on Calle Santa Elena on February 9. The ratcatchers of the district were at once sent there and caught seventy rats in one day, and about two hundred were taken from the building and its immediate surroundings during the month.

Rats captured are tagged with the street and number of the house in which caught, and where not decomposed are sent to the laboratory for examination. It is of course impossible, with a limited number of observers and the pressure of other work, that the total number of rats caught should be examined post mortem, and the changes incident to the recent moving of the biological laboratory has also interrupted the work. Out of the total number of rats examined up to September 1, 1.69 per cent. were found to have plague. The relative proportion of affected rats decreased as the disease subsided among human beings, 2.47 per cent. being so affected in the month of February and none during the month of June and subsequently.

The proportion of affected rats captured is not, however, a fair index of the actual prevalence of the disease among the rat population. The plague rat is a sick rat, which naturally seeks seclusion, and is not impelled through a vigorous appetite to destruction by trap or poisoned bait. Only those in the early stages of the disease are thus liable to capture by ordinary measures, and rat destruction would seem to be of value not so much through the destruction of existing infection as through the removal of susceptible, but as yet unaffected material by means of which the disease may subsequently be spread. In the present epidemic in Hongkong, certain observers claim to have found plague bacilli in a large variety of domestic animals and fowls, and the tendency there has been to regard rats as only one of many agents in the spread of the disease. As far as the epidemic goes in Manila, however, there would seem to be little evidence to corroborate this belief.

By far the most effective measure of prevention against plague has been found in Manila in prophylactic inoculation of the classes especially susceptible to the disease. This was carried out in 1901 with good results, some 25,000 inoculations being made. Its effect has, however, been particularly noticeable during the present year, when it has been possible to compare the movement of plague in the Chinese, who were largely subjected to inoculation with that in the Filipino population in which no prophylactic inoculations were performed. The occurrence of plague in these two classes has been as follows:

MONTH.	CASES IN FILIPINOS.	CASES IN CHINESE.	TOTAL CASES.
January, 1903	2	0	2
February, "	10	7	17
March, "	16	25	41
April, "	15	35	52*
May, "	10	16	26†
June, "	23	9	32
July, "	12	2	14
August, "	10	1	11
Total	98	95	198

*Two cases in Americans.
†Two cases in foreigners.

Near the end of April, inoculation of the Chinese against plague was begun by the municipal physician for the Chinese, and on May 11 the general inoculation of this class of the population was ordered and carried out at the various stations of the Board of Health. Up to the month of June, 60.4 per cent. of all the plague cases occurring in the city of Manila were furnished by 21,230 Chinese, while 189,782 Filipinos, a population about nine times greater, furnished but 39.6 per cent. of cases. As the number of inoculated Chinese increased, a marked diminution of plague cases among them was noted. For the month of June, the Chinese furnished but 28.1 per cent. of the total cases; for July but 14.4 per cent., and for August but 9 per cent., the Filipinos supplying all the other cases. On June 30 there had been performed 11,135 primary and 3,608 secondary prophylactic inoculations, which meant that slightly over half the Chinese population had been partially immunized, and about one-sixth completely protected against plague. As the inoculations were, however, carried out largely in the most infected districts of the city, and as the Chinese living in the most insanitary houses of these districts were largely those subjected to the operation, the very great reduction of the Chinese plague rate, as compared with the total number of this class partially immunized, can better be understood. The result of this general inoculation of Chinese were not only striking as respects their racial class, but were particularly well shown in individual instances within that class. Thus it has happened in a number of instances that the only uninoculated individual in a Chinese lodging-house has acquired the disease while his associates, living under identically the the same conditions, but who had been inoculated a week or ten days previously, have entirely escaped. Complete protection can only be assured by secondary inoculation, though apparently a primary inoculation alone is not without a certain advantage in this respect. Several instances have occurred, however, in which persons receiving only the primary inoculation have contracted the disease subsequently, but in no case has it happened that the disease has appeared in an individual who had received a secondary prophylactic inoculation. So obvious has been the success of the process to the Chinese themselves, that while at first many were disinclined to undergo the procedure, within a month the general feeling had entirely changed in its favor. Inoculation as practised here has been accompanied by absolutely no untoward results, nor has the local reaction ever been sufficiently severe to cause undue discomfort or as much inconvenience as would be due to vaccination. The weak point of the method consists in the requirement for a secondary inoculation after a lapse of ten days. The necessity for this is difficult to be understood by the coolie, and it is not as easy to secure him for the second operation as it was for the first inoculation.

Besides measures against plague taken on land, efforts have been made to prevent the transfer of the infection into or out of the city of Manila. Vessels running between Manila and Chinese and other infected ports have been frequently fumigated with sulphur by the Quarantine officials to prevent the possible introduction of plague-infected rats, while the inter-island boats have been fumigated to prevent the carrying of infected rats from Manila to other points in the Archipelago. Further, Chinese arriving at Manila have been detained until given prophylactic inoculations against plague.

The present condition in Manila with respect to plague should be relatively a cause for congratulation. While the disease certainly acquired a strong foothold in 1900 it has never been able to prevail as generally as in other cities in which it has become established, although conditions here are such as would seem to favor its spread. The degree to which it has prevailed in the city is quite insignificant as compared with the great loss of life which it has produced in China and India. The calendar year 1903 has been one of the greatest plague years known. In Manila the total number of cases has fallen under two hundred during the period of eight months, while in Hongkong there were 1,399 cases up to August 22. In India the ravages of plague so far this year have been frightful, and the official reports from Bombay state that in that city, with its total of 770,000 inhabitants, there have occurred, during the six months from January 1 to June 30, more than 19,800 deaths from this cause. Had plague prevailed in Manila to the same extent as in Bombay, there would have been more than 5,000 deaths from this disease during the first six months of the present year. Compared with that for many other cities in the tropical Orient, the experience of Manila may justly be regarded as fortunate and fairly to be attributed to the effectiveness of the preventive measures employed. If it has not been possible to stamp it out as yet, at least the disease has been held down within reasonable bounds. There is reason to hope that a continuation of the present sanitary policy will bring steady improvement and may ultimately result in the extermination of the plague infection from the islands.

REPORT OF A CASE OF BRAIN TUMOR INVOLVING THE RIGHT LATERAL VENTRICLE.*

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C. P., born in the United States; nineteen years of age; single; stenographer and typewritist by occupation; was admitted to the Manhattan Eye and Ear Hospital January 12, 1903, where she was first seen by me in consultation with Dr. Herman Jarecky. At that time she was totally blind, as the result of an intense bilateral papillitis, the elevation of the nerve-head in each eye equalling from six to seven dioptres.

The eyeballs were slightly prominent, and both pupils were dilated and rigid. The following history was obtained from the patient and her family: During childhood she had measles, but no other infectious disease. She also had occasional earache without any discharge from either ear. In girlhood she was subject to frequent attacks of headache, chiefly occipital, but not very severe. Menstruation began at her seventeenth year, was always irregular in periodicity, and from four to five days in duration. The last menstruation took place four months ago. She has never indulged in alcoholics, but has used tea excessively. She has never met with an injury of the head. Family history unimportant.

About nine months ago she began to suffer from unusually severe attacks of headache over the right frontal and occipital regions, occasionally occurring in the day-time, but generally at night, awaking her from sound sleep and lasting from two to three hours. The headache occurred with regularity every night for several months. The more severe paroxysms were accompanied by

*Read before the New York Neurological Society, December 1, 1903.

vomiting. She also experienced sudden attacks of vertigo which often caused her to stagger. These attacks have persisted. While typewriting she recently noticed a lack of dexterity of the left hand, affecting chiefly the little and ring fingers, which were used only with extreme effort. Two months ago she suddenly discovered that she was blind in the right eye, and that the vision of the left eye was slightly dimmed. One month later the left eye became similarly affected. Since then she has been totally blind.

She remained in the hospital about two months. During this time she frequently complained of severe headache, particularly in the right temporal and parietal regions, often associated with vomiting, vertigo, and mild delirium, and, later, with attacks of tonic left facial spasm. Involuntary urination also occurred from time to time. In addition to the ocular trouble for which she was admitted, there was very slight left hemiparesis, including the lower branches of the facial distribution, and astereognosis affecting the left hand without disturbance of general sensibility, but associated with diminution of muscular sense and sense of position. The left knee-jerk was more pronounced than the right, but ankle-clonus was absent. The urine was analyzed repeatedly and found normal, and the results of further physical examination proved negative. The pulse ranged from 62 to 100; average, 78. In addition to general management, the treatment consisted of thorough mercurial inunction, followed by increasing doses of iodide of potassium.

As the vision and ocular condition had not improved, she was discharged.

During her stay in the hospital, I examined her several times, and made the diagnosis of cerebral tumor involving the right hemisphere, but was undecided as to its exact location.

She then entered my neurological service at the Lebanon Hospital (March 7, 1903), and remained nearly three months. Exploratory operation was advised, but the family refused consent. She was in bed the greater part of the time, as she could neither stand nor attempt to walk without producing vertigo. Occasionally, she was allowed to recline in a chair. She frequently complained of severe general headache, more on the right side, often accompanied by vertigo and tonic-clonic spasm of the left side of the face. She vomited occasionally and was often delirious at night. At times involuntary discharge of urine and fæces occurred without loss of consciousness. Her mind was generally clear. She was very patient and hopeful, and always spoke intelligently, her greatest anxiety being in regard to the possibility of permanent blindness.

The following is the record of the physical examination made in the latter part of March: Slight prominence of both eyeballs; pupils equally dilated and rigid; no perception of light; bilateral papillitis, elevation of nerve five to six dioptres; complete obscuration of the outline of the disk in both eyes; some œdema of the retina, but no retinal hemorrhages; left facial paralysis affecting only the lower branches; no disturbance of sensibility in the trigeminal distribution; tongue protruded well without deviation; slight tenderness on pressure over both supraorbital foraminæ; no increase of pain on percussion of cranium; sense of smell normal; chronic catarrhal otitis media with slight impairment of hearing on both sides. The *left upper extremity* is slightly paretic, as manifested by some weakness in resistance to passive movements; no muscular rigidity; voluntary power preserved; general hypæsthesia of the entire extremity, the tactile, pain, and temperature senses being but slightly diminished as compared with the opposite side; complete loss of muscular sense, and the sense of position and location in the hand and fingers, and some ataxia; the "spacing sense" over the hand and wrist is abolished, two points of the æsthesiometer are not distinguished when two inches apart; *astereognosis* is absolute in the left hand; she is unable to recognize by touch any familiar object. (The stereognostic sense in the right hand is perfect.) In the *left lower extremity* there is slightly diminished resistance in the posterior thigh muscles; the knee-jerk, and Achilles reflex are moderately increased; no ankle-clonus; plantar reflex feeble and of the Babinski type; muscular sense and sense of position in the foot and toes slightly diminished; general hypæsthesia affecting all forms of sensibility; astereognosis in the foot is not demonstrable. The right upper and lower extremities are normal. Further examination, including the internal organs and the analysis of the urine, resulted negatively. The convulsive attacks varied in character and gradually increased in frequency. At first there was tonic left facial spasm only. Then, in addition, this was followed by clonic movements of the face and nystagmus, and, later, rigidity of the post-cervical muscles and retraction of the head occurred, all without loss of consciousness. In the early part of May the headache was often accompanied by delirium or more or less hebetude. On the 18th she complained of sudden vertigo, which was at once associated with tonic and clonic spasm of the left face, arm, and leg, followed by left hemiplegia and rotary nystagmus, which lasted several minutes without loss of consciousness. Four similar attacks occurred the same day, the last being accompanied by involuntary urination. On the 22d, after severe headache and vomiting, she had an attack of generalized tonic convulsion (more marked on the left side) with conjugate deviation of the head and eyes toward the right side, lasting several minutes, in which she was unconscious for the first time. Toward the end of May her condition had become much worse. There was fulness of the veins over the forehead, indicating venous stasis, and horizontal nystagmus, more in the right eye. The left external rectus muscle was paralyzed. The blindness and the condition of the eyegrounds were unchanged. In addition to the pronounced facial paralysis, which was previously limited to the lower branches of the nerve, the orbicularis palpebrarum was decidedly paretic. There was increased faradic irritability in the facial nerve and muscles. The left knee-jerk was exaggerated and accompanied by ankle-clonus. Both great toes were maintained in dorsal flexion, and the Babinski reflex was exquisitely demonstrable on both sides. The muscular power in all extremities was intact as at previous examinations. During her stay in the hospital the pulse ranged from 80 to 100; temperature 98° to 99°; respirations, 24. After consultation with Dr. Jarecky and the patient's family consent for operation was at last obtained.

On May 30, 1903, she was admitted to the Presbyterian Hospital and placed under the care of Dr. A. J. McCosh for exploratory operation.

She continued in about the same condition. On June 6, while conversing with me, she suddenly became unconscious. There was pronounced tonic spasm of the extensors of all four extremities and both sides of the face (more marked on the left side), all limbs being rigidly extended; conjugate deviation of the head and eyes toward the right side with re-

traction of the head; teeth firmly clenched and slight frothing from the mouth (the tongue was not, bitten). Both eyes closed; pupils unchanged, face pale; pulse regular. There were no clonic movements. The attack lasted about three minutes and terminated in complete muscular relaxation, slight horizontal nystagmus, and rapid and almost abrupt return to consciousness. She said, "I feel tired, sleepy, and slightly dizzy." She was unaware of the attack, but, in reply to my question, she said the left arm felt weaker than it did an hour before my visit. The rigidity quickly returned in the left arm and leg, but in a milder degree, and was still present forty minutes later, when she was lapsing into sleep.

On June 9 she was examined in consultation by Dr. M. Allen Starr, who concurred in the diagnosis, and thought there might be multiple lesions to account for the symptoms. He agreed as to the advisability of immediate exploratory operation.

Two radiographic pictures were made by Dr. Henry P. Mosely, director of the *X*-ray Department of the hospital. One exposure was made through the occipital region and the other laterally.

The attacks of general tonic convulsions, as above described, became more frequent, the headache and vomiting more severe, and she was rapidly losing ground.

The following is the report of Dr. McCosh: "Operation June 11, 1903, at ten P.M. Chloroform anæsthesia. A bony flap 3½ by 2½ inches with the hinge at its lower portion was raised from over the area on each side of the fissure of Rolando. The bone was divided by means of electrical burrs and saw. When the flap was lowered it was at once seen that the intracranial pressure was markedly increased. On opening the dura, the brain, slightly congested on its surface, bulged outward very prominently. There was an indistinct sense of fluctuation but no indications of tumor formation. A hollow needle, attached to an aspirating syringe, was inserted toward the right lateral ventricle. At the depth of 1½ inches, it withdrew about two and a half ounces of clear straw-colored fluid. (Analysis in Laboratory. "Alkaline; sp. gr., 1010; albumin, trace, less than 0.05 per cent.; nucleoalbumin, trace; chlorides, 0.3 per cent.; reduces Fehling's solution; no cellular elements.") (F. W. Hastings.)

The point of the needle was evidently in a large cavity, and as the pulse showed some signs of weakness, it was thought best not to withdraw more fluid. Through the needle there was then inserted a single strand of silkworm gut for drainage. On withdrawal of the fluid, the brain was seen to collapse within its normal boundaries. The dura was sutured after withdrawal of the needle, and the bony flap replaced and sutured.

The shock of the operation was comparatively slight. The drainage of the clear fluid from the skull was very free. It was estimated that up to the time of her death, from one to two pints escaped daily alongside, apparently, of the silkworm gut strand which was not disturbed. The intracranial tension was so great as to force the bony flap upward, where it remained, thus causing a permanent projection of the scalp in the form of a cone with an elevation of several inches.

On return to consciousness after the operation, she was found to have complete left hemiplegia with rigidity. In a few days the rigidity disappeared, leaving the arm and leg in a condition of permanent flaccid paralysis. The intracranial pressure being relieved, there was complete cessation of the severe headache, vomiting and convulsive attacks. At times there seemed to be some improvement in vision, for she claimed to see shadows, and also correctly described the style of dress worn by the nurse. Loss of rectal and vesical control persisted. She was often delirious and talked noisily, but this may have been partly due to the frequent administration of morphine. The astereognosis and other sensory symptoms were unchanged. She died July 8 from lobar pneumonia, four weeks after the operation, and seventeen months after the onset of the symptoms of brain disease.

The autopsy was made fifteen hours after death by Dr. George A. Tuttle, pathologist to the hospital, who has kindly furnished the following report: "The examination was limited to the cranium and its contents. The bone-flap was found forced outward against the scalp and there was oozing through two or three openings along the scar. On removing the calvarium, a ragged opening was made in the surface of the brain where the flap of bone was adherent. The brain tissue in the region of the operation was quite soft. Gently separating the ragged tissue, the right lateral ventricle was exposed, and a soft red mass presented beneath the parietal portion of the surface. The growth was red on its surface and very soft. Several fragments were removed for microscopical examination. The cut surface was mottled gray and pink, not so red as the outer surface. The tumor was about the size of an egg. It was extremely soft and friable, and appeared to spring from the inner wall of the ventricle. Whether it originated in the choroid plexus, I do not know. The microscopical appearance seemed to be rather against such an origin. I should class the tumor among the sarcomata, probably a glioma, though we were unable to demonstrate the glioma cells. The brain was placed in formalin solution and examined a few days later. The decomposition which had begun continued in the preserving fluid, so that most of the hemisphere, including the tumor, was very much softened. On opening the ventricle two organized blood-clots were found, and the tumor mass had become almost completely liquefied. The surface of the ventricle was smooth and the cavity considerably dilated. The origin of the growth could not be determined. There were no indications of tumor formation in the superior parietal lobule or Rolandic area. Macroscopically, all other portions of the brain and meninges appeared perfectly normal."

No further histological examination was made on account of the disorganized condition of the brain tissues. Of course, gliomatous invasion of the parietal and Rolandic cortex may have been present, although there were no macroscopical indications of such condition either at the time of the operation or at the autopsy. The tumor mass which was confined to the cavity of the right lateral ventricle suffices to explain all of the clinical manifestations of intense intracranial pressure (headache, vomiting, vertigo, delirium, papillitis, etc.). In the absence of a microscopical study of the cortex, the cause of the astereognosis and the Jacksonian type of convulsive seizures, etc., must remain undetermined, unless we assume that they were due to the upward pressure of the ventricular neoplasm. The paralysis of the sixth nerve may be ascribed to indirect pressure against the base of the skull, for had it been due to destruction of the abducens nucleus a paralytic conjugate deviation of the eyes would have been present. The puncture of the brain at the time of operation, in all probability caused hemor-

rhagic extravasation in the tumor which resulted in permanent hemiplegia.

To summarize: A girl nineteen years of age, without history of traumatism to the cranium or previous infection, is attacked with severe headache. This is soon accompanied by vomiting and vertigo, and in the course of a few months blindness is developed. All of these symptoms continue unabated with the addition of astereognosis of the left hand, slight left hemiparesis with hypæsthesia, and, later, unilateral convulsive attacks limited to the face for several months, subsequently involving the arm and leg, and ultimately becoming general, mostly in the form of tonic muscular spasm; rectal and vesical incontinence, and paralysis of the left abducens. Up to the time of operation, the voluntary power in the left upper and lower extremities was preserved, although there was some perceptible weakness on resistance to passive movements.

At the first examination there was no doubt as to the existence of a brain tumor involving the right hemisphere. The presence of complete astereognosis without interference with general sensibility, and the absence of paralysis led me to assume that the lesion was located in the right superior parietal lobule, as in the classical case reported by Dr. Charles K. Mills of Philadelphia about three years ago. But the evidence of such intense intracranial pressure as manifested by the headache, vomiting, delirium, pronounced papillitis and blindness, seemed to militate against the diagnosis of such a circumscribed lesion. The subsequent development of facial spasm, which was for a long time limited to the left side of the face, later the left arm becoming similarly involved, and ultimately the left leg, the attacks of unilateral convulsion without loss of consciousness being followed by transient hemiplegia, presented a characteristic picture of irritative disease affecting the right Rolandic area, originating in the facial center. On account of the predominantly tonic character of the spasm, the lesion was thought to be subcortical.

When I examined the *x*-ray picture, I was unwilling to interpret it as indicating the presence of a tumor involving so large an area as outlined on the plate, as the existence of such an extensive growth was entirely at variance with the clinical phenomena. In the light of the post-mortem findings, however, the tumor occupying the ventricle (being of greater density than the surrounding structures) was approximately correctly delineated on the plate. The skull was opened not only for the purpose of exploring the right superior parietal lobule and the Rolandic area, and removing any discoverable and accessible neoplasm, but also for the permanent relief of the excessive intracranial pressure. Although the tumor was not found at the time of operation, and was thought to be inaccessible, yet the continuous and abundant escape of cerebrospinal fluid, and the large opening in the skull resulted in the complete cessation of all irritative symptoms. It is worthy of note that the tumor in its further growth after the operation naturally sought the lines of the least resistance, so that at the autopsy it was found almost exposed through an opening in the cortex. Had the operation been performed several months earlier, is it not probable (in the light of post-operative developments and the post-mortem revelation) that a second surgical exploration may have exposed the exact location of the tumor and its accessibility to successful removal?

I have been unable to find an analogous case of tumor of the lateral ventricle reported in neurological literature.

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CONTRIBUTIONS TO THE OBERSTEINER-REDLICH THEORY OF TABES DORSALIS.

By G. B. HASSIN, M.D.,
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In the present article I shall mention briefly new data which may help to the understanding of the true nature of tabes dorsalis. In my recently published paper on "Pathogenesis of Locomotor Ataxia" (*Clinical Review*, July, August, and September, 1903), these data could not find place for many reasons. The chief one is that I became acquainted with the facts I am going to discuss comparatively late, when my first article was almost ready for printing; and secondly, these new data are so important for Obersteiner's teaching, that I preferred not to increase the volume of my paper and to devote to them a separate article.

I discussed, in my first paper, the most important theories of pathogenesis of tabes dorsalis and had to come to the conclusion that the most satisfactory tabes theory is that of Obersteiner-Redlich, namely, that from the spinal roots some pathological process extends to the pia mater (chronic inflammation, tumor, etc.), compressing the posterior roots and thus producing their degeneration with the subsequent atrophy of the posterior columns. I referred to the facts in favor of this theory, and will not repeat them, but will point out that lately, especially in France, there has arisen a movement among the most competent and famous neurologists in favor of the membrane theory of tabes dorsalis.

The characteristic feature of this movement is the attempt to establish a connection between the pathological processes in the spinal cord and those in the membranes.

In this regard I must refer to the investigations of Marie-Guillain. The former, as it is known, promulgated the old and forgotten theory of Marius Carré on the affection of the spinal ganglia as the essence of tabes; but as one can see now from his latest paper, he has given up entirely his former theory, and says: "The affection of the spinal ganglia in tabes is too insignificant and can in no way explain the changes observed in the spinal cord." Further, Pierre Marie puts three noteworthy questions: (1) Why does a posterior meningitis exist in tabes dorsalis? (2) Why, the lesions of the meninges being of a diffuse character, are they limited only to the posterior columns? (3) How, in short, can one explain the pathogenesis of tabes dorsalis.[1] In my article[2] I endeavored to establish that a *primary* posterior meningitis does exist in tabes dorsalis, which meningitis, in the opinion of some authors, is observed in not all cases of tabes, especially fresh ones (Leyden), and by some authors (Strümpell) is held as a secondary process. The first question of Marie shows that he accepts the fact that tabes dorsalis is always associated with a meningitis; but why it is so, why this posterior meningitis exists, is a question which I did not touch upon, because all I held necessary to establish was the fact that in tabes dorsalis meningitis posterior is of a constant appearance and that this lesion is a primary one. The assertion of such a competent neurologist as Marie that meningitis always accompanies tabes is very important for the membrane theory of tabes, although the connection between the changed spinal membranes and the affection of the posterior roots Marie understands and explains in a different way.

According to the membrane theory of Obersteiner-Redlich, the thickened spinal membrane compresses the posterior roots, especially at the place of their entrance through the pia mater, where they are deprived of myeline, and present, therefore

a *locus minoris resistentiæ*. Here one can see strangulation of the posterior roots which is not an artefact, as Nageotte thinks, but is pathological, as every one can convince himself by the study of preparations properly made. The compressed posterior root fibers become degenerated and atrophied, producing thus sclerosis of the posterior columns. Marie, however, explains it differently. He asserts that the posterior spinal columns and posterior roots possess their own peculiar lymphatic system; a similar lymphatic system exists also in the pia mater. This was proven long ago by investigations of Guillain,[3] Abundo, Leon Lépine, and others. The posterior columns, posterior roots, and pia mater form a whole regarding the development of the lymphatic system, and the affection of this whole is the essence of tabes dorsalis. According to Marie-Guillain, we must admit that in tabes this lymphatic system becomes affected primarily because of syphilis, and therefore we meet in tabes the simultaneous affection of the pia mater, posterior roots and posterior columns.

Such is the new theory of pathology of tabes given by Prof. P. Marie. Its similarity with Obersteiner's teaching is that both accept the important rôle lesions of the spinal membranes play in the production of tabes, and in this fact I see the progress of the membrane theory. In my opinion Marie only develops further Obersteiner's teaching, when he attempts to explain why only the posterior parts of the spinal membranes are affected. Whether or not this affection depends upon the peculiar lymphatic system of the spinal membranes or on the peculiar distribution of the blood-vessels is another question; it is only important to establish the fact that in discussing the question of the pathology of tabes the greatest attention must be paid to the condition of the pia mater.

Still greater similarity with Obersteiner's theory we find in that of Nageotte, who in the years 1894 to 1903 published a series of papers[4] on the basis of pathologico-anatomical investigations made first in the laboratory of Raymond and later in that of Babinski. He came to the conclusion that tabes dorsalis is the result of a peculiar form of root-neuritis ("névrite radiculaire interstitielle transverse"), the result of affection of that part of posterior roots which is located between the spinal membranes and the spinal ganglia. The neuritis is of a syphilitic origin, and the sequel of a syphilitic meningitis. The latter affects the roots by a process which "rules the anatomical course of the lymphatic vessels." The meningitis is a constant appearance in tabes dorsalis, but not its essence; meningitis produces tabes through the posterior roots, which thus become affected secondarily to the spinal meninges and then undergo degeneration with the subsequent atrophy. The degeneration is not of a Wallerian type, but has the character of an inflammatory process—axial segmentairy neuritis ("névrite segmentaire axiale"). The degeneration of the spinal fibers begins in the central gray matter of the spinal cord, spreading toward the spinal ganglia.

The similarity of Nageotte's theory to that of Obersteiner is very great; both admit that the origin of tabes dorsalis must be looked for outside of the spinal cord, namely in its membranes; but Obersteiner holds the affection of the pia mater to be the chief cause of root changes, while Nageotte looks for the source of this affection in the dura mater; also, Nageotte holds tabes to be a sequel of an inflammatory process of the posterior roots ("nerve-root of Nageotte"); Obersteiner holds tabes to be a degenerative process because of compression of the posterior roots by the pia mater. This compression, as Obersteiner has shown, by longitudinal and transverse sections of the posterior roots, cannot be produced by an inflamed and thickened dura mater, *i.e.* by a perineuritic process, and therefore we cannot ascribe to the dura mater the same rôle in producing tabes as that of the pia mater.[5] I shall not stop any longer on a comparison between the two teachings, I only want to say that whatever the difference between Obersteiner's, Nageotte's, and Marie's theories may be, the fact common to all is that the spinal membranes play a great rôle in producing tabes dorsalis; only the manner in which they produce this disease is differently explained by the above-named authors.

The membrane theory receives additional strength in cytoscopical examinations of the cerebrospinal fluid of tabetic patients. In my former[6] paper I only mentioned that cytoscopical examinations, together with cryoscopical examinations, Kernig's sign, and hæmolysis, "are elaborated in relation to different forms of meningitis, not so much for diagnostic purposes as for purely scientific ones; with the latter purpose it is necessary to apply all these methods also in every case of tabes dorsalis, studied clinically. Then it will be possible to obtain some facts for comparison with those obtained from the study of other forms of meningitis, which will make it possible to establish the connection existing between these diseases, or will furnish some new standpoints in favor of the opinion that tabes is nothing but a variety of meningitis." Indeed, if tabes dorsalis is nothing but a variety of meningitis, then the spinal fluid must possess in tabes the same properties as in meningitis. While in a normal condition the spinal fluid does not contain lymphocytes at all, or only a very small number (one or two in the field of the microscope), this fluid in cases of meningitis contains an increased number of lymphocytes. This was shown long ago by investigations in the clinics of Lichtheim and Minkovsky, and we must thus admit that lymphocytosis of the spinal fluid indicates that in a given case we have to deal with an irritation of the mininges, viz., meningitis. If tabes is a form of the latter, we must meet here also with lymphocytosis. The question of lymphocytosis in tabes attracted the attention of the investigators in France, where a large literature has accumulated on this question, and the final result of all investigations (Widal, Sicard, Ravault, Dechy, Joffroy, Dupré, Devaux, Séglas, etc.) is "that lymphocytosis is a law in tabes." It is true that Armant, Delille et Jean Camus did not always find lymphocytosis in tabes (50 per cent. nearly),[7] and that, in their opinion, in no case is lymphocytosis a diagnostic symptom of tabes; but Widal, Sicard, and Ravault have shown[8] that inconstant results of the former authors depend on the false technique they applied, and if one follows the correct technique minutely, lymphocytosis will be always found in tabes.

The investigations of French scientists were confirmed in Germany by Dr. S. Schoenborn,[9] whose paper is almost the only one in Germany regarding the discussed question. Schoenborn examined patients in Erb's clinic in Heidelberg, and always found lymphocytosis in tabes, mostly very well developed.

From the standpoint of the membrane theory of tabes dorsalis, that the latter is a product of meningitis, we must *a priori* expect that every case of tabes will be accompanied by lymphocytosis, and the more recent the case is, the more developed must be the lymphocytosis and *vice versa*, or, in other words, lymphocytosis in recent cases of tabes,

when the inflammation of the membranes is still incomplete, must be one of the most recent and constant signs of this disease. Such a conclusion must necessarily be formed if the membrane theory of tabes is correct. Indeed, Babinski, Nageotte, and Widal found lymphocytosis in those cases of tabes, when the symptoms of the latter were indistinctly developed, *i.e.* in the most recent stages of tabes, and therefore it is no wonder that Widal insists on this as a diagnostic sign of early tabes.

Discussing, in my former paper, the question of the supposed lesions of the olfactory nerve in tabes, I came to the conclusion that "fila olfactoria in passing the (thickened) membranes of the brain will be compressed and at last will become atrophied, first the peripheral part with half of the stratum glomerulosum, and after this the central part," etc.[10] I did not possess at that time exact facts in favor of my opinion, but lately I came across Marchand's paper,[11] who found in one case of tabes complicated with dementia paralytica during life disturbances of the sense of smell; post-mortem examination showed lesion of the glomerula with subsequent formation of glia. This investigation completely confirms our theoretical proposition and gives, together with the facts discussed in the present paper, new proof of the correctness of the membrane theory of tabes dorsalis in the sense of Obersteiner-Redlich. I do not doubt that other propositions mentioned in my first paper will also become confirmed, and at the suitable time I shall publish them.

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203 West Fourteenth Street.

The Need of Sleep.—Emil Kraepelin says that the most important compensation for all effects of fatigue is sleep. Everybody develops, when awake, a mass of mental effort which cannot be continued long without recurring periods of mental rest. We are capable of the longest mental effort in the forenoon, the evidences of fatigue generally coming on in the afternoon and evening. If no recovery by sleep is enjoyed, the next day will find us with a greatly depressed mental vigor and an increased susceptibility to fatigue. In one case experimented upon, a night's journey in a train with insufficient sleep was followed by a decrease in the rapidity of the mental activity amounting to one-third.

AN ANTISEPTIC TOILET FOR THE HANDS AND VULVA.

By DOUGLAS H. STEWART, M.D.,
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When my little paper was read before the West End Society it was a most pleasant surprise to find the application of its principles wider than I had thought, and though originally planned solely with regard to the obstetrician's needs, it seemed to be the very thing that general surgeons had long wished for, viz., a method of minimizing septic possibilities without irritating the hands upon which the disinfectant was used. The disappointment which awaits the users of corrosive sublimate has not been relieved by such experiments as the cultivation of anthrax spores after a day's immersion in a one-per-cent. solution of that very poisonous salt. On the contrary, it is fast becoming the general opinion that bichloride is better adapted to the test tube than to the operating room. Green soap and lysol are snares. I have obtained cultures after each and both. Dr. Brodhead, to whom I spoke of this, could hardly credit my remarks, and rightly determined to experiment for himself. He exhibited the following cultures: Ten after scrubbing hands ten minutes with tincture of green soap—seven positives and three negatives. The same followed by a two-minute lysol scrub (1 per cent.), gave six positives and four negatives.

It is scarcely necessary to point out that if such poor results follow the manipulations of one whose care and thoroughness are well known, then the every-day man has little chance of sterility. By way of contrast the doctor took for me twelve tests of his hands (six by one method, six by another), using chlorine, and not one of the dozen was positive.

To obtain a line upon the relative merits of bichloride (1-1000) and chlorine (about 1 per cent.) as hand disinfectants, twenty-five tests were made of each after five minutes' scrubbing in their solutions: Bichloride gave 12 positives, 13 negatives; chlorine gave 1 positive, 24 negatives. The before or check cultures—four for each trial—all took well.

With anthrax and a five-minute immersion, 90 tests: Bichloride gave 56 positives, 34 negatives; chlorine gave 32 positives, 58 negatives. Admitting these results, chlorine is much the surer in action. However, to make certain I made 25 very careful tests of the bichloride. Every single one took. Of the chlorine (25) two took. Then 26 tests were made with the chlorine solution; four were positives and 22 negatives. Of course, when one is using anthrax and immersions of five or ten minutes, the proportion of positives is always large. A very weak solution with time is decidedly more effective than a strong one with a time limit. As for streptococcus, staphylococcus, etc., I have practically never had a culture after the chlorine solution, or if I did, it could be readily attributed to an error of technique. Dr. Brodhead put in the incubating oven test cultures of streptococcus, staphylococcus, and Bacillus coli communis. Some thirty in all, showing what chlorine could do: of all that were exposed to the solution for five minutes—one was a doubtful positive, the rest were negatives. The doctor cleansed the test-loop in a pot of water after each g rm test, so naturally there should have been plenty of floating streptococci, etc. He seemed to think it quite a crucial test that I plunged my badly burned hands into this water and kept them there for some minutes; the right had three open blisters on it, and the left nine. Nothing resembling an infection followed. The bactericidal power of the aceto-chlorine solution is very positive.

I interested Dr. Dawbarn by taking two check cultures and six others of pure anthrax. The six were each immersed in the solution for fifteen minutes, and then all were delivered to the doctor to incubate for himself. The two checks took well, but the six were negatives. He then entered into the study of the solution. This solution presents a remarkable phenomenon, inasmuch as it responds to all the tests for chlorine, and yet little chlorine is given off in vapor form. According to the results of the investigation, the nascent hypochlorous acid is the germicide (plus the nascent oxygen of course). The fluid is in use at the New York Polyclinic Hospital and the City Hospital, and Dr. Dawbarn has had his staff adopt the following technique:

Five minutes' mechanical. Powdered pumice stone, brush, hot water, green soap, and wooden nail-cleaners.

Five minutes' chemical. Two heaping teaspoonfuls of fresh (35 per cent.) calx chlorata and one tablespoonful of U. S. Ph. (36 per cent.) acetic acid to the pint of sterile water. If this solution stands for ten minutes without stirring, the necessary chemical changes are complete.

In sterilizing the vulva a solution one-third the strength of the above should be used. The same for compresses on septic wounds. The temptation is strong to load up this paper with statistics, but I will only say that vulva sterilizations have averaged only one positive in every fifteen attempts, while the test cultures taken before antisepsis have only failed once, and in that instance there were two cultures, one was positive and one negative.

Lately I have been successful in every instance in vulva sterilization, and Dr. Brodhead reports that but five cultures were positive out of seventy-four trials in his tests.

Rubber gloves are just at present in the ascendant. I use them myself; they are a valuable protection to the surgeon.

The technique described seems ample for the average surgeon, but personally I am afraid of soaps and use this:

A teaspoonful of lime and a teaspoonful of powdered pumice on a saucer with wooden nail-cleaners; a basin with two quarts "cool" water mixed with one teaspoonful each of calx chlorata, of table salt, and of aqua ammoniæ, and of carbonate of potassium. In this basin a nail-brush. Dip the hands in this solution, take the wooden nail-cleaners and apply the pumice under and around the nails. If you cannot get them speckless, then dip the wet ends into the chloride on the saucer. Do not get lime on the sensitive skin. Work it under the finger-nails with the stick and the pumice. See that it gets into every possible crevice. Then scrub hands, nails and all, in the solution with the brush. This is the five-minute mechanical that I like best. It is only a preliminary, but it often leaves the hands sterile. A young medical student, Arthur Sherman, who aided me in my research work, took thirty cultures of his hands after this part of the technique. Three were positive. I took twenty-two, with one positive. Several physicians took a number, total 116, and thirteen of these were positive. Of course, a strict bacteriologist would object to all of these tests, because we did not put anthrax on our hands. It was, however, a fair test of hands, as found among medical men, under the conditions of daily life. In every instance there were check cultures, and they took. Sometimes they were molds, but more often mixed cultures.

After thorough washing in the above mixture perform the five-minute chemical as before described.

The surgeon generally prefers an aseptic hand, but in my obstetrical work the antiseptic hand serves me best. Asepsis is very limited in duration, while antisepsis may be maintained indefinitely by dipping the hand and arm into a basin filled with the hypochlorous solution. Should this solution not instantly bleach blue litmus paper, then it should not be employed. Either the chlorinated lime in such case is below standard, or it has been allowed to stand uncovered.

As to comparisons with other techniques: Twenty-eight methods in use or recommended have been tried, and nearly three thousand cultures attempted. Considering the results from every side, the method suggested is far ahead of all others. The only process which might be compared with it is the calcium-sodium carbonate, followed by alcohol and 1-1000 bichloride. This has the following disadvantages: (1) It is irritating; (2) the chlorine seems to be washed away too quickly to be effective. After all, in using any chlorine technique, the question of contact is the vital one.

Finally no one, so far as I know, has been hardy enough to dispute that chlorine will do the work. It is solely a question of availability and perhaps also one of residue, and as the residue here is the acetate of lime, the reader is referred to Cushny and other works on materia medica for data concerning the mild characteristics of the acetates.

It is fitting that I should acknowledge the kindness and courtesy of Dr. S. E. Jelliffe, who put at my disposal every facility of his laboratory.

NOTE.—Since the above was written clinical experience has shown that the solution, as originally recommended, was unnecessarily strong. Should the surgeon's hands have been in contact with anthrax, then full strength is advisable, otherwise use one teaspoonful of acetic acid and two of lime to the pint of sterile water.

121 WEST EIGHTY-EIGHTH STREET.

INSTRUMENTS FOR THE PRODUCTION OF ABORTION SOLD IN THE MARKET PLACES OF PARIS.*

BY FREDERIC GRIFFITH,
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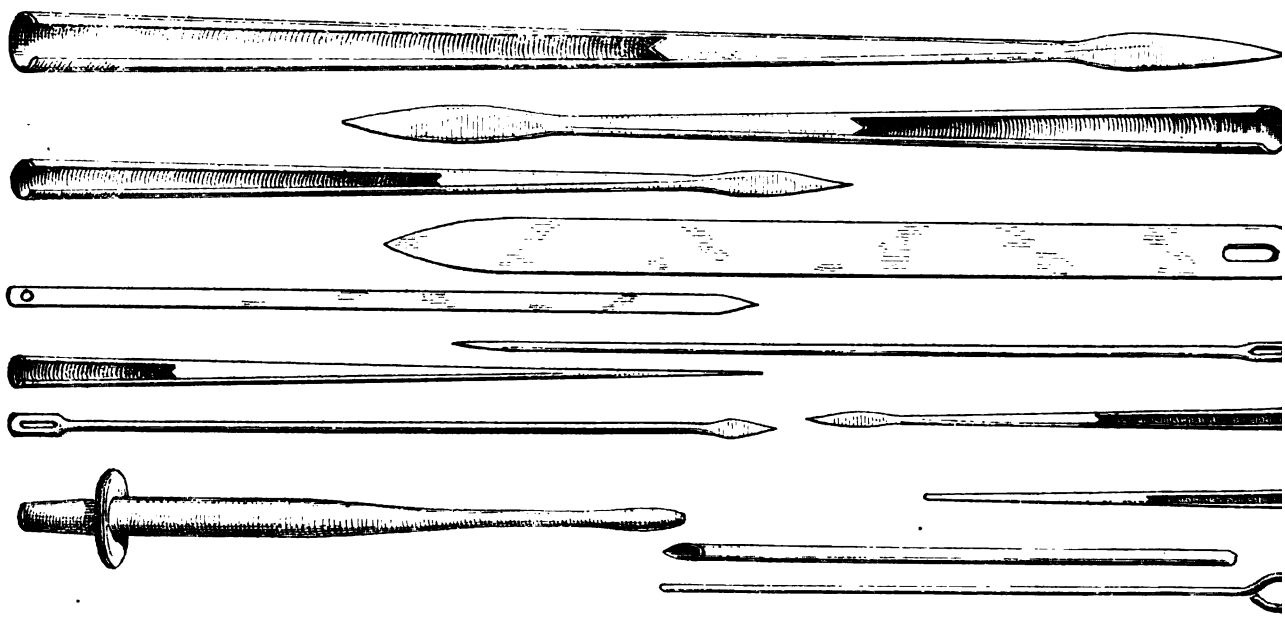
FELLOW OF THE NEW YORK ACADEMY OF MEDICINE.

IN the beginning I will say in defence of myself, that at all times I am on the lookout to learn whatsoever I can from the powers of others. Driven by this desire—or curiosity, if you please to so call it—I have endeavored to meet all comers, and with a result that I have, upon a number of occasions, secured to a varying degree the confidence of individuals whose occupations in life were neither ethical nor legal.

One day in September I strolled through the Boulevard Quinet, interested in the uproar of a transient street market, one of the features of Paris as in many of the cities elsewhere upon the Continent. This market was peculiar in that both buyers and sellers were almost without exception women, and the excitement and turmoil presented beggars description. Passing in and out through the crowds (the aggregate numbers of which may be guessed when I tell of twenty women counted who were far advanced in pregnancy), I at length came upon a shrewd-looking female of thirty-two or thereabouts with a child clinging to her skirts, and who, while seemingly with nothing to sell was most energetically calling in shrill-toned voice what I translated, "For the ladies," "For the ladies." Attracted, I stood to one side, allowing the woman to pass me while seeking an explanation. She eyed me sharply as she came up, but, rightly judging my presence, continued her calls until well past my stand, when she suddenly

*Presented before the Section on Obstetrics and Gynecology of the New York Academy of Medicine.

ceased and began to bargain at one of the booths. Looking about I learned the cause for the interruption in the person of a policeman on duty. When the officer had passed beyond earshot, her cries began anew, and spying a prospective customer in a matron who had paused in the midst of her sundry purchases, flashed before the other's eyes a handful of instruments similar to some in my collection. Accompanying the exposure with rapid explanations as to proper use and praises of the effectiveness of the several varieties. A bargain was soon struck, the purchaser, selecting an instrument to her liking, paid the price asked, namely, ten centimes, equal in our money to two cents, carefully secreted the implement near the bottom of her basket and quickly lost herself to view. A little further along another sale was made. I then addressed the peddler, asking her to show me her stock, as I desired to purchase. She refused at first, but later, crediting my statements, allowed me to choose from her supply, which was cunningly concealed in an inside pocket beneath her apron. Selecting an average-sized and shaped implement, I paid her the usual fee of two sous, which is two cents. Returning by that way upon another market day, I determined to secure a complete collection, and



though I sought patiently I was unable to find her. Later the cause became apparent when a raid upon the many unlicensed peddlers about the place was made by some detectives who came upon the scene from various side streets. It was not until two weeks later that she dared to return. With little persuasion I was then enabled to secure one of each of the several varieties of instruments which she carried, and, though very explicit in explaining the use of them refused absolutely to tell me where she obtained the implements she sold. Viewed mechanically, it will be seen that the various specimens are well made, being of hammered steel save for one exception, filed and well finished, lacking but a nickel plating to compare very favorably with the products of a surgical instrument shop. The general directions given to a purchaser are that the instrument may be used at aty time during the course of gestation. The operator and patient being combined in the same individual, for it is recommended that a woman can best perform the operation unassisted and verily I believe that the average French woman can locate her uterine os as certainly as she can touch the tip of her nose. To facilitate the location of the mouth of the uterus pressure is to be made over the lower abdomen by means of the unoccupied hand. When found the os is to be gradually dilated by a rotary onward motion of the instrument until the sensation of rupture occurs and the escape of bloody fluid proves the success of the first stage of the operation. If not immediately successful, syringing is to be commenced. Hot water intrauterine irrigations quickly complete the operation with little or no apparent after-effects in the majority of instances. When general sepsis occurs the woman is early trundled off to a hospital. The French laity probably understand better than any other people the best method of interrupting pregnancy. The flat, curved instrument I obtained some time later from another of these itinerant vendors, in a portion of the city far removed from the first. This instrument was especially recommended to fulfil any indication. Some of the specimens seem upon a closer inspection, to be not at all unsuitable for the purpose for which they were designed. The spear-head variety partakes of the nature of a dilating forceps as well as being a membrane-puncturing instrument and looks not unlike one of the forms of perforator used by obstetricians. Shown to a number of public women they one and all expressed wonderment at my possessing the instrument, but readily demonstrated to my satisfaction that they thoroughly understood its use. None of the French physicians or surgeons about the several hospitals which I visited and to whom I presented the matter had ever seen the instruments; neither at the Maison St. Lazare or detention hospital for the public women of Paris were they recognized, yet all knew of their existence. Mr Abuthnot Lane of Guy's Hospital in London was extremely interested in the collection, he having spent much time in Paris and in study upon the social questions relating to matters upon this subject. He further expressed the opinion that no English woman would have sense enough to know how to employ the instruments for their set purpose.

The bone irrigator tip was added to the collection as being one of the commonest kinds and sold for one franc, twenty-five centimes, or twenty five cents at all druggists, many hair dressers, milliners stationers, grocers and tobacco shops The irrigation habit is so strongly engrafted upon both male and females in France that a hotel bedroom is considered incomplete without one of the irrigation tubs which look not unlike a baby's bath-tub with bent in sides placed upon short legs upon which the individual sits astride when using it.

40 East Sixty-fourth Street.

SCARLATINAL PANOTITIS; EXFOLIATION OF A PORTION OF THE LABYRINTH; RADICAL OPERATION.*

By CARL KOLLER, M.D.,
NEW YORK.

Elise A., four years old, was taken with the sickness which terminated in total deafness, on May 24, 1903. According to the mother's statement the illness began with vomiting and fever; the vomiting lasted three days. Scarlatina eruption appeared the day after onset, and this was followed two days later by the appearance of a diphtheritic membrane in the throat, with swelling of the glands. In the further progress the diphtheria was a prominent feature. The first evidence of any trouble with the ears appeared at the end of the first week. The child complained of pain and deafness, and this was soon followed by discharge on both sides. Deafness was absolute within twenty-four hours of the appearance of the ear symptoms. When the patient first got out of bed after four weeks' illness, the mother noticed that the child staggered and stumbled frequently, which she attributed to dizziness. This, however, was of short duration. With the exception of a suppurating submaxillary gland on the left side, the further progress toward recovery was uneventful. Up to that time the child had been treated by the family physician and no ear surgeon had been consulted.

At the time of admission to the hospital (July 21), discharge from both ears and considerable swelling of the submaxillary and cervical glands still persisted; the tips of both mastoids were sensitive to pressure. Examination of the ears showed large perforation of the drum on either side, and granulations in the middle ear; on the left side denuded bone could be felt with the probe. Considering the total and absolute deafness, panotitis with necrosis of the labyrinth was diagnosed and an operation decided upon, partly to remove the supposed sequester, partly because it was considered possible that some part of the labyrinth and nerve had escaped complete destruction, and might revive when freed from the surrounding inflammation and suppuration.

Operation.—On July 22 a radical operation was performed on the left side, thoroughly exposing the cavities of the middle ear. The antrum was found to be filled with pus and granulations, and so was the attic; the ossicles were found disconnected from their articulations and imbedded in granulations. From the medial wall of the attic a loose shell-like sequestrum could without difficulty be detached, which upon closer examination proved to be part of the labyrinth, consisting of the superior and external ampullæ, and the adjoining parts of the superior (saggittal) and the external (horizontal) semicircular canals. Another small piece of necrotic bone, loosely connected with the facial nerve and taken from a place below the first piece, resembles most the outer inferior portion of the anulus tympanicus. After it was removed the facial nerve was seen running through the cavity a straight course, outward and downward, being entirely free like the string of a bow; every time it was touched, the face twitched. The bone cavity was smoothed with the electric burr, and tamponaded with iodoform gauze; the opening behind the ear was left open for the present. The patient made an uneventful recovery, and after two weeks the wound behind the ear was closed. Koerner's plastic method was employed to widen the auditory canal sufficiently so that it would adapt itself to the increased caliber of the united middle-ear cavities. These are now entirely smooth and covered with dry epidermis; a newly formed pseudotympanic membrane closes them against the Eustachian tube. But this is the only result of the operation; the hope of a partial restitution of the hearing has not been realized.

*Case presented before the Otological Section of the Academy of Medicine.

Pollitzer defines panotitis as "a disease in which the middle ear and labyrinth become affected by the inflammation either simultaneously or in rapid succession. It occurs chiefly in children, either as a primary affection or in the course of scarlatinal diphtheria, and always affects both ears, leading, after a strikingly short duration, to total deafness. The primary form begins with high fever, which is often accompanied by eclamptic seizures with or without loss of consciousness. The duration of these attacks varies from a few hours to several days. After the return of consciousness, the individual is found to be totally deaf, and a discharge from both ears, with perforation of the tympanic membranes, is usually observed after a few days, but rarely before the return of consciousness. In all cases thus far reported the affection was associated with a staggering, uncertain gait." Pollitzer does not give such a concise picture of the diphtheritic form of panotitis, but he merely says that to it "those cases may be classed in which total deafness arises during the course of scarlatinal diphtheria." He relates, however, a case which in all particulars is a counterpart of this. "In a girl of eight years, on the eighth day of the disease a discharge from both ears was noticed, and on the same day total deafness also ensued. Staggering gait was observed only in the first few weeks after cessation of the diphtheria. Objective examination showed: Right side, perforation of the membrane tympani and polypoid growth in the tympanic cavity; left side, extensive destruction of the membrane. Both sides showed a profuse blennorrhœal discharge. Hearing for all sounds and noises was entirely lost."

Diphtheritic panotitis is the most intense degree of the otitis which seems to be a regular accompaniment of scarlatina. Different authors make different statements as to the frequency and the time of the appearance of otitis in scarlatina. According to v. Gaessler, an author whose observations are based on the autopsies he has performed, the middle ear is affected in all cases of scarlatina, although perforation of the tympanum may not have taken place. The changes vary widely in intensity from hyperæmia of the mucous membrane with scant secretion of mucopurulent liquid, to intense swelling and infiltration, with profuse serous or purulent discharge or (in the most severe cases) thick yellow and consistent fibrinous exudate, completely filling the cavities of the middle ear. Amongst twelve post-mortem examinations only twice perforation of the tympanic membrane had taken place. The cartilaginous part of the Eustachian tube, with one single exception, was normal, which would prove that the infection spreads not by continuity from the throat, but by way of the circulation.

In the lighter cases and those of medium gravity the course is not much different from what we see in otitis complicating other infectious diseases, but in the diphtheritic cases, classed also as panotitis, rapid progressive destruction is the rule; caries and necrosis of the ossicles, and of the temporal bone, leading, according to the locality of the destroyed portion, to facial paralysis, total loss of hearing, or by spreading to the skull cavity to fatal meningitis, brain abscess or sinus phlebitis with pyæmia. The most common sequel is total loss of hearing, which when occurring in young individuals inevitably

leads to deafmutism. The percentage of deafmutes from this cause varies according to the locality, from 2 per cent. (Italy) to 27 per cent. (Norway). (Quoted from Oscar Wolf.) Fortunately, this termination is becoming rarer, according to the statements of several authors, certainly owing to the better attention given to ear complications in infectious diseases. On the necessity of watchfulness in this direction not too much emphasis can be placed, and in this connection it will be well to bear in mind that grave alterations in the middle ear may exist in a case of scarlatina, with a comparatively small changes of the drum membrane.

AN UNUSUAL CASE OF POTASSIUM IODIDE IDIOSYNCRASY.

By HENRY GATHMANN, M.D.,
MILWAUKEE, WIS.

In treating a patient, aged fifty-two years, tailor, suffering from complicated pathological conditions in and about the perineal region, I recently had occasion to administer small doses of potassium iodide for a few days. The result was, it seems to me, sufficiently remarkable to warrant its publication.

The patient had been ordered a saturated solution of potassium iodide, and took three doses of ten drops each, in water, on the first day; the dose was increased by one drop daily, so that on the fourth day he took three doses of thirteen drops each. On this day his finger tips showed a slight cyanosis, and as no reason for this condition could be found in any of the vital organs, the drug was discontinued for the entire fifth day. Although this local cyanosis thereupon disappeared within twenty-four hours, I was not thoroughly convinced that this was not a mere coincidence, and that the symptom had really been due to the iodide.

So, on the evening of the sixth day, one single dose of fourteen drops was given the patient, and next morning I found him afflicted in the following peculiar and even alarming manner: There had occurred during the night, after this single dose of fourteen grains, a diffuse ecchymosis under the entire skin of all his fingers and thumbs, so that at first sight they appeared exactly as if he had dipped his fingers, up to the metacarpophalangeal joints, into a pail of indigo dye. The discoloration stopped very abruptly at these joints, a few dark-red specks at its upper limit being noticed on closer inspection only. The fingers, in addition, were numb, cold, stiff, slightly swollen, and very painful. The little finger of each hand was most severely affected and almost absolutely black; the process lessened very slightly in each succeeding finger, so that the thumbs were of a very dark blue, rather than black color. The metacarpal region of each hand was normal in color, though just a little swollen. In addition, the extreme tip of the nose was similarly affected, though less severely. The toes, however, were and have remained entirely normal, and, in fact, excepting a few isolated, mild purpuric spots on the thighs and on one arm, the condition was confined altogether to the fingers and the tip of the nose.

Under the assiduous application of warmth and friction (and discontinuing the potassium iodide, of course), the fingers very gradually became less painful, the swelling subsided slowly (though leaving blisters on nearly all the middle phalanges), natural warmth and motion returned, and gradually the dark color faded, so that it was nearly three days before the patient and his friends felt quite reassured that the fingers and nose were safe from gangrene.

I find occasional occurrences of irregular ecchymotic spots, "mostly confined to places below the knees," and due to large doses of the drug, mentioned in literature; but nowhere have I found the description of so intense and yet sharply circumscribed an ecchymosis of such peculiar and symmetrical distribution from this drug, and especially in the small dose named. There was no gastric irritation, coryza, acne, nor any of the other symptoms of iodism.

Neither his occupation (tailor), nor his past history, nor any other circumstances seem to afford a clue why his feet should have remained perfectly normal while his fingers suffered so intensely.

Artificial Alcohol.—That alcohol may be produced by chemical combination of its elements, without recourse to the fermentation of sugar, has been known to chemists since 1860, when it was first so prepared by Berthelop from acetylene. That substance was then expensive and difficult to obtain, but now that it may be made by simply moistening calcium carbide, which in turn is manufactured on a large scale by the electrical combination of lime and charcoal, chemists are talking of a revolution in the alcohol industry. According to a recent French writer, however, this revolution is not yet upon us, for alcohol from artificial or synthetic processes cannot yet be produced so cheaply as by fermentation and distillation. So we shall still rely on nature to make our alcohol for us, for the present, confining our share in the matter to its separation from admixed impurities and dilutents.—*Success.*

The Treatment of Granulating Wounds.—Wagner believes that the conventional method of treating granulating surfaces by keeping them covered with ointment and close dressings tends to retard the growth of the epidermis and protracts the healing. For a number of years he has treated such wounds by removing the dressing each morning, cleansing the wound and then allowing it to remain exposed to the air all day. Care is taken to place the part so that it will not come in contact with the clothing etc. At night a dressing of some drying powder and of gauze is applied. Treated in this way the sprouting epidermal islands are not macerated as is usually the case, but grow vigorously and the area is covered over in a surprisingly short time. Under ordinary conditions no danger of infection need be apprehended.—*Centralblatt für Chirurgie*, No. 50, 1903.

The Fatty Degenerative Changes in Anæmia.—In the early stages of anæmia, writes Jennie G. Drennan, we find the patient seemingly well nourished, as far, at least, as the formation of fat is concerned. Later on, he becomes emaciated. Many, if not all, cases of anæmia are associated primarily or secondarily with digestive disease, whereby the proper nutriment is not prepared for the different tissues. Fatty degeneration occurs in all of these, and symptoms arise due to loss of function. Anæmia is a symptom arising as a pathological condition of one tissue of the body—the blood. The cells of the blood as a tissue undergo fatty degeneration and fail to be oxygen carriers; thus failure results in this tissue, as in all others; as a nutritional defect, the white blood cells undergo fatty degeneration. In time the blood-making organs fail to produce cells, even to undergo this form of degeneration, and also in time the other tissues of the body fail to produce cells to likewise undergo fatty degeneration; reproduction of tissue fails through lack of nutrition, even lack of pathological tissue. During the stage when fatty degeneration is active, the patient is producing a form of tissue which, although in pathological amounts, will serve as a source of assimilable food to him. During this stage he is incapacitated from normally performing the functions of the body; but if kept at rest he may exist for a long time, nourished, in fact, by his own fatty degenerated tissues, like the hibernating bear.—*International Medical Magazine.*

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PREVENTION OF TUBERCULOSIS.

THE existence in an individual of a disease produced by a microorganism requires two conditions: (1) The presence of the virulent causative microorgansm in the tissues of the individual. (2) The susceptibility of these tissues to the action of the microorganism. If either of these factors is absent the other becomes inoperative. The prevention of bacterial diseases can therefore be undertaken from two standpoints: (1) Prevention of the causative microorganism entering the tissues. (2) Production of insusceptibility of the tissues to the action of the microorganism. The accomplishment of either of these aims brings about the disappearance of the disease. Hitherto the prosecution, of these objects, either singly or in combination, has not sufficed to prevent the presence of bacterial diseases among mankind. In the want of accurate knowledge concerning susceptibility and insusceptibility these diseases in the past have been chiefly attacked from the first standpoint. The principal means which have been utilized for this purpose are quarantine, disinfection, and the improvement of public and private hygienic and sanitary conditions. Quarantine and disinfection deal directly with limiting the dissemination and with the destruction of the causative microorganism. They therefore attack the foci of the disease against which they are directed. If perfectly carried out in any community quarantine and disinfection exterminate these foci and the disease soon vanishes. As might be expected, experience has shown that the degree to which they can be satisfactorily prosecuted is directly dependent upon the nature of the disease attacked and the number of its existing foci. If these are few in number and the nature of the disease is such that it can be promptly recognized, satisfactory quarantine and disinfection are easily instituted and the disease soon disappears. If the foci are many and the disease is not promptly recognized these measures can be less satisfactorily utilized and more time is required to reach the desired result. If the foci are indefinitely multiplied and a large number of cases pass unrecognized, quarantine and disinfection for all practical purposes cannot be satisfactorily performed, and as a result but little headway is made—the disease remains in permanent existence. An example of the latter condition is seen when we consider the prevalence of measles, scarlet fever, and diphtheria in our large cities. Here it has been found impossible to enforce any efficient system of quarantine and disinfection against these diseases because of the tremendous number of foci of infection and because many cases are so mild in character that they never come under medical attention and hence practically pass unrecognized. Thus the number of foci exterminated by quarantine and disinfection does not prevent the prevalence of these diseases. It is further evident that quarantine and disinfection when utilized for the purpose of preventing the spread of bacterial diseases are mutually dependent upon each other. Quarantine is, of course, the most important, but quarantine minus disinfection could not be expected to produce the result. On the other hand disinfection minus quarantine is at once shorn of its power. The dependence of disinfection upon quarantine is shown by considering any community in which the system of quarantine has remained the same while the system of disinfection has been altered. Under such conditions, although an advanced and scientific system of disinfection was substituted for one that was most crude and unscientific, no reduction in the prevalence of the disease attacked resulted. While quarantine and disinfection deal directly with the foci of infection, the other means above mentioned attack the problem with but very little, if any, reference to such foci. That is to say, whatever good they exert, except when their application is very limited, is exerted outside the foci of infection equally as much as at such foci. While quarantine and disinfection can only do good in the actual presence of the causative microorganism, improvement in public and private hygiene and sanitation, are applicable for use at all times and produce an equal amount of good so far as the conditions which they create are concerned, entirely independent as to whether there are many or few or no foci of infection. But the carrying out of these measures also attacks the problem from another (the second) standpoint, viz., they improve the general condition of man and hence increase his insusceptibility toward bacterial infection In no small measure is their efficiency to be ascribed to this phase of their action.

If the above statements are true their application to the prevention of tuberculosis cannot but be profitable. In its development this disease is the most insidious of the bacterial infections. Thousands of cases do not come under medical observation until months after the disease has been in progress. Its foci of infection show a greater dissemination than those of any known bacterial disease. The majority of those afflicted with it must of necessity pursue their ordinary avocations. These are a few of the conditions which surround tuberculosis: They cannot be eradicated, for to eradicate *them* means the eradication of the very nature of the disease. In their presence it is foolish to suppose that much benefit will be obtained from methods of quarantine and disinfection which are practical. This does not mean that attempts in these directions should be abandoned, but it must be realized that they are of minor importance and that their overestimation leads to a false sense of security and blinds the vision to other considerations which are important in the highest degree. If progress is to be made at the present time the chief reliance must be placed upon means which are not dependent for their efficiency upon the nature of the disease and the dissemination of its foci. The prosecution of such means should be paramount to all other

considerations. The improvement of personal and public hygiene and sanitation are the agents which to-day nearer than any other meet these requirements. There is no doubt that they must demand the chief attention of those who are endeavoring to prevent the spread of tuberculosis. Past experience and rational thinking command the acknowledgement of the truth of this statement. The more extensively they are pushed and the wider their scope the more efficient do they become. Limiting their operation to the known foci of the disease, limits their power and lessens the true appreciation of their worth in the minds of those who are at work upon the tuberculosis problem. For these reasons and because their efficiency is not dependent upon the nature or number of existing foci of the disease they should be energetically carried out in all unhygienic and insanitary locations without any regard as to whether or not tuberculous foci are there present. The results which these measures are capable of producing are only to be obtained in this way. This conception not only broadens the problem of the prevention of tuberculosis, but it brings it to a position where rational practical measures can be put into operation. Just in proportion as these measures are carried on notification of the disease becomes unnecessary. For their most complete prosecution notification is not required. Notification of a communicable disease is necessary and justifiable from two standpoints: (1) Statistical information. (2) To furnish data for attacking the foci of the disease. From the first standpoint notification becomes at once registration. It cannot be denied that the registration of tuberculosis is desirable. Without it the effect of any preventive measure cannot be properly estimated. But notification in this sense is a very different thing when it is enforced from the second standpoint. Here notification is only justifiable when the direct attack of the foci of the disease is the vital issue. Since for the prevention of tuberculosis the attacking of its foci is of secondary and very minor importance at the present day, notification is unnecessary. It is true that in certain communities where notification has been made compulsory, a decrease in deaths from tuberculosis has followed. But this is no argument that such notification was the cause of the decrease. In order to demonstrate this, it must be shown that this decrease was due to measures adopted as the result of the notification and that these measures could not have been put into operation without notification. The MEDICAL RECORD does not believe that such facts can be shown.

At the present time the powers of boards of health and all other official departments interested should be tremendously increased in the direction of enabling them to eradicate all unhygienic and insanitary conditions. Such powers they should utilize to the fullest extent. They should realize that a thousand times more is to be accomplished in these directions than can be possibly attained by directly attacking the foci of the disease. By making these measures paramount the terrorism of the tuberculous patient and his companions is swept away. His coöperation becomes enlisted. His education along the proper lines of prevention becomes not only possible but of comparatively easy execution. The aid of the public at large and the medical profession, without which no permanent good can be accomplished, becomes certain, and most important of all, the prevention of tuberculosis will be conducted along lines which are rational and which have the solid foundation of past experience.

THE COURSE OF BIRTH WITH GIANT CHILDREN.

IN the *Sammlung klinischer Vorträge* Dr. J. Ettingshaus analyzes exhaustively the experience on this subject of the Königlichen Charité at Berlin from 1895 to 1901. Among the 13,112 births, 510 were "giants," meaning thereby children with a weight of 4000 grams or over. Comparing the proportion of giants to all births at Dresden and Berlin, the percentages are 2.76, 3.45, and 3.94, respectively, with a maximum for any place and year of 4.54 and a minimum of 2.00. The picture of a giant child calls up that of a powerful, and not too young, mother, who is not a primipara. Thus, while nearly two-thirds of all mothers admitted fell below twenty-five, less than one-half of the mothers of giants fell below that age, and of the mothers of the heaviest, fifty-two, more than half were between thirty and forty. A similar result is obtained if one compares primiparæ with multiparæ. About two-thirds of the mothers of giants fall into the latter class, and in the case of the heaviest children, the number of previous pregnancies is, on the whole, the greatest. Heredity appears sometimes to enter as an etiological factor. Also the statistics reveal the presence in the mothers of giants of unusually large pelves. Respecting the length of time of delivery just in the case of the heaviest children it is sometimes unusually short. Nevertheless it is, in general, prolonged; an average for the time of expulsion being for the primiparous mothers nearly three and three-quarter hours, as against one to two hours in the normal case; and for the multiparæ one and three-quarter hours as against a normal average of one-quarter to one-half hour. And with giants an expulsion time of ten, twenty, and more hours quite often occurs. As regards the cause of delay, there is here hardly a question of contracted pelves, nevertheless the unusual size of the child makes the pelvis relatively small. In this prolongation of the expulsion time there is, perhaps, in the absence of contracted pelves, malpresentations, etc., a datum point for the diagnosis of a giant child. And this diagnosis is not unimportant, as in the case of giant children, more than others, artificial delivery is necessary. Thus in Ettinghaus's series artificial delivery was resorted to in 8.42 per cent., and in the heaviest, fifty-two, in 15.38 per cent; as against 5 per cent. in the average run of cases. The reason for this greater need of aid is the size of the child, and not primiparity (the usual cause), as here multiparity strongly predominates. Especially is the size of the head the determinant factor. And in this circumstance, involving as it does non-descent into the pelvis, we have the chief cause of the frequently observed weakness of the pains. An additional evidence that the size of the child is the determinant factor is found in the rarity of abnormal presentations. Also prolapse of the funis is less frequent here than usual, the large bulk of the child filling up the lower uterine segment. Head presentations occurred in 96.88 per cent. of the cases as against

93.47 for normal births. Lacerations of the soft parts during birth are much more frequent than in normal deliveries, especially the higher degrees of such lacerations. And among the mothers of giants, in conformity with the general experience, it is the primiparæ which suffer most from these accidents. For while the primiparæ were represented only to the extent of 26.64 per cent., they formed 49.39 per cent. of those suffering from lacerations. The general condition of the mothers during and after parturition was, in general, quite good, which is explicable by their good physique and their being, as a rule, multiparæ. As regards mortality, Dubois has found that in forty-five mothers of children over 4900 grams in weight, the mortality is relatively considerable, though it is not directly dependent upon the greater size of the child. In Ettinghaus's 510 cases there were only four deaths, but one of which was directly chargeable to the unusual size of the child. In any case the percentage of mortality was low compared with the average (0.78 per cent. as against 1.09 for normal births).

While the mortality of the mothers is thus small, the case is far otherwise with the children. For though the percentages of mortality for the normal pregnancies and births and those of giants are 8.55 and 33.92 per cent. respectively, the deaths of giants during parturition are numerous.

Thus while in normal births the percentage of freshly dead children to the whole number dead is 51.58 per cent. (and consequently that of the macerated 48.42 per cent.), with giant children the ratio of the freshly dead is 95 per cent. (and the macerated but 5 per cent.). That the mortality is incident to increased size and consequent delay in parturition, is shown by the fact that the percentages rise in steady progression with the weight of the child, from 2.79 per cent. for weights between 4000 and 4200 grams, to 25 per cent. in the case of those over 5000. As regards the proportions of the sexes, while in normal births the males are to the females as 105 or 106 to 100, with giant children the proportion is 216 boys to 100. And while the relative mortality is about 55 per cent. for boys to 45 for girls, with giants it is as 60 to 40. In Ettinghaus's series, besides those born dead, six died some days after birth; all of them had shown objective signs of severe injury, such as cyanosis or deep asphyxia. Also when born seventeen more showed signs of being more or less deeply asphyxiated but soon recovered. Turning now to the children, certainly the most striking fact is the proportion of the sexes, the results at Dresden, Munich, and Berlin, averaging about two and one-quarter times as many boys as girls, with extremes of 284 and 178 per cent. Nevertheless girls are represented in even the heaviest children, three of the heaviest eleven being girls. A surprising result is the average weight for the two sexes—namely, 4285 grams for the girls as compared with but 4204 for the boys. But v. Winckel's results agree, for he found the average weight for the four girls to be 4300 grams, while that of the twenty-seven boys reached only 4265. In his series v. Winckel found a duration of pregnancy of at least 302 days. On this last point Ettinghaus's data were not precise enough for the expression of an opinion. But the length, weight, and, above all, the considerable development of the skull, speak for a long duration of pregnancy. Not fewer than seventy-seven had a head circumference of more than 38 cm., and the several diameters were enlarged correspondingly. The author then gives a table showing the most important data in the principal cases in the literature of births of children of 5000 grams or over. The average age of the mothers is about thirty-four years, and the same law holds, as in his own series, as regards the proportions of primiparous and multiparous mothers. His experience is also confirmed in other particulars. Out of the twenty-five cases cited, the children in seven were perforated or delivered by laparotomy. Of the eighteen cases in which the fate of the child is recorded, two-thirds were born dead; eleven of the twelve dying during birth. The boys were three and a half times as numerous as the girls.

Reception Hospitals for the Temporary Insane.

The establishment of hospitals in which patients —suffering from forms of mania that skilled alienists believe to be of but a temporary nature—may be detained during a certain period for the purpose of close observation, has been advocated many times within the past few years.

Dr. Nathan Raw read a paper entitled "The Relation of Mental Symptoms to Bodily Disease," at a recent meeting of the Medico-Phychological Association of Great Britain and Ireland. In this paper Dr. Raw drew attention to the great frequency with which mental symptoms were developed in an attack of bodily illness, and to the unsatisfactory system obtaining in England of treating and dealing with persons suffering from temporary mental disorders. "It was not," he said, "his purpose to speak of organic insanity, but of those persons who in the course of such diseases as pneumonia, typhoid fever, toxic poisoning, puerperal septicæmia, exophthalmic goiter, and myxœdema required special provision in the shape of nursing and treatment, without having recourse to certification, and without placing them among those who could be correctly described as of unsound mind." The author was of the opinion that a reception hospital for mental disorders should be established in every town, preferably by the municipality, from which, if recovery did not ensue in six weeks, cases should be drafted to the asylums proper. He knew from his own experience that many persons were now sent to asylums who, if they had been accommodated in such reception houses, would have recovered, and further, would have been spared the stigma which in so many cases prevented a man from subsequently obtaining employment.

Several well-known authorities on mental disorders took part in the discussion which followed the reading of Dr. Raw's paper. Among others, Dr. J. Wiglesworth did not agree with Dr. Raw that there were so many cases of bodily disease associated with insanity. He was inclined to think that the most suitable cases for reception houses were acute alcoholics, whom he deemed just as insane as those afflicted with any other form of paranoia. He likewise urged that town was quite the wrong place in which to treat such cases. The most restful and delightful surroundings of the country were a great help to recovery. The period of detention of cases sent to receiving houses he thought should be nearer two weeks than six weeks.

Dr. Robert Jones pointed out that the period set by the London County Council was six weeks, but it could be extended more or less indefinitely by further periods of six weeks. He thought that Dr.

Raw had fully established the necessity of such reception houses, and he entirely supported Dr. Wiglesworth's contention that such houses should, at any rate, be surburban. He did not think that an asylum was the proper place to send alcoholics to. The President of the Association approved of the suggestion to establish reception houses for temporary cases, but insisted that every care should be taken that the presiding genius of such institutions should be a properly trained psychologist.

There should seem to be a growing sentiment in favor of establishing reception hospitals for the observation of those who are thought to be suffering from temporary mania. The idea has been mooted in this country, and discussed editorially in the MEDICAL RECORD some time ago, and at Albany the scheme has been carried into effect.

THE PILL HABIT IN THE UNITED STATES.

The patent medicine habit is strongly developed among Americans, and appears to be advancing by leaps and bounds. Pill-taking is the most popular form of drug indulgence manifested by the inhabitant of this continent, and the number of pills manufactured in the course of a year is so large that the magnitude of the figures is almost beyond the grasp of human intellect. The immigrant to these shores is generally adaptable, and on becoming a citizen quickly falls into the customs of his adopted country and cheerfully swallows his quota of pills and the various other remedies warranted to cure or to alleviate all the ills to which human flesh is air In *Leslie's Monthly Magazine*, January, is an article which describes the American pill at length. The statement is therein made that the manufacture of pills is increasing at the rate of 20 per cent. each year. In other words, there will be a fifth more pills eaten in the United States this year than last, and a fifth more next year than this. American women are declared to be responsible for this ever-growing consumption of pills, and it is asserted that next to candy and beauty washes pills take the first place in the affection of the female sex in this country. Of course, pills are made for every kind of complaint, and in Detroit, the metropolis of the world for pill manufacture, nearly seventeen hundred kinds are turned out, and the writer of the article referred to is so unkind as to asseverate that the American woman tries most of them at one time or another of her life. An excellent account is given of the money spent and the journeys undertaken into unknown and tropical countries in the search for new drugs with which to make pills. A sketch is also given of the methods of manufacture, and the statement is made that at one of the large pill factories in Detroit there is a machine which grinds out 2,000,000 pills a day. Probably the physician has no cause to grumble at the immense consumption of pills, for there can be but little doubt that a habit indulged in, as is the pill habit, will, in the course of time, bring its devotees into his hands. Excess of any substance ingested by a human being will inevitably lead to untoward results, and a wholesale use of pills must, in the nature of things, undermine the strongest constitution.

THE PROLONGATION OF LIFE.

From the earliest times the aim of men has been to lengthen the span of his years upon earth, and even to attain to immortality. The alchemists of old spent time and money unsparingly in the futile effort to discover the elixir of life, and although present-day scientists have abandoned this fruitless search, yet various means of prolonging existence are ever being promulgated. It is now known that by paying strict attention to the laws of health that longevity is generally attainable, and literature in which rules for rational living are laid down, appears with undeviating frequency. Dr. Hermann Weber recently delivered a lecture of this nature before the Royal College of Physicians, London. In the first place he pointed out that the diminution of infant mortality and the improvement of the hygienic conditions of towns and houses have raised and will continue to raise, the average duration of life. The speaker from his own experience, gave his views as to the best measures to pursue in order to reach a green old age. Among other matters upon which he dwelt was the importance to the digestive system of paying due regard to the action of the bowels. Attention was drawn to the fact that the quantity and quality of food play a conspicuous part with persons who suffer from constipation. Indeed eating wisely is essential, if an individual intends to overcome the evil results of sluggish bowels. The conclusions reached by Sir Hermann Weber as to the scheme of life to be observed so that one's days may be long in the land is as follows: Moderation in eating and drinking and physical indulgence. Pure air out of the house and within. The keeping of every organ of the body, as far as possible, in constant working order. Regular exercise every day in all weathers; supplemented in many cases by breathing movements, and by walking and climbing tours. Going to bed early and rising early, and restricting the hours of sleep to six or seven hours. Daily baths or ablutions, according to individual conditions, cold or warm, or warm followed by cold. Regular work and mental occupation. Cultivation of placidity, cheerfulness, and hopefulness of mind. Employment of the great power of the mind in controlling passions and nervous fear, strengthening the will in carrying out whatever is useful, and in checking the craving for stimulants, anodynes, and other injurious agencies. While Sir Hermann Weber's lecture contains nothing that has not been said before, a recapitulation of the measures to be taken to lengthen our term of existence here cannot but do good. The life led nowadays by the ordinary citizen is not conducive to longevity, and although good advice as a rule falls on barren ground, yet if even a few seeds alight on fertile soil and flourish, the words of wisdom spoken will not have been entirely wasted.

THE PREVAILING PNEUMONIA AND ITS CAUSES.

The unusual prevalence of pneumonia in New York, and the mortality occasioned thereby, has naturally brought forth much discussion concerning the disease and the means of prevention and cure. Especially has the question of its causation been made the subject of debate, and it must be said of a certain amount of theorizing. By some medical men the somewhat virulent infectiousness of acute pneumonia would seem to be regarded as an established fact, a view of the matter scarcely warranted by our present knowledge of its bacterial etiology. That the malady is communicable under certain conditions has been established with certitude. But so far as the mode of communication is concerned definite information is lacking. As Dr. Klebs of Chicago truly says, "We presume, and probably correctly, that the infective germ is contained in the expectoration, and in prophylactic efforts we will always bear this in mind. But the fact that outside of a few reported epidemics we have but rare evidence of its spread within one family or from one individual to another, forces upon us the disbelief in its marked infective powers."

Few physicians will be found who will deny that tuberculosis, according to the result of investigations into the cause of the two diseases, must be looked uponas more infectious than acute pneumonia. Yet there are many men of world-wide reputation. who are of the opinion that the infectiveness of consumption has been greatly exaggerated. For example, Prof. C. Fraenkel of Halle recently stated his views on the subject as follows:

"Tuberculosis is a house disease. Not in the open air is it transferred, and even when favorable conditions are given for infection—as, for instance, among street sweepers—in not a single instance has such an event been directly associated with the alleged cause. In the face of exaggerated and entirely unfounded fears to the contrary, this fact cannot be stated often enough, and not precisely enough. It is inside the house among families, in factories, workshops and prisons, among people who live, work and sleep in badly kept and uncleaned rooms, that infection takes place. As soon, however, as once the bacilli has passed the threshold of the house it has lost its terrors, and only in exceptional cases may find its way again into the human organism."

Improved hygienic measures have checked the spread of tuberculosis, but have exercised no favorable influence on pneumonia. On the contrary, pneumonia has increased, tending to show, in a more or less conclusive manner, that hygiene, sanitation, and the adoption of antiseptic principles have but little to do with checking the widespread dissemination of the disease.

The truth is that further knowledge as to the bacteriology and epidemiology of pneumonia must be gained ere authoritative statements with regard to its direct causation can be recognized. Regulations to stop expectorating in public are excellent, and should be enforced as strictly as possible, both in the interests of decency and the general health. On the other hand, the tendency to alarm the community with statements concerning the absolute infectiousness of diseases, the etiology of which are not definitely known, is perhaps carrying the matter too far.

The Treatment of Nephritis: Some Recent Suggestions.—Thomas J. Harder reviews a number of recent books and articles on the subject. In treating of acute nephritis Van Noorden gives the following dietary: *To be avoided*, because of creatinin produced, meat extracts, meat broths, eggs; because of pigments produced, foods containing hæmoglobin; because of hippuric acid produced, green vegetables. *To be given sparingly*, because of urea and sulphates produced, milk; because of irritant effect during excretion, water. *To be given with impunity* in all but severe cases, because no injurious end-products are produced, cream, butter, white vegetable soups, puddings made from oatmeal, flour or maize, white bread. To neutralize the bad effects of the phosphates in milk, a little calcium carbonate is added. This enables the phosphates to be got rid of in the fæces. In contracted kidney he gives a fairly liberal diet, but a limited amount of water—about two and a quarter pints *per diem* of ingested fluid. Widal and Javal hold that salt is, for certain cases of tubular nephritis, a dangerous constituent of food, and propose a "cure by dechlorination" for such cases. In functional albuminuria G. Lyon recommends rest in a horizontal position for an hour after meals. In the management of the uræmic state the value of venesection is attested by several observers. Diaphoresis seems to be of use only when followed fairly quickly by diuresis. Several authors uphold the value of operation in certain cases of Bright's disease.—*The Practitioner.*

News of the Week.

The Prevalence of Pneumonia.—The Advisory Board to the Health Commissioner of New York has given out a statement to the public regarding the danger from pneumonia and the best means to avert it. The principal stress is laid upon the bacterial causation of the disease and the consequent danger of spitting elsewhere than in suitable receptacles and of stirring up the dust in private and public buildings. Concerning this last point the statement concludes: "The Advisory Board would urge upon the Health Department the desirability of instructing, in the proper methods of dust disposal, all those who have in charge the duty of cleaning public institutions, such as court-rooms, police stations, hospitals, dispensaries, churches, theaters, public conveyances, etc., as well as those responsible for factories, stores, offices, and the like, and commends the matter to the attention of all householders, to whom, not less than to inmates of public institutions and places of assembly, the risks of dust infections are at this time of especial significance."

Smallpox Increasing in Philadelphia.—For the week ended January 23 there were reported to the Philadelphia Bureau of Health 106 cases of smallpox, with 13 deaths, as against 58 cases and 24 deaths for the preceding week. This is the largest number for any week in three years. The total number of deaths was 618, as compared with 736 for the preceding week.

Smallpox in Indiana.—Fifteen counties in Indiana have reported cases of smallpox to the State Board of Health and the number of cases is double that of the corresponding time last year. The cases are also of a more malignant character. The situation in Spencer and Clay counties is most serious.

Unvaccinated Children in Schools.—Judge Mower of the Common Pleas Court, Springfield, Ohio, has handed down a decision in the mandamus suit brought by George W. Crowell to require the Board of Education to allow his son to attend school even though he is not vaccinated. Judge Mower held that the ruling of the board to this effect could not be sustained by law, inasmuch as it was only applicable to times when there is an epidemic of smallpox.

Phthisiophobia in Australia.—It is stated in a despatch from Sydney, N. S. W., to a London newspaper that the Board of Health of Melbourne, Victoria, has decided to treat consumption as an infectious disease and to isolate all sufferers. It has arranged to accommodate a number of consumptives at the quarantine station.

Another Victim to Laboratory Plague.—A press despatch from St. Petersburg says that the chief of the Bacteriological Laboratory of the Imperial Institute of Experimental Medicine died of the plague January 20. He became ill January 16, after an inoculation with living plague cultures, and repeated injections of anti-plague serum were unavailing. All who had been in contact with him have been treated with anti-plague serum, and the staff of the laboratory, which is situated at Fort Alexander, on a small island, has been isolated.

The Cincinnati Research Society has elected the following officers for the year: *President*, Dr. David I. Wolfstein; *Vice-President*, Dr. A. Knight; *Secretary and Treasurer*, Dr. Samuel Iglauer. The Executive Committee consists of Drs. Wolfstein, Iglauer, Knight, Heidingsfelt, and Kramer.

To Stamp Out Bovine Tuberculosis.—On the initiative of Professor Behring, a bill will probably soon

be introduced in the Reichstag, enjoining the inoculation of all calves with his specially prepared tuberculosis vaccine. The measure is not favored by the supporters of Koch's view regarding the non-identity of bovine and human tuberculosis, as the vaccine is made from human tubercle bacilli; but Professor Behring has earnestly pleaded the adoption of an imperial law to this end in conference with the Minister of Agriculture, and it is thought his arguments may prevail.

Inspection of Chicago Hospitals.—A rigid inspection of private hospitals with reference to their precautions against fire has been undertaken by the city of Chicago. The inspection undertaken in the Spring of 1902 was made by the Building Department alone; the one now being made is under the joint direction of that department and the Department of Health, a building inspector and a medical inspector working together in each investigation, and making joint reports to each department. In this way it is hoped to secure better results in the matter of prompt remedy of defects discovered.

Ohio State Board of Health.—At a meeting of the Ohio State Board of Health at Columbus, Dr. M. C. Chapman of Toledo read a paper on "The Pollution of Our Water Supply." Chas. T. Dumont of Norwood, O., discussed "Needed Sanitary Legislation," Dr. C. L. Wilbur of Lansing, Mich., discussed "Collection and Registration of Vital Statistics." Dr. L. K. Baker of Cleveland and Dr. H. C. Rutter of Columbus also read papers.

The San Francisco Board of Health.—Drs. John V. Hughes and W. A. Harvey have been appointed members of the Board of Health of San Francisco.

Dr. N. Senn sailed from San Francisco, January 7, for Tahiti, whither he goes to join a commission appointed by the French Government to investigate the diseases of the island.

Dr. D. D. Crowley of Oakland, Cal., member of the State Board of Health, has been appointed Surgeon-General of the State Militia.

The Medical Society of Alameda County, California, at a meeting held on January 12, elected the following officers for the ensuing year: *President*, Dr. J. Maher; *Secretary*, Dr. A. H. Pratt; *Treasurer*, Dr. C. A. Dukes.

A Milk Trust in Chicago.—It is announced that a company, capitalized at $4,000,000, is being formed to control the milk supp y of Chicago. The purpose of the company, as it is stated, by the promoters is not to advance prices, but to raise the standard of milk, which will be certified as free from bacteria. It is promised that the price of such milk will be only seven cents a quart.

The Pure Food Bill Favorably Reported.—The Hepburn Pure Food bill, which passed the House at the last Congress, was ordered favorably reported by the House Committee on Interstate and Foreign Commerce on January 16. The bill as reported contains the present law regulating the importation of foreign food, passed in the last Congress. The bill provides for the exercise of federal jurisdiction over food products which enter into interstate commerce, prohibiting adulterations and misbranding.

Philadelphia County Medical Society.—At a stated business meeting, held January 20, the following officers were elected for the ensuing year: *President*, Dr. Roland G. Curtin; *First Vice-President*, Dr. B. Franklin Stahl; *Second Vice-President*, Dr. Charles P. Noble; *Secretary*, Dr. Wm. S. Wray; *Assistant Secretary*, Dr. Ross H. Skillern; *Treasurer*, Dr. Collier L. Bower; *Censor*, Dr. H. St. Clair Ash; *District Censor*, Dr. Albert M. Eaton. Also delegates to the Medical Society of the State of Pennsylvania and a large number of members were elected, and reports of directors, secretary, treasurer, censors, publication committee, committee on changes in by-laws and committee on increase in membership were read.

New Secretary of Texas State Medical Association.—Dr. John T. Moore of Galveston has been appointed Secretary of the Texas State Medical Association, to fill the unexpired term of Dr. H. A. West, who recently died.

The East Side Physicians' Association is the name of a new medical organization recently founded in this city. At a recent meeting the following officers were elected: *President*, Dr. Ignatz Morway Rottenberg; *Vice-Presidents*, Drs. Maurice J. Burstein and Fredric N. Wilson; *Secretary*, Dr. Nathan Friedman; *Treasurer*, Dr. Maurice Caspe.

Stanford University is just recovering from an epidemic of diphtheria that broke out among the students early in December.

Medical Jurisprudence Society of Philadelphia.—At a stated meeting, held January 18, Dr. D. J. McCarthy read a paper entitled "The Conduct of Medical Investigations in Medicolegal Cases at Vienna, with Special Reference to the Laboratory Work." W. Smithers, Esq., read a paper entitled "Criminal Law Procedure in Continental Europe." The following officers were elected for the ensuing year: *President*, Judge W. Ashman; *Secretary*, Dr. Henry Leffmann; *Treasurer*, Paschal H. Coggins, Esq.

Higher Tuition Fees at Columbia.—It is announced that the trustees of Columbia University have decided to increase next fall the tuition fees in the College of Physicians and Surgeons and the schools of applied science. The increase will be from $200 to $250 a year. Another change is announced by which students in these schools who are not candidates for degrees will have to pay $25 a year for each hour of weekly attendance in the various lecture and recitation courses.

A Red Cross Inquiry.—Mr. Daniel of Virginia has introduced a resolution in the United States Senate directing the Secretary of State to inform the Senate whether or not the Department of State has made the following or similar inquiries of foreign governments respecting the Red Cross Society; and, if so, what replies, if any, have been received: What financial support, if any, does the government give to the Red Cross Society? Does the government appoint any of the officials or directors of the Red Cross Society? How is the society organized in respect to its equipment for active field work? How is the executive and office staff organized? What sources of income and revenue other than the government provides? How are its accounts kept and audited? What check, if any, is provided to protect the funds of the society against carelessness and dishonesty on the part of its agents in the field? What is the extent and character of government supervision respecting the organization, finances, and work of the society? Has the society the confidence of the leading people of the country? Does it receive valuable money contributions from private sources?

A Review of Medical Progress.—The January issue of the *Interstate Medical Journal*, of St. Louis, is devoted to a carefully planned and excellently executed review of the progress of medicine during the year just past. The entire subject is divided into twelve chapters, the titles of which and the writers (who are also editors of the journal itself in their respective departments) are as follows: "Internal Medicine," by Jesse S. Myer; "Surgery,"

by Willard Bartlett; "Therapeutics," by Albert E. Taussig; "Pathology and Bacteriology," by Carl Fisch; "Gynecology and Obstetrics," by Hugo Ehrenfest; "Pediatrics," by Alfred Friedlander; "Orthopedics," by Malvern B. Clopton; "Neurology," by Sidney I. Schwab; "Genitourinary Surgery," by H. McC. Johnson; "Dermatology and Syphilis," by Martin F. Engman; "Laryngology and Otology," by William E. Sauer; "Ophthalmology," by John Green, Jr. These subjects are handled in an interesting manner by the authors, and together they constitute a most instructive epitome of the medical world's work during the past twelve months.

College of Physicians of Philadelphia; Section on General Medicine.—At a stated meeting, held January 11, a symposium was held on "The Early Manifestations of Cirrhosis of the Liver," Dr. W. W. Ford of Baltimore, discussing the "Pathological Anatomy," Dr. David L. Edsall, the "Clinical Chemistry," and Dr. Chas. G. Stockton of Buffalo the "Clinical Manifestations." Dr. Ford detailed the results of an analysis of the post-mortem findings in forty-nine cases of cirrhosis of the liver studied among the first 500 autopsies made at the Johns Hopkins Hospital. The most common associated conditions were disease of the heart and of the kidneys and arteriosclerosis. A variety of other conditions were present in individual cases, such as ulceration and suppuration. In some there had been antecedent typhoid fever and other infectious diseases. Experimental investigation has shed little light on the etiology of cirrhosis of the liver, diphtheria, typhoid fever, and other infectious diseases, causing focal necrosis of the liver, but not cirrhosis. Excessive indulgence in alcohol and malarial infection are, clinically, the most common antecedent conditions, but with alcohol alone it is not possible to induce cirrhosis of the liver in lower animals. Better success has attended the employment of butyric, lactic, and other acids. Therefore, there must be some additional factor, perhaps toxic, possibly infective, necessary for the development of the disorder. Dr. Edsall pointed out that none of the chemical tests could be depended upon to furnish aid in the early diagnosis of cirrhosis of the liver, the functions of the liver being so complex and its secretion not being accessible in a pure state. Dr. Stockton pointed out that the development of the grosser changes of cirrhosis of the liver must be preceded by a period in which functional disturbances occur, and these must give rise to clinical manifestations, which may, however, not be distinguishable from those due to associated disorders. Among these may be mentioned a sense of weight and distress in the right hypochondrium, tenderness on manipulation over the liver, digestive derangement, sallowness of countenance and the hepatic facies, headache, languor, etc. The discussion that followed, and which was participated in by Drs. James Tyson, John H. Musser, Hobart A. Hare, James M. Anders, Robert N. Willson and Alfred Stengel, disclosed the difficulty of recognizing cirrhosis of the liver in its earliest stages. Often the presence of the disorder can only be suggested, and many years sometimes pass before the disorder is fully developed, and not rarely when suspected it fails to materialize. At the close of the meeting a reception was tendered the speakers of the evening.

Obituary Notes.—Dr. EDMUND ANDREWS of Chicago died on January 22. On January 17 he was operated upon for stone in the bladder, and bore the operation well, but five days later was attacked with cardiac paralysis, and soon expired. For forty-eight years Dr. Andrews was engaged in the practice of surgery in Chicago, retiring two or three years ago. He was born in Putney, Vt., April 22, 1824. He removed with his parents to Detroit, Mich., in 1840, and was graduated from the Literary Department of the University of Michigan in 1849. Three years later he completed a course in medicine at the University, and came to Chicago. In 1857 Dr. Andrews occupied a professorship in Rush Medical College, and taught there for three years. At that time only two years' study were required for graduation, and advocating a longer course, Dr. Andrews with five other physicians, established Lind University. The University was the first to require a four-year course. In 1860 the college was absorbed by the Northwestern University, and Dr. Andrews was appointed professor of surgery. He was a surgeon in the Civil War. In 1854 he founded the Chicago Academy of Sciences, and for many years was one of its most active supporters.

Dr. VIRGIL M. D. MARCY died suddenly at his home, in Cape May, N. J., on January 21, aged eighty-one years. He was born in Cape May January 5, 1823, was graduated from Yale in 1844, and two years later from the medical department of the University of Maryland.

Dr. EDWARD B. DANA, Jr., died at his home in Metuchen, N. J., on January 21, of pneumonia. He was forty-three years of age, and was graduated from the medical department of Columbia University in the class of 1889. He was president of the Board of Health and of the Board of Education.

Dr. J. VARNUM MOTT died suddenly of heart disease at his home in Boston on January 23. He was born in this city fifty-three years ago and was graduated from the College of Physicians and Surgeons in the class of 1872. After practising here for a few years he went to Boston to live. He retired from active practice about ten years ago.

Dr. NEEDHAM M. WILSON died in Philadelphia on January 19, at the age of sixty-seven years. He was a graduate of Jefferson Medical College in the class of 1865.

Dr. ALBAN SPOONER, Jr., died at Beverly, N. J., on January 18 at the age of twenty-four years. He was a graduate of the medical department of the University of Pennsylvania.

Dr. L. H. STAHLE of San Francisco, formerly physician to the County Hospital, died January 6, from the inhalation of illuminating gas. In a note which he left for the coroner he admitted suicidal intent and grimly remarked that the quality of the gas must have been improved, since he had inhaled it for more than an hour without effect.

Dr. FRANCIS RUDDEROW died in Philadelphia on January 23, at the age of forty-two years. He was graduated from the medical department of the University of Pennsylvania in 1884.

Dr. D. N. CONNOR died in Philadelphia on January 22, at the age of fifty-nine years. He was born in Delaware and was for a time a school teacher. He was graduated from the medical department of the University of Pennsylvania in the class of 1867.

Dr. B. G. DYSART of Paris, Mo., died at his home on January 16 at the age of seventy years. He was a graduate of Jefferson Medical College in the class of 1859. He was prominent in Masonic circles and was a member of the Missouri State Board of Health and ex-Surgeon of Cockrell's brigade in the Confederate Army. He was in active practice until the day before his death, succumbing to an attack of pneumonia following exposure while making a professional visit.

THE TUBERCULOSIS EXPOSITION IN BALTIMORE.

(Specially Reported for the MEDICAL RECORD.)

THE tuberculosis exposition, by means of which during the present week a sanitary object lesson of exceeding value has been presented to the citizens of Baltimore, opened on Monday evening, January 25, at the McCoy Hall, Johns Hopkins University, Dr. William S. Thayer presiding.

His Excellency Edwin Warfield, Governor of Maryland, made the opening address, and it was the first time he had appeared in public in his official capacity as governor. He said that the Legislature in 1902 had authorized the appointment of a tuberculosis commission to investigate the prevalence, distribution, causes, and treatment of tuberculosis in the State of Maryland, and to determine its relation to the public health and welfare and to devise ways and means for restricting and controlling the disease. He believed in arousing interest in this humanitarian work and in demanding proper legislation, and said that he would gladly cooperate in bringing about these ends. He congratulated the commission upon the success that had attended their efforts.

The Hon. Robert McLane, Mayor of Baltimore, welcomed the many distinguished guests. He pleaded for the popularizing of the work done by the commission, for it was only by bringing home to the people the necessity for a hospital for the care of infectious diseases that an appropriation could be obtained from the State. It would be a great economic advantage to the State to assist in this movement, and he urged that the present Legislature should not be allowed to adjourn without doing something to this end.

Dr. William Osler delivered a short address in which he referred to the seriousness of tuberculosis and the deplorable condition of Baltimore with regard to its inability to care for patients afflicted with contagious or infectious disease. He stated that the object of the exposition was to arouse the people from their apathy and to awaken public sentiment in behalf of the suffering hosts and endangered thousands.

In the paper of the evening, entitled "The Statistical Laws of Tuberculosis," Mr. Frederick Hoffman of Newark, N. J., said that any attempts to deal successfully with the problem of tuberculosis prevention must proceed along lines of a comprehensive statistical investigation, for the laws and tendencies of this disease were most intelligently expressed by statistical averages reduced to a uniform basis readily susceptible of critical analysis. The mortality from tuberculosis had progressively declined in American cities for more than a century. It was his opinion that the decrease in the mortality from tuberculosis in past years, or previous to 1890, must be primarily ascribed to a profound change for the better in the mode of life of the masses, such as improvement in the housing of the masses of population in the cities, providing more light and better ventilation in tenements and dwellings, less overcrowding, less intemperance, improvement in feeding infants as well as adults, improved economic conditions, especially in the way of higher wages and shorter hours of labor, the doing away with child-labor, the doing away with unwholesome and insanitary conditions of factory life, the improvement in the school life, and the general social improvement of the mass of population, making for a higher standard of life, a more deliberate view of life and the worth and value of living. Mr. Hoffman took up at length the statistical laws which underlay the occurrence of tuberculosis in modern life [illegible] neral rule, the observations and conclusions were limited to the mortality from consumption of the lungs which formed approximately about 96.5 per cent. of the total mortality from tuberculous disease. The mortality from consumption in the United States had decreased from 25 per 10,000 in 1890 to 19 in 1900. The mortality was greater in cities than in rural districts (20 per 10,000 against 13). The decrease in the mortality during the decade had been 6 per 10,000, against not quite 5 for rural districts. The mortality was greater among men than among women. The mortality among males in cities was 21 per 10,000 against 16 for females, a difference in favor of females of 5 per 10,000 of population. In country districts the death rate was 12 for males and 14 for females, a difference of 2 per 10,000 in favor of males. The decrease in the mortality during the decade 1890–1900 was 5 per 10,000 for males and 6 for females. The death rate was extremely high among the colored population. In 1900 the death rate of the white population was 17 per 10,000 against 49 for the colored. The higher mortality of the negro population from consumption and other tubercular disease was unquestionably primarily the result of race. The wide variation in the mortality of the two races from this disease remained practically the same and was practically unaffected by the more favorable conditions under which the present negro population lived. The native white population of native stock experienced a death rate considerably lower than the general average. The greater death rate among women in rural districts he ascribed to the after-effects of pregnancies, less properly taken care of there than in cities. The relative decline in the death rate had been most pronounced at the comparatively unimportant age period of sixty-five and over, while the decrease had been least at the age period when the commercial and economic value of human life was highest. Conjugal conditions modified profoundly the mortality from various causes. Males at ages 15–44 showed the highest death rate from consumption among the widowers, and at ages 45 and over among the single. The high death rate of the former he attributed to the probable transmission of the disease from wife to husband. The death rate was highest among widows at ages 15–44 and among the single women at ages 45 and over. Both sexes showed the lowest death rate among the married at practically all periods of life. Married women at the child-bearing period, 15–44, experienced a higher death rate from consumption than married men. Widowers at all ages showed a greater mortality when comparison was made with the mortality of widows of corresponding ages. An anomaly was noted, in marked contrast to the general law of mortality, that the death rate among widowers was highest at the youngest ages, while lowest at the most advanced period of life. This probably warranted the conclusion that the higher mortality of widowers at early ages was the result of disease transmitted from wife to husband. Males in all occupations experience a mortality from consumption of 24 per 10,000. In the professional occupations the mortality was quite low, being 12 for clergymen, 14 for lawyers, and 17 for physicians. Persons in the mercantile and trading class experience an average death rate of 17 per 10,000, hotel keepers and boarding-house keepers a rate of 21, saloon and restaurant keepers a rate of 29, barbers and hairdressers, 33; laborers, 37; bookkeepers, 40; servants, 43; printers, 44; cigarmakers, 48, and stonecutters, 54. The mortality in the United States was highest during March, April, and May, and lowest during August, September, October, and November. The mortality from tuberculosis varied greatly in different localities,

and he questioned seriously whether these differences were the result of climate rather than of material differences in the age, sex, race, nativity, and occupation distribution of the population. The census data were not published in sufficient detail to permit of a rearrangement of the mortality by geographical sections of the country, according to latitude and longitude, or with reference to certain topographical features, such as location of cities on lakes, in river valleys, at high altitudes, etc. A study of the relation of consumption to the elements of climate confirmed the view that certain climatic elements favor and others materially hinder the development of the disease. It was generally conceded that the mortality was highest in localities with a damp soil or a clayey subsoil, making natural drainage difficult. It was reasonably safe to say that the death rate decreased with increasing altitude, and that it decreased with increasing dryness of the atmosphere. Consumption was much more common among the poor than the rich, and this he attributed to imperfect or unsatisfactory diet. The mortality was lowest among the Jews, whether due to their dietary laws or not he did not venture to say. People who are predisposed to consumption are almost invariably persons of inferior physical development, with evidences of imperfect nutrition, resulting in a body weight about ten pounds below the average. The earlier belief in the possible heredity of consumption he believed to be overestimated except in so far that a physical constitution predisposed to consumption, and this was often transmitted from parent to child. The average duration of the disease from the time of infection to the time of death was usually given as two years, but no definite law was known to him which would warrant any final conclusions regarding this point.

His object in presenting for consideraton the general statistical laws of tuberculosis was to emphasize the need of a broad basis of sound knowledge for any far-reaching sanitary or other measures which might be adopted for the purpose of diminishing by associated effort the largely preventable amount of disease and mortality from tuberculosis. The facts would seem to warrant the view that it is possible to so localize the mortality from tuberculosis that an energetic campaign against consumption was practically certain to produce far-reaching results. If a campaign was determined upon against consumption, as it was found to occur among persons in certain recognized unhealthy employments, or under certain ill-health-producing conditions, there was no doubt in his mind but that within a few years a marked diminution in the death rate would result from such well-directed and intelligent efforts. By *preventing* the disease in the first place, it will not be found necessary to erect immense and costly institutions for the *cure* of the disease. He was certain, from a careful study of the facts in the case, that such efforts should be primarily directed against insanitary workshops, ill-health-producing occupations, and the employment of physically unfit types of man in industries in which the death rate from consumption was extremely high. By adopting intelligent measures in clear recognition of the laws which determine a high or low mortality from this disease, he felt sure that a large proportion of the present mortality would be done away with.

The Exposition.—A visit to the Exposition revealed the amount of work that had been done by the commission. The exhibit of statistics taught the undisputed supremacy of tuberculosis among the preventable causes of death. Its relation to other diseases was shown in a graphic manner by a display of charts and diagrams, in which were considered race, age, sex, occupation, heredity, marriage, food, drink, dwellings, wages, etc. Another exhibit showed the relations of factory, tenement and sweat shops to tuberculosis with an interesting collection of photographs. One of the most striking contributions to this exhibit was from the "Lung Block" in New York. The tuberculosis committees of Chicago, New York, and Boston were large contributors. The exhibit of State and municipal prophylaxis was very interesting, showing the great activity of boards of health in the modern crusade against tuberculosis. The models and pictures of the sanatoria and dispensaries covered this part of the subject most fully. The most important part of this collection showed the results of sanatorium treatment in America, England, and especially in Germany, where the sanatorium has become a governmental appurtenance, and has restored a large number of consumptives to the ranks of wage-earners. Here one learned, too, that the sanatorium was but a relatively small part of the available resources in the treatment of tuberculosis. Besides the illustrations of sanatorium life in all its details, the models and pictures showed what means were everywhere within the reach of the consumptive, Here one could see what was being done by certain federal departments, by cities, by organized charities and voluntary associations in various parts of the country. The colony idea, the roof garden, the fire escape, the veranda—all these things were shown converted to the use of the consumptive. The Committee on Home Treatment and House Hygiene had a furnished room where even the minutest details of the subject were illustrated.

Of particular interest was the collection of books and portraits cover.ng the history of tuberculosis. It was, perhaps, the most complete library on tuberculosis ever collected, and much credit was due Dr. Osler and Dr. Jacobs for their efforts in collecting and arranging this department of the Exposition. In original manuscript were found the writings of Villemin, who, in 1868, established experimentally the contagiousness of consumption. Cohnheim repeated Villemin's work in Berlin and substantiated his results. Hippocrates (Latin Edition Princeps, 1525) gave a description of phthisical tabes or pulmonary consumption. Also, a description of the form of the chest in tuberculous persons. Galen (Methodus Medendi) recommended a milk diet and dry air. Franciscus Sylvius (1614–1672) was the first to describe tuberculosis of the lungs. Celsus gave a description of the varieties of consumption or tabes. Celsus' book was open at the page on which was advocated a change of air and a long sea voyage. The pathological and bacteriological exhibit was of great interest. In it were shown a number of specimens, models in wax and cultures.

Addresses.—Each evening during the week a popular address was delivered by some well-known phthisiologist. These addresses were: on Tuesday, by Dr. Lawrence F. Flick of Philadelphia, on "House Infection of Tuberculosis;" on Wednesday, by Dr. Mazyck P. Raverel of Philadelphia, on "Bovine Tuberculosis, a Factor in Human Tuberculosis;" also, an address by Dr. D. E. Salmon of Washington, on "Some Observations on the Tuberculosis of Animals;" on Thursday, by Dr. S. A. Knopf of New York, on "Pulmonary Consumption and the Possibilities of Its Eradication through the Combined Action of a Wise Government, Well-trained Physicians, and an Intelligent People;" on Friday, by Dr. George J. Adami of Montreal, on "Facts, Half-truths, and the Truth about Tuberculosis." For Saturday the program announced a lantern demonstration by Drs. William H. Welch and Chas. H. Potter.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

SEWAGE AND SHELL-FISH—MICROORGANISMS AND RHEUMATISM—OXFORD MEDICAL PROFESSORSHIP—UNIVERSITY INSTITUTE OF MEDICAL SCIENCE—KING'S COLLEGE HOSPITAL—DEATH OF MR. KNOWSLEY-THORNTON.

LONDON, January 8, 1904.

LAST night the fourth report of the commissioners appointed to inquire into the treatment and disposal of sewage was issued as a Blue Book. This part deals with the pollution of tidal waters, especially in reference to the contamination of shell-fish. The commissioners declare their conviction that a considerable number of cases of enteric fever and other diseases are caused by sewage contamination of shell-fish; but they do not think it possible to make an accurate estimate of the number, for though in some towns the medical officers of health have collected all available data it cannot be said that this has been done throughout the kingdom. The remedies suggested are (*a*) purification of the sewage before its discharge into tidal waters; (*b*) seizure and destruction of unwholesome shellfish exposed for sale; (*c*) setting up a competent authority to deal with all tidal waters, with power to control foreshores, close dangerous beds, pits, ponds and layings, and in some circumstances, to require treatment of sewage. The advance of knowledge may make it possible to devise a method of treating sewage by which its dangerous qualities may be eliminated, but no method at present known can render it safe to discharge in the neighborhood of fish layings. The commissioners are of opinion that no general enactment as to treatment of sewage or seizure of unwholesome fish will meet the case. The remedy must be sought in the waters, pits, ponds, and layings themselves. The commissioners are convinced that the only way to meet the evil is by placing all tidal waters under the jurisdiction of competent authorities with full power to regulate the taking of fish and to make all restrictions required for the public safety. These powers they propose to confer on the river's boards, subject to appeal to a central authority. As to foreign shell-fish, it is recommended that a guarantee be required on the part of the governments concerned, that the fish have not been procured from localities where they would be liable to contamination by sewage or other filth.

Rheumatic fever was the subject of a further communication by Drs. Poynton and Shaw, at the Pathological Society. They opposed the idea that the disease might be a sort of attenuated pyæmia, and held that it has as definite clinical entity—quite as much as tuberculosis. They relied entirely on fatal cases for argument. They showed that the diplococcus rheumaticus could be easily distinguished from the staphylococcus aureus. In twenty-five cases of fatal rheumatic fever the staphylococcus was not found in cultures or in the lesions; when this organism was found the condition was not rheumatism. Experimental injections into animals were made; the staphylococcus produced septicæmia or pyæmia with multiple abscesses or no result; the diplococcus rheumatic fever or no result. Injections were then made with mixed organisms. When these were made simultaneously death was rapid, pyæmic abscesses containing the staphylococcus were formed and arthritis was also produced and in some cases endocarditis. Both organisms were demonstrated in the tissues and isolated after death. A clinical case was described which was studied by Drs. Paine and Poynton. It was that of a boy who had cellulitis of a leg and developed arthritis and pericarditis. After death purulent pericarditis, arthritis, and multiple abscesses were found and Dr. Paine isolated from the pus the two organisms. The paper was fully illustrated by drawings, lantern slides, and cultures. The conclusions submitted were: (1) the staphylococcus is not a cause of rheumatic fever, either in simple or mixed infection; (2) rheumatic fever is not an attenuated pyæmia so far as the staphylococcus aureas is concerned.

Dr. Burdon Sanderson is resigning the Regius Professorship of Medicine at Oxford, and there is subdued excitement as to his successor. Oxford graduates met in unusual numbers to discuss the vacancy. It was commonly reported that the Reader in Pathology would be appointed and hold both offices for the sake of economy. To such proposal the meeting opposed strong objection and appointed a deputation to wait on the Chancellor to urge that the Regius Professor should be a physician who is representative of medicine in its evident sense, and that it would be detrimental to the best interests of medicine in Oxford for him to be converted into a professor of any one branch of medical science.

It is now announced that two of the natives brought over from the Congo supposed to have sleeping sickness were not affected with it. The one who died was on the voyage.

To the fund being raised by the Senate of the University of London to establish an Institute of Medical Science, the Dean of the Faculty (Mr. H. T. Butlin) has given £1,000. Each of the presidents of the two colleges of physicians and surgeons has given £100.

Messrs. W. H. Smith & Son have given £1,000 to the King's College Removal Fund. The Hon. W. F. D. Smith, M.P., presented the new site.

The death is announced, in his fifty-ninth year, of Mr. Knowsley-Thornton, consulting surgeon to the Samaritan Hospital, where his chief work as an ovariotomist was done. He had been president of both the Medical and Harveian Societies. His fifty additional cases of ovariotomy appeared in 1878 with notes of several other cases of abdominal section. He contributed articles on ovariotomy, hysterectomy, etc., to Heath's "Dictionary of Surgery" and Allbutt's "System of Medicine," and numerous papers on his special department of practice to the societies and journals. He retired in 1898, and was made a county magistrate (Cambridge).

OUR BERLIN LETTER.

(From Our Special Correspondent.)

INOCULATION OF SYPHILIS IN A CHIMPANZEE—CYTODIAGNOSIS OF TABES DORSALIS—PARAFFINE INJECTIONS AND PROTHESIS—UNIVERSITY APPOINTMENTS.

BERLIN, January 3, 1904.

THE researches of Drs. Roux and Metschnikoff at the Institut Pasteur in Paris regarding the inoculation of syphilis on anthropoid apes have been repeated in Berlin by Drs. Friedenthal and Lassar. The first read a paper at the Medical Society reporting that he had vaccinated a chimpanzee and a gibbon with liquid from a hard chancre, the inoculation being made according to the ordinary rule of such operations. A fortnight afterward the animals became very dull, and at the chimpanzee's foot a vesicle filled with a clear liquid was noticed. The gibbon's feet were still more affected and vesicles appeared on both the feet and hands. The axillary, inguinal, and popliteal knee-glands began to swell, but were apparently not painful or tender. A dermatologist was consulted as to these swollen glands, but no explanation could be given, so the diagnosis of syphilis was made, though there were no pathological marks of syphilis at the vaccinated spots. The post-mortem examination, however, showed that these vesicles were caused by the presence of some parasitic organisms. The microscopical examination made by Dr. von Hansemann demonstrated the presence of these microorganisms in the stratum mucosum and stratum papillosum. Therefore the diagnosis of syphilis was an incorrect one.

Dr. Lassar demonstrated, at the next meeting of the Medical Society, a chimpanzee which he had also vaccinated with the liquid of syphilis. The person from whom it was taken was a young man who had become infected through tattooing his arm. The chimpanzee was inoculated on the lips, on the mucous membrane above the fræulum linguæ, and above the eyebrows. The result of the experiment was that a fortnight later two ulcers appeared on the animal's forehead, which healed within six weeks. Swelling of the cervical glands took place and some maculæ were noticed on the palms of the hands, at the anus, and on the soles of the feet. Whether these lesions were syphilitic or not, Dr. Lassar was not prepared to say.

Dr. Frenkel communicated his researches on cytodiagnosis of tabes to the Neurological Society. He shares the view of Widal, Sicard, and Ravaut that in the early stages of tabes dorsalis the number of lymphocytes increases in the cerebrospinal fluid. In health no foreign cells are found in this fluid, yet in very early stages of tabes an enormous increase of the lymphocytes takes place. Dr. Frenkel thinks that this fact is of great importance in the differential diagnosis between tabes dorsalis progressive, paralysis, and cerebral syphilis.

Discussing Dr. Frenkel's report, Dr. Oppenheim thought that chronic alcoholism might also show an increase in the lymphocytes. Rothmann thought that syphilis in early stages might also give the same result, but Frenkel stated that in all cases of secondary and tertiary syphilis without an affection of the nervous system there were no lymphocytes to be found.

Eckstein has published a report on his experiments with paraffine injections. He prefers the hardened paraffine, whereas Gersuny of Vienna believes more in liquid paraffine. It will be remembered that several fatal cases of embolism have been observed after this operation; one case of special interest having been published in the MEDICAL RECORD of July 11, 1903. Eckstein thinks that danger lies only in the use of liquid paraffine. Gersuny has restricted the cases in which paraffine may be of any use to a very limited number, but Eckstein advises its use in cases of umbilical hernia and of harelip.

Even with adults he has seen good results with paraffine prothesis in umbilical hernia; and in cases of harelip he favors the injections into the posterior part of the palate, as he has seen several cases in which a great improvement in speech followed this procedure.

Privatdozent Dr. Fickes, at the Hygienic Institute of the University of Berlin, has been appointed as a professor to the institute.

Dr. Sultan, Privatdozent at the University of Giessen, has become head surgeon of the new Rixdorf Hospital near Berlin.

Dr. Bonhoeffer, professor of psychiatry at the University of Koenigsberg, has been appointed as a successor to Professor Kraepelin, who is now at the Munich University.

Dr. Heinz has been appointed to the Pharmaceutical Institute of Erlangen.

Dr. Gérra, professor at the University of Koenigsberg, has been appointed as a successor to the late Professor Gussenbaur of Vienna.

LETTER FROM THE PHILIPPINES,

(From Our Special Correspondent.)

CARE OF THE INSANE—REGISTRATION OF DEATHS—DANGEROUS BOTTLED WATERS—UNFOUNDED CHARGES AGAINST HEALTH INSPECTORS—STORY OF A SPRING—WAR AGAINST LOCUSTS.

MANILA, December 5, 1903.

A BOARD has been appointed by the commission to investigate into the question of caring for the insane throughout the islands and submitting plans and estimates therefor. Under the Spanish régime, a single asylum in Manila, with a capacity for two hundred and seventy insane, was the only institution for the care of these unfortunates throughout the islands. Ordinarily, the insane are cared for by friends or relatives, but those who are dangerous have been commonly incarcerated with prisoners in the provincial jails, where they received little attention and were placed under conditions far from conducive to recovery. The board now in charge of the matter is conducting a census of the insane throughout the islands, to secure definite information as to the number of such persons for whom hospital accommodations should be provided. It is conducting its work with the dual object of arranging for the necessary number of permanent institutions, to be modern in every respect, and at the same time to make temporary accommodations to relieve present necessities. The establishment of such temporary institutions in convents near Manila, is now being considered.

The sanitary authorities have established, in the office of the Board of Health for the Philippine Islands, a bureau for the registration of the deaths of all Americans or other foreigners occurring throughout the archipelago. Many requests for information concerning persons last heard from in the Philippine Islands are constantly being received from inquiring friends, business houses, and other sources, and in order to be able to give definite information as to whether such persons have or have not died, the deaths of all persons not natives of the Philippines, together with the essential facts of name, date, place, age, sex, and occupation, must hereafter be reported to the central office of the Board of Health in Manila. In order to render the records complete in this respect, the deaths of such persons which have occurred in the past since the American occupation must be reported. Since the deaths of all persons in the military service are reported on the military records, and any desired information can be readily secured therefrom, the Board of Health death records will not include the names of officers and soldiers of the United States Army.

Analysis of the soda waters and bottled drinks sold in Manila shows that many of them are of bad character and dangerous to health. The law requires that the water from which such drinks are made shall be boiled or distilled, but this law is easily evaded by the unscrupulous, who state that the water has been boiled before use, a statement hard to disprove. Many of the low-class vendors of drinks secure their water from the first available source, irrespective of its purity. A new law has recently been drafted under which all bottled waters, drinks, ice, etc., must be made only from distilled water or that from an approved source, and this will require manufacturers to install proper distilling outfits in their establishments or purchase pure water from some public distillery. By this means such establishments can be kept under better control. The law is very drastic, calling not only for the destruction of the impure drink or bottled water, but also for the publication of the name and address of the firm or establishment manufacturing the article, with a statement that such article has been condemned as unfit for use. Insanitary establishments are also to be closed until placed in good condition.

As a result of numerous complaints made by natives opposed to sanitary improvement, who charged that sanitary inspectors of the Board of Health abused their authority, a committee was appointed by the commission, to investigate this matter. This committee expressed itself as in readiness to consider any statements, provided these were substantiated by facts, but after the lapse of several months the required positive evidence has not been forthcoming and the health department has been entirely cleared in the matter. One native newspaper which had published a number of venomous attacks against the sanitary department, issued an appeal to the people to prefer charges, when it saw that its own position was not sustained, but without effect. The Filipino is somewhat inclined to brood general statements, and these are, of course, much exaggerated when passed from mouth to mouth, but he is not desirous of being put in a position where he may be called upon to give dates, names,and facts when he knows this to be impossible.

All this opposition to sanitary reform and resentment against sanitary control, has a most serious influence on the results accomplished by the health authorities. With an unwilling and unsympathetic population, whatever is accomplished, comes as a result of coercion. It is a well-known fact that the average native will take more time and pains to avoid the requirements of the Board of Health than would be necessary to comply with them, and this spirit is by no means confined to the less educated class. This is not hard to understand. The natives, as a whole, are uncleanly in their surroundings and mode of life, and are imbued with superstition and fatalism. To these, modern sanitary rules come in conflict with racial custom, personal preference and religious teaching, and naturally the visit of the sanitary inspector is regarded with resentment and disquietude. The struggle against the combination of filth, disease, superstition, and idleness will be long and fierce, and victory will finally be won through the education of the younger generation away from the sanitary standards of the fathers.

The report of the Commissioner of Public Health for September gives an interesting incident showing the difficulties under which sanitary work is done among a peopl · whose credulity and superstition as yet frequently outweigh their faith in sanitary measures. During the first seven days of September and for some time previously, the ases of cholera had been scattering and had averaged but little more than one a day—such cases as occurred being largely limited to those who persisted in using the contaminated water of the river and esteros. On September 7 a spring of fresh water was found discharging on the Tondo water front into the salt waters of the bay, below low-tide level, and near the mouth of a sewer. This spring was at once made much of by the superstitious and various stories told of its discovery. The one most commonly believed was that an image of the infant Christ was seen floating in the waters of the bay. On the effort being made to pick it up, the image rose into the air and disappeared, while a stream of fresh water bubbled up in the place where it had been floating. The story was rapidly spread and hundreds came to drink and bathe in the miraculous waters, to which were attributed marvelous curative powers. Because of the *quasi*-religious quality with which the spring was endowed and pending examination of the water, the spring was not at once quarantined. Examination showed the water to have the qualities of sewage, and at the same time the cases of cholera through the city greatly increased. Investigation showed that many of those attacked by cholera drank of the waters of the spring, and cases occurred in sick persons to whom the water was brought by well-meaning friends. The spring was closed on September 13. During the seven days after it was discovered, 150 cases of cholera developed; in the week after it was closed the cases fell to 79, and in the next week to 64, after which there was a steady decrease to normal as the new centers of infection through the city were eradicated. It took, however, about six weeks to destroy the infection so that only a case or so occurred weekly. The outbreak was largely limited to the less intelligent classes who had flocked to the spring. The educated Filipinos largely escaped, and such cases as did occur among them and among whites were derived from secondarily infected foci of the disease. There were but four cases among Americans in a total of 290, and of these all were apparently traceable to a single secondarily infected point. Not less than 225 cases of cholera occurred as the result of the appearance of the spring and the superstition of the lower classes. The source of the spring was apparently a break in the sewer discharging near it at a higher level.

Work on the much-needed leper colony on Kulion Island has been delayed by the inability to secure sufficient native labor, and there has also been some trouble over the water supply. The work will now be let out to

private contractors, and probably much of it will be done by the Chinese or Japanese, large numbers of the latter now coming to the islands to perform the labor which there seems to be no possibility of securing Filipinos to do. There is some intention of locating a large penitentiary and reformatory on Kulion, and also a large asylum for the insane, as the island is plenty large enough for these several purposes.

The authorities have finally begun a systematic warfare against locusts, which are a curse to agricultural interests in many provinces. A law has been passed by which this matter is placed under a board established for each province, which is given power to call out every able-bodied man to assist in killing off these insects. Such persons are supported by insular funds while so engaged, and persons not complying with the orders of the board are heavily fined, and the money thus received is turned into a fund to be used for paying bounties on locusts killed by those who respond to the call. Special effort is to be made to destroy the locusts before they develop to the flying stage, as they can be more readily despatched by concerted effort. The hatching grounds are to be located, and as soon as the young locusts appear they are to be driven into deep trenches by means of portable fences, and covered up with earth or destroyed by fire. So far, this procedure has been very effective, though some of the natives are not anxious to see the locusts destroyed, but prefer to have them live, to be later used as food.

SHALL THE CONSULTANT DIVIDE FEES WITH THE GENERAL PRACTITIONER?

To the Editor of the Medical Record:

Sir: The general practitioner is still the power in the profession. The good all-around-man still dominates the family. He is called upon to decide whom to consult in troubles with eyes and ears, in surgery and internal medicine. He usually directs the patient to good men, and thereby proves that he has the interest of his client at heart. The broad-minded practitioner, therefore, is the man of the hour. His deference to the consultant, when he calls him for advice, and gets the benefit of modern treatment, medical or surgical, is usually repaid by having the consultant strengthen him with the family. The consultant, by reason of his specialty, does not compete with his brother practitioner. He has practically isolated himself by becoming a specialist. Having done so, his fees are larger comparatively, but the number of his patients is smaller. An inquiry into the relative amount of money earned by the general practitioner compared with that by the specialist usually shows that the general practitioner fares very much better, financially, on the whole, than his distinguished confrère. The question therefore arises, shall the general practitioner be entitled to any share of the consultant's fee? It is said that there is a growing tendency to request the consultant to share his fee and wrongly so with his brother practitioner. It is even hinted that certain physicians demand a portion of the consultant's fee before the consultant has seen the patient. One physician, it is said, recently refused to meet a general practitioner in consultation because he was requested to divide the paltry fee of $10 in two.

It seems to me that others must have heard of this condition existing in the profession. Would it not be well to obtain some general opinion on this vital subject?

Specialist.

January 23, 1904.

The Fontanelle or Issue as a Therapeutic Measure in Tuberculosis.—Blöte says that the beneficial results formerly observed under the application of an "issue" or superficial suppuration, artificially produced and maintained by introducing some foreign body like a pea into a small incision finds its explanation in the principles of the modern serum therapy. By the constant presence of suppurative organisms at the site of the issue a steady supply of antitoxin is being formed, which assists the body in combating some other more virulent and deeply-seated infection. The measure itself is perfectly harmless, and the issue can be healed in a week if its further presence seems undesirable. In pulmonary tuberculosis the great danger is that of mixed infection of tuberculous areas with pus producers, and it is readily conceivable that this old-fashioned procedure might advantageously be employed to-day to prevent destruction of lung tissue and cavity formation. —*Zeitschrift für Tuberkulose und Heilstättenwesen*, Vol. V, No. 2.

Progress of Medical Science.

The Boston Medical and Surgical Journal, Jan. 21, 1904.

The Prevailing Conception of Degeneracy and Degenerates, with a Plea for Introducing the Supplementary Terms Deviation and Deviate.—G. L. Walton declares that degeneracy has come to include, medically speaking, every form of constitutional variation, however innocuous, from the average normal. It is not logical to conclude that every deviation is degenerative because undoubted degenerates show many such signs. These stigmata range all the way from flocks on the iris to insanity and idiocy. It seems that they are neither more nor less than deviations from the average normal type. Not every physical peculiarity is truly degenerate; for example, while albinism may be justly regarded as degenerative, in that it implies absence of a useful constituent in the organism, a mere difference in color of the eyes is not necessarily degenerate, though it must be classed so under the present method. The term deviation may cover all variations from the average normal, whether above or below, or at the same level, in the intellectual, physical, moral, or other scale.

Clinical Lecture on Epithelioma at Massachusetts General Hospital.—J. Collins Warren calls attention to the two principal varieties of epithelioma. One is almost a malign growth and the other approaches more nearly to cancer in a clinical sense. In cancers of the skin two varieties must be recognized: First, a very superficial type known as the rodent ulcer, a small-celled epithelial cancer, and second a polymorphous-celled type characterized by larger cells, among which the characteristic nests of cells occur. The type of the former of these two varieties is the rodent ulcer of the face; types of the latter form are cancers of the lip; of the back of the hand, and of the penis. The writer goes on to describe the history of rodent ulcer, so well known to the clinician. It has an early stage when the growth is very slow, then suddenly it becomes more rapid. It begins with roughness of the surface, with a tendency to scab formation. An ulcer is finally formed. The diseased process sometimes goes on for forty years or more. Examination shows no enlargement of the lymphatic glands. This is a very characteristic feature of the disease, which makes the prognosis encouraging. The more malignant type, such as cancer of the lip, is generally associated with enlarged glands. It is now pretty generally admitted that *x*-ray therapy has a favorable influence upon very superficial carcinomata, but that the more deeply seated growths are not affected by it. It seems hardly justifiable to lose valuable time in treating a cancer of the lip, or any of its allied forms elsewhere on the body, in their early stages with *x*-rays. Prompt extirpation is indicated. In the earliest stages of rodent ulcer the removal is so easily and painlessly accomplished by the aid of subcutaneous injections of cocaine and the knife, that is is hardly necessary to consider the influence of the rays upon them. The same is true of growths ranging in size up to that of a quarter of a dollar, unless their removal would result in considerable deformity. The writer closes with a plea for more radical operations for cancer of the lip than are usually performed. He believes that the practice of incomplete "ambulatory" operations, with the aid of cocaine anæsthesia, cannot be too strongly condemned. The *x*-ray therapeutist should make himself thoroughly familiar with the more advanced and malignant phases of rodent ulcer if he wishes to make an intelligent selection of cases for treatment.

Journal of the American Medical Association, Jan. 23, 1904.

Relation of Epilepsy to Chronic Gastrointestinal Disease.—The modern views on this topic are reviewed by G. W. McCaskey, who gives the history of the case of a woman aged twenty-seven years. Seizures had been recurring about every three or four weeks for nine years. The patient was somewhat under the average power of mental and physical endurance. Examination revealed chronic gastritis and colitis and suitable treatment was instituted, but there was no substantial improvement in either the gastrointestinal disease or the epilepsy during the time that the patient was under observation—which was perhaps two or three months. The putrefactive processes of the intestinal tract seemed entirely beyond control by either diet or medication combined with suitable local treatment, and the patient finally passed from observation unimproved. A second case was that of a boy of fifteen years presenting a history of irregular nocturnal attacks of *grand mal* closely associated with exacerbations of a chronic disease of the stomach. In this case an apparent cure of the epilepsy followed a comparatively brief treatment and the patient was remaining well, three years later.

Perforating Wound of Both Cerebral Hemispheres.—The case of W. S. Lindsay was that of a young man aged nineteen years who had shot himself in the right temple,

five minutes before being seen. Bleeding was not severe, mentality seemed normal, and the special senses were not disturbed and movements of the various bodily muscles were coordinated. Examination at the hospital an hour later showed what was in effect a perforating wound of the brain, for the bullet, which was from a 32-caliber revolver, was found outside the skull on the left side, nearly opposite the point of entrance, which was one inch and a half superior and one inch and a half anterior to the meatus auditorius on the right side. The patient made an uneventful recovery, at no time showing signs of impairment of brain function, leaving the hospital on the fifteenth day seemingly as well as ever. Four months after the injury, the author examined the patient and found that on leaving the hospital the patient began the study of telegraphy, that he was now taking twenty-five words per minute, and expected to take a position with a railroad company. Examination for symptoms of sequelæ was entirely barren of results, except that there was found an unusual redness of the face. This had been a characteristic before the wound, and was simply exaggerated afterward. There had been no head pains, no flushing of the face, no defect of any sense and no interference with ideation. [In the discussion following the reading of the paper the criticism was made that one would be handicapped in pronouncing on the case as to the course of the bullet unless the exact track had been verified by autopsy, and that with such a rapidly moving body as a bullet it would be impossible to estimate how much of the injury was due to the passing of the bullet, and how much to the resulting injury and hemorrhage.]

Medical News, January 23, 1904.

Prevention of the Spread of Ringworm.—F. H. Beadles states that it has long been undisputed that the various lesions described under the title of ringworm are due to the presence of a vegetable parasite in the epidermis, hair follicles, hair, or nails. Many valuable additions have been made of late years to our knowledge of ringworm fungi. The writer points out some of the mediums of transmission. Among these may be mentioned some of the lower animals, as the dog, cat, bird, horse, cow, mouse, sheep, and many others. The nearer a fungus is to its animal origin the more rapid its growth. It loses its vitality by human transmission. Animals are not entirely responsible for the transmission of this disease. There are excellent opportunities for its diffusion in barber shops, bath houses, asylums, day nurseries, and public schools. The disease is not conveyed by the razor, but by the barber's hands, or by towels; but most often by the lathering brush. The child often catches the disease in having his hair cut by the barber. The patient under treatment should be required to sleep alone and use separate towels, combs and brushes, these articles being frequently sterilized to prevent reinfection. All domestic animals or pets which are found to be mangy should be either destroyed or isolated until, by proper care, they can be rendered incapable of the transmission of the fungus.

The Pathology and Treatment of Osteoarthritis.—Edward M. Merrins considers all the conditions in which there occur arthritic or osseous lesions more or less resembling those found in osteoarthritis. He classifies them under three heads: Infective or toxic; nutritional; traumatic. The characteristic lesions of osteoarthritis occur during the course of many infective or toxic diseases, as locomotor ataxia, tuberculosis, leprosy, syphilis, gonorrhœa, rheumatism, and gout. They are found also in various other affections, such as chronic gastrointestinal anti-intoxication and uterine disease. After repeated attacks of acute or subacute articular rheumatism, lipping occurs or osteophytes are formed, the disease thus merging into osteoarthritis. Osteophytic formation and the destruction of cartilage may result from repeated attacks of gout in a joint. In cases in which rheumatoid arthritis does not appear until middle life is reached, the characteristic osteophytes are often found in the affected joints. In certain hypertrophic affections of the bones and joints, there is imperfect or perverted nutrition. Any abnormality in the internal secretion of various glands may cause overgrowth of tissue. In acromegaly and in osteomalacia, the changes in the bones are well known. A large proportion of the cases of monarticular osteoarthritis are due directly or indirectly to some form of traumatism. The great majority of traumatic cases of osteoarthritis are found among elderly people. Evidences of osteoarthritis have been found in human remains, almost prehistoric, and in the bones of animals now extinct. Treatment is both general and local. The medical treatment is that which is appropriate for the primary condition. The source of the systemic affection must be removed and the toxins eliminated from the system. Local treatment must be very carefully applied. As soon as possible after all acute inflammation has subsided, the joints should be given baths of superheated dry air, followed by gentle passive movements of the joint and massage of the neighboring muscles, gradually increasing the range of motion. Severe pain and inflammation should never be caused. In the early stages of the disease, rest and alleviation of pain are necessary. The aim of all treatment must be to check the morbid process, keep the patient comfortable, and secure, as far as possible, freedom of movement in the joints.

New York Medical Journal, January 23, 1904.

Sterile Water Anæsthesia in the Office Treatment of Rectal Diseases.—From an experience of one hundred and fifty cases S. G. Gant is convinced that sterile water fulfils all the requirements of a local anæsthetic in rectal affections calling for operation. All the common lesions have been thus operated on without any unpleasant effects. The temperature of the water is immaterial. Pain and bleeding are less than when drugs are used. The anæsthesia is complete and instantly follows the injection, provided the latter has lightly distended the tissues to be attacked. There is no danger to any internal organ or function. The only requirements are a syringe, needle, and boiled water. The author states that the radical treatment of hemorrhoids can be so easily carried out under this method in the physician's office, with so little danger and inconvenience to the patient, that it should relegate to oblivion the much-vaunted injection treatment, which is so dangerous and uncertain.

Puerperal Sepsis and Its Treatment by Iodine.—W. R. Pryor combats the obstetrical teaching that in most cases of puerperal sepsis the infection remains localized in the uterus. His own experience has forced him to conclude that in streptococcic septic puerperal fever, pelvic lymphangitis and phlebitis are early complications. In a given case he seeks to isolate the infected uterus between masses of iodoform gauze (details for the preparation of which are given) and by local and systemic iodine to destroy the cocci. He irrigates the uterus and packs it full of gauze, 10 per cent. strength. The posterior cul-de-sac is then opened by a broad incision, adhesions separated, the uterus lifted and the pelvis packed full of gauze, 5 per cent From ten to fifteen gauze strips one yard long and eight inches wide are thus used. Cardiac stimulants are given as indicated and a self-retaining catheter is inserted. The urine is tested from time to time for iodine. From an experience of thirty-seven personal cases and sixteen in the practice of other operators, Pryor is convinced that this procedure offers much better results than does hysterectomy. Of the fifty-three cases enumerated, a previous curetting had been done in ten, and of these, three died. In forty-three cases not previously operated on, but one died.

American Medicine, January 23, 1904.

The Modern Treatment of Wounds.—Walter Lathrop states that he has had under his care during the past four years nearly two thousand wounds of various kinds. The majority of wounds which railway surgeons are called upon to treat are of the lacerated variety. In treating this type of wound, hemorrhage should be checked, and the wound and surrounding parts then carefully cleansed. If the injury is severe, the patient should be etherized, so that the cleaning of the wound may be thorough. The writer prefers formaldehyde soap, 10 per cent., to begin with, followed by mercuric chloride solution and sterile water. The skin is trimmed where it is necessary, and the wound converted, as nearly as possible, into an incised one. Severed tendons are united, and the injured member dressed with sterilized gauze and cotton. A dusting powder may be used if advisable. Drainage is sometimes necessary. The writer then uses sterile or iodoform (5 per cent.) gauze. If the wound have clean-cut edges, the aseptic procedure should be thorough in order that primary union may take place. The subject of infection is most important. The writer believes that the injudicious use of poultices is the cause of more cases of infected wounds, abscesses, diffuse cellulitis, and septicæmia than any other agent except direct infection. The common poultice is a hot-bed for bacteria. The one great agent in combating infection is carbolic acid. In cases seen late in which the septic process has invaded the system, the use of antistreptococcus serum is very valuable. In gunshot wounds of the extremities the Röntgen ray is a great help in locating the bullet, and makes its removal easy.

Physical Overexertion, and Its Effects on Health.—John Knott emphasizes the fact that exercise, in order to do good, must be indulged in with moderation. In analyzing the effects of exercise, the writer first touches upon the muscles. In an active muscle, nutritive changes take place far more rapidly, and on a larger scale, than in a resting one. The waste products are carried off in larger quantity, and new materials are absorbed with greater rapidity. Again, muscle forms so large a proportion of the

mass of the body that it is known as the great furnace of the animal economy—about four-fifths of the total heat of the system being evolved within it, It is most important to maintain a healthy functional activity of the muscular system. With the increase of the muscular action the amount of waste products is also increased. Up to a certain point, the system is able to eliminate this waste, but in over-exertion a point is reached beyond which the effete products begin to accumulate in the circulation and in the tissues. Fatigue then becomes manifest. When muscular fatigue is carried to excess, the healthy nutrition of the other organs and tissues can no longer be maintained. This condition has a special effect upon the nerve centers. When the nutrition of the latter becomes deranged, the nutritional changes and functional capacities of the whole system are disturbed. The writer then touches upon the phenomena of excessive muscular exertion, which take place in running. "The brain is overcome by a kind of drunkenness." The writer believes that the "fever of over-exertion" is due to the poisoning of the nerve centers by the muscular waste products. The heat-regulating centers lose their governing powers and the body wastes with slow fever. There are various local affections which are likely to be produced by excessive exercise, such as hypertrophy and dilatation of the heart, aneurysm, and varicose veins. It is necessary for even those who have been blessed with an unusual physique to remember that the overuse of the body may lead to a sudden and permanent breakdown of health.

Deutsche medizinische Wochenschrift, January 1, 1904.

Is Appendicitis More Frequent Now than Formerly?—Villaret has found, from the statistics of the German Army, that while in the year 1873 the percentage of cases of appendicitis was only .52 per cent., in 1900 it was 1.73 per cent. That this increase is only apparent, however, is shown by the fact that peritonitis, liver diseases, and stomach diseases have all fallen off greatly, so that while in 1873 the total morbidity from these three conditions plus appendicitis was 4.79 per cent., in 1900 the corresponding figure was only 2.66 per cent. It is therefore clear that the greater number of cases of appendicitis encountered at present is due only to more accurate diagnosis.

The Relations of Anthrax Bacilli to the Endothelial Cells of Mice and Guinea-pigs.—Behring and Much found that by using a special stain of eosin, methylene blue, and glycerin, peculiar staining reactions were produced in the endothelial cells of experiment animals infected with cultures of anthrax bacilli. By careful adjustment of the virulence of the cultures employed, it was possible to protract or shorten the course of the disease and produce staining pictures of different characters. The bodies of the endothelial cells of normal animals are stained pale blue by this method, but after infection with slightly virulent cultures of anthrax bacilli, particularly if the course of the disease has been protracted, the blue is replaced by a pink color, which is termed oxyphilia. From ten to many hundred times more bacilli are found in the endothelial cells of the heart and vessels than in the blood, and the organisms appear to invade the sub-endothelial lymph spaces also. Similar observations were made on the peritoneal endothelium. The authors believe that the oxyphilia of the endothelial cells represents a degenerative change produced by the action of the bacteria, and that these cells finally undergo colloidal disintegration and set free agglutinins specific for the organisms in question. The antibodies for the toxin of anthrax bacilli originate in the endothelial cells, and are brought into contact with the bacterial poison through the colloidal solution of the antibodies in the intravascular fluids and intracellular tissue juices.

The Treatment of Post-partum Hemorrhage.—Fritsch says that post-partum hemorrhage due to atony is usually the result of improper management of the third stage, *i. e.* under haste to express the placenta or premature massage of the fundus. This causes partial separation of the placenta while the uterus is still unable to contract firmly on account of its contents. Packing the uterus requires time and experience, and considerable blood is lost in executing it. The author's method consists in seizing the uterus with both hands and expelling all coagula and then lifting it upward and forward so as to anteflect it forcibly over the symphysis. The abdominal wall is then pushed deeply into the pelvis behind the uterus and the depression so formed filled with folded towels, cloths, gauze, or anything available. This mass is secured by several turns of a bandage very firmly applied, and one or two more turns are placed over the fundus so as to compress it against the posterior pad. In this way the uterine cavity is obliterated so that no further bleeding can occur and no asepsis or intrauterine after-treatment is required. The apparatus does not give pain and is removed at the end of eight to twelve hours. Suturing lacerations to check hemorrhage is poor practice, because it is not possible to carry the needle deep enough without risk of injury to the ureter, and tamponnade is not effective if a large vessel is torn across. The author has found the following the best plan: Remove the placenta and press the uterus deep into the pelvis with the right hand. Catch the labia majora with the fingers of the left hand and push the vulva upward as if to meet the uterus. Forcible pressure in this way obliterates all dead space, and at the end of one-half to three-quarters of an hour the upper hand may be replaced by a sand-bag or other suitable heavy object.

Berliner klinische Wochenschrift, January 4, 1904.

Actinomycosis or Osteomyelitis of the Femur?—Von Bergmann says that recent studies on the nature of the actinomycosis fungus have shown that it merits greater consideration than has been accorded it in the past, and that it may occasion difficulties in diagnosis. It has been established that in addition to the modes of entry into the human body of the fungus formerly recognized, viz., the mouth and pharynx, the respiratory tract and the alimentary canal, a fourth must be added, through the skin. Köhler has described a case in which the tibia was attacked and seriously damaged by an actinomycotic infection which could only have occurred through the skin, and the author reports a case of his own in which actinomycosis of the soft parts closely simulated osteomyelitis of the femur. The patient, a man of twenty-nine, five years previously had been kicked in the knee by a horse, and though the wound of the skin so produced had healed under suitable treatment, a painful swelling of the region followed and finally completely incapacitated him. On coming under observation the picture presented in many ways resembled an osteomyelitis, but a number of features, such as the extreme chronicity of the case and the absence of temperature, were against this diagnosis, and on incision widespread actinomycotic invasion of the soft parts was found. The femur was intact, and after five months of treatment, consisting of repeated curettages of the areas involved, recovery ensued.

French and Italian Journals.

Experiments on Strangulation of the Intestine without Perforation.—Giuseppe del Conte reports eight experiments showing that it is not difficult to cause death by intestinal obstruction and without perforation or gangrene of the intestine. In these cases the injury to the intestinal muscles is most important, as it can oppose an insurmountable barrier. The animal never dies of septicæmia in this condition, but death comes from autointoxication.—*Giornale Internazionale delle Scienze Mediche*, November, 1903.

Malignant Degeneration of the Cervix after Hysterectomy in Fibroma.—Richelot says that he prefers total hysterectomy to any less radical operation, unless there is a serious counterindication. He prefers hysterectomy to myomectomy in all cases which are no longer young and when the uterus is not worth saving. He says that the fibrous degeneration has not deserved its benign reputation, and these tumors should be kept under observation from the beginning, because operation is indicated as soon as there is any sign of change. Often when indications for operation are disregarded, the patient succumbs to phlebitis or visceral complications. Carcinomatous degeneration is much commoner than sarcomatous.—*Annales de Gynécologie et d'Obstetrique*, December, 1903.

The General Treatment of Dermatoses.—Busscires teaches that certain articles of food, as strawberries, shellfish, and fish, may cause urticaria, in certain individual cases and if long continued, eczema. In other subjects with more sensitive idiosyncrasies, these disorders may follow ingestion of veal, eggs, etc. Some kinds of foods increase the pruritus of dermatitis or produce it *de novo*. Above all, alcohol is of importance. Psoriasis, usually indolent, becomes itching in alcoholics. Also coffee, pastry, crawfish, paté de foie gras, game, etc., act in a similar complex way. It is noted that certain dermatoses are produced or aggravated by a defective diet, rather because it is too abundant than because it is too limited, especially so when the general hygiene is also defective. There is no special diet for dermatoses, but each patient must have a special régime, which is partly determined by the dermatosis and partly by the other morbid manifestations, exhibiting or expected, hereditary or personal. Alimentation is only a part of the régime; it also includes general hygiene, which demands a balance between the ingesta and the activity of the individual. Overeating is common in adults and more so in children. An old author says that what one eats can be divided into thirds, one part for the needs of the body, one for gluttony, and one for the soil for future diseases. Besides other precautions, sufficient exercise is necessary. Some eczemas can be cured

with a bicycle. Fresh air is also necessary. Walking, riding, and boating give results which gymnastics alone do not accomplish. Neurasthenia, moral depression, and mental fatigue are often the causes of nervous dermatoses. These require a change of air and scene.—*Journal de Médecine de Bordeaux*, No. 1, 1904.

The Chronic Inflammations of the Suprarenal Gland of Infectious Origin and Chronic Suprarenal Insufficiency.—In the case reported by Emile Sargent the patient had asthenia, emaciation, anæmia, vomiting, abdominal pains, tachycardia, high arterial tension, and tendency to elevation of temperature, and to collapse and fainting—all of which compose the usual picture of chronic suprarenal insufficiency. In addition, in this case there were tetanoid contractions of the masseter muscles before death. Muscular exhaustion consequent on the suppression of the capsular function is a new element in diagnosis. Very slight intercurrent infections, as a sore throat, may have a grave prognosis in these cases, even a rapidly fatal ending. The author emphasizes the point that toxic infectious diseases may leave extensive changes in the suprarenal gland as sequelæ, comparable to chronic nephritis after scarlatina and giving the syndrome of the affection under consideration—that is, a simple insufficiency with melanoderma. The author had previously reported a case of sudden death from acute suprarenalitis in pneumonia. It is probable that there are many cases of acute suprarenalitis which are not severe enough to leave permanent effects. In the author s case there was cirrhosis of the gland. The history of the case explains some doubtful points in the pathology of the capsule and also of Addison's disease. The integrity of the nervous plexuses in these cases of suprarenalitis is undeniable, and the lesion is found only in the gland. The symptoms noted are dependent upon the suprarenal secretion, but the case is different with the melanoderma. The clinical history of toxic infectious suprarenalitis is sufficient to establish a simple insufficiency in contradistinction to Addison's disease, in which irritation of the neighborhood of the sympathetic plexuses is combined with the destructive lesion of the capsule; thus accounting for the melanoderma associated with the suprarenal insufficiency.—*Archives Générales de Médecine*, No. 1, 1904.

The American Journal of the Medical Sciences, Dec., 1903.

A Case of the Epiphenomena of Diphtheria Antitoxin.—James P. Marsh reports this interesting case. He injected into the subcutaneous tissue of the back of a patient suffering with diphtheria, the contents of a bottle of diphtheria antitoxin. The bottle contained 1,500 units of the antitoxin. The patient within a few minutes was seized with severe symptoms. She became very much cyanosed and semicomatose. She was numb all over her body, and she could not see anything in the room. A severe itching, stinging rash came out all over her body. It took about thirty-six hours for the rash to disappear entirely. The patient's convalescence was rapid and uneventful. The writer believes that this case came very near being fatal. The symptoms, he thinks, were not due to the antitoxin, *per se*, but to an idiosyncrasy on the part of this patient to contact with a horse or anything derived from that animal. The patient gave the history of always being affected by uncontrollable sneezing attacks whenever she came neat to a horse.

A Contribution to the Surgery of Cerebral Tumors.—George Woolsey presents an instructive paper including a table of 101 cases of cerebral tumors. He emphasizes the following conclusions: (1) The sphere of operation for cerebral tumors may be and has been extended to those parts of the cortex where tumors are accessible and localizable, *i.e.* to the prefontal, parietal, and occipital regions, in addition to the motor area. (2) The prognosis, both immediate and remote, is as good or even better than in operations for malignant growths in some other locations. (3) This prognosis has improved with the improvements in localization and operative technique, and with the limitation of the radical operation to cases accurately localized. (4) The palliative operation is strongly indicated to relieve symptoms where localization cannot be accurate'y made or the tumor cannot be removed. The exploratory operation is contraindicated. (5) Practically all circumscribed growths of moderate size are suitable for operation. (6) The osteoplastic method should be employed and the most rapid and perfect technique adopted which the circumstances allow.

Clinical Lecture on the Symptomatology and Treatment of Trifacial Neuralgia.—Charles H. Frazier in discussing the etiology of this affection, states that in every case, the fundamental cause lies in some structural change, either central, *i.e.* in the Gasserian ganglion, or peripheral, in one of its divisions. The symptoms of any one case will depend upon whether the ganglion or one or all of its divisions are affected. The pain is spontaneous and paroxysmal. Pain may nearly always be elicited by pressure over the so-called "tender points." In summing up the treatment of trifacial neuralgia, the writer believes that in all incipient cases the predisposing cause should be removed. Strychnine should be administered hypodermically in heroic doses under proper precautions. In cases that do not respond to this mode of treatment, where the pain is referred to but one branch, the peripheral operation is to be recommended, even though the operation may have to be repeated. It will afford relief, at least temporarily in every case, and in some cases permanently. When the peripheral operation has failed to afford but temporary relief, even though it may have been properly executed and repeatedly performed, or when from the outset the pain is referred to two or more branches, recourse should be had at once to an intracranial operation, either division of the sensory root, or, in certain selected cases, division of the second and third divisions, with interposition of a foreign substance to prevent reunion.

Tumors of the Sigmoid Flexure.—C. A Ewald gives a general review of tumors of this region. Fecal accumulations are the most frequent, and present but little difficulty in diagnosis. These tumors are comparatively soft, and they not only occupy the descending colon, but also the rectum. Of the solid tumors, the most frequent are the carcinomata of the sigmoid. The constant loss of weight, for which there is no known cause, is most suspicious in such cases. The appetite remains good. There is no vomiting, and no local pain. In one group of cases, the neoplasm grows into the lumen of the intestine, drawing the outer wall into it. It is hardly possible to palpate this growth, as there is no thickening. Such growths for a long time may lead to but slight symptoms or no symptoms at all. Suddenly there may occur an obstinate constipation. Such attacks may repeatedly occur until finally cathartics are of no use. The writer calls attention to those cases of highly situated hemorrhoids which are the source of continuous bleedings. These must be differentiated from malignant tumors. Finally, attention is called to the condition of autointestinal intoxication as a result of marked constipation of long standing. Palpation of the abdomen reveals several hard, fecal masses. After the intestinal tract is cleared there is a complete return to normal condition.

The Anatomical Basis of the Argyll-Robertson Pupil.—Henry M. Thomas discusses Argyll-Robertson's explanation of the symptom which bears his name, adding that the solution of this question is still to be found. The writer gives certain conclusions which he believes to be the best substantiated view: The sphincter and dilator muscles of the iris are composed of smooth muscle fibers, and are each controlled by sympathetic nerve fibers. As is true of the sympathetic nervous system in general, the path from the central nervous system to the periphery is made up of two sets of nerve fibers—the so-called pre-ganglionic and the post-ganglionic fibers. The pre-ganglionic fibers, which control the sphincter muscles of the iris, arise from a definite group of cells in the anterior part of the nucleus of the third nerve, and run to the ciliary ganglion. From this ganglion the post-ganglionic fibers arise and are distributed through the short ciliary nerve to the sphincter muscle. The path controlling the dilator muscle is a longer and more complex one. Its pre-ganglionic fibers arise from cells in the spinal cord, which are probably situated in the lateral horns, about the level of the junction of its thoracic and cervical portion. The fibers leave the cord mostly by the first thoracic nerve and run in the cervical sympathetic to the superior cervical ganglion. From this structure post-ganglionic fibers arise, which, after a somewhat circuitous route, reach the eye and the dilator muscle of the iris through the long ciliary nerves. The writer cites the views of various authorities on this subject, among which that of Bernheimer is simple and direct. He believes that the reflex arc upon which the contraction of the pupil to light depends is of the simplest nature. The apparent line is made up of the pupillary reflex fibers, which arise in the retina, partly decussate in the chiasm, and run directly to the sphincter center of the third nucleus, the center on each side receiving fibers from both optic tracts, and being virtually connected with each other. The efferent limb is composed of fibers which arise in the sphincter center and run directly to the sphincter muscle of the iris without making connection with the ciliary ganglion or elsewhere. The writer declares that the data which wehave at present are too incomplete and conflicting to allow any of the present views to be accepted as final. However, if these fibers do not end as Bernheimer believes, we do not know how they end. Marina insists upon the importance of the ciliary ganglion, although he admits the presence of other reflex centers for light. Knowledge of the sympathetic system is too incomplete to allow us to formulate any clear idea of how the ciliary ganglion could act as a reflex light center.

Society Reports.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Ninety-eighth Annual Meeting, Held in Albany, N. Y., January 26, 27, and 28, 1904.

FIRST DAY—TUESDAY, JANUARY 26.

THE meeting was called to order by the President, Dr. Algernon T. Bristow of Brooklyn, in the Council Chamber of the City Hall, Albany, at 10.15 A.M., and the session was opened with prayer by the Rev. Dr. Whittaker.

President's Inaugural Address.—Dr. A. T. BRISTOW presented this address. He favored the continuance of the semi-annual scientific meetings. At present the total active membership of the State Society was 1,135, made up of 673 delegates and 462 members. The total membership of all the county societies was 5,680, and if the State Society reorganized on the plan now under consideration, the membership would be 5,700.

Regarding recent epidemics of typhoid fever, the speaker said that it was of little use for our State to make laws against the pollution of running streams unless similar laws in other States protected each State from contamination arising beyond its borders. A secretary of public health was as much a necessity as a secretary of commerce or of agriculture. Defects in the laws regarding the sale of dangerous drugs, and the restrictions on the practice of medicine were pointed out and commented upon. The control of quackery could never be really effective, the speaker said, until all distinctive sectarian titles were no longer recognized by the State, and were generally discarded. It should be the sincere hope of all that these titles would soon be merged into the ancient and honorable title of "Doctor of Medicine."

In conclusion, the president said that after twenty-two years of strife, heart-burning, recrimination, and misunderstanding, it was at last possible, by a stroke of the pen, to have peace, and it was for the society to decide whether it would have this or not.

Report of the Joint Committee of Conference.—The report of this committee was read read by Dr. HENRY L. ELSNER. The outline of the proposed plan of consolidation of the two State medical organizations has already been published (see MEDICAL RECORD, January, 16, p. 103). The report of the expert accountants on the financial condition of the two contracting parties showed a balance on hand in the treasury of the State Society of $2,744.25, and in the treasury of the State Association of $4,531.54. This last amount does not include the library, the original cost of which is estimated at $35,000.

During the reading of the report of this committee, which included the proposed constitution and by-laws of the united and reorganized society, there were over 150 persons present.

Dr. A. JACOBI, Chairman of the Joint Committee of Conference, also made an address. He emphasized the fact that perfect harmony had existed throughout all the many and trying deliberations of the committee. Special thanks were due to Dr. Henry L. Elsner and to Dr. W. R. Townsend of the committee, and to the president of the society, Dr. A. T. Bristow. He exhorted all the county societies to exercise patience, good sense, and patriotism, and to heed the urgent call of the hour for union of the profession of this great State.

Dr. Jacobi then moved the adoption of the following resolutions:

"*Resolved*, That the report of the Joint Committee of Conference be accepted, and that the proposed agreement for the consolidation of The Medical Society of the State of New York and The New York State Medical Association be, and the same is hereby approved, and the president of the society is hereby authorized and directed to execute the same in the name, and on behalf of the society, and the secretary is hereby authorized and directed to affix the corporate seal thereto; and be it further

"*Resolved*, That the committee of the society, heretofore appointed for the purpose of bringing about the consolidation, be, and is hereby continued, as such committee with full power and authority to do whatever may be necessary to carry the agreement into effect."

Speeches were made by Dr. D. B. St. John Roosa of New York, Dr. William Warren Potter of Buffalo, Dr. Willis G. Macdonald of Albany, and Dr. Roswell Park of Buffalo, heartily seconding Dr. Jacobi's motion, and the resolutions were carried unanimously amid prolonged and enthusiastic applause. The report was ordered printed and distributed to every physician in the State.

Report of the Committee on Hygiene.—Dr. JOHN L. HEFFRON of Syracuse presented this report. In speaking of the ravages of typhoid fever, he said that every village, city, and house sewering into public waters should be compelled to purify such sewage before it is allowed to enter such waters. Even more important, however, in his opinion, was the proper disinfection of typhoid discharges. The prevalent idea that frost killed typhoid germs, should be vigorously and intelligently combated. The society should give its support to a bill, now before the Legislature, forbidding the sale of blank cartridges to minors.

State Medical Examinations.—The report of this board stated that out of 756 candidates for license, during the past year, 667 appeared before the Board of the State Society, 43 before the homœopathic board, and 46 before the eclectic board. There were 123, or 16.2 per cent., rejected.

The Modern Pharmacology of Iron.—Dr. REYNOLD W. WILCOX of New York read this paper. In it he discussed briefly the chemical properties of an ideal preparation of iron.

Tic Douloureux and Other Neuralgias from Intranasal and Excessive Accessory Sinus Pressures.—Dr. SARGENT F. SNOW of Syracuse presented this paper. He said that, in the twenty chronic cases that he had observed and treated, he had seen none that required excision of the nerve to obtain relief. Each one had presented well-marked intranasal pressure or collections in some of the sinuses. A pain radiating from the bridge of the nose outward or upward usually indicated involvement of the anterior ethmoids; a deeper or more intense pain under, or behind the eye, pointed to the middle and posterior ethmoids; while still deeper, splitting pain, radiating outward from the center of the head, pointed to involvement of the sphenoid. It could not be denied that many cases of tic douloureux resulted from intranasal pressures, and treatment directed to the removal of such pressure often relieved the tic.

Traumatic Hemorrhage Over the Third Anterior Frontal Convolution; Operation; Removal; Recovery.—Dr. W. C. KRAUSS of Buffalo reported an interesting case of this kind. The patient was a robust man of fifty-six years, who had formerly enjoyed good health. He fell from a trolley car, striking the head and shoulder. That night he suffered intensely from pain in the occipital region. The next day he read and conversed with his family and seemed to be improving rapidly, but the following morning he began to talk unintelligibly and incoherently. Finally surgical aid was invoked, and he was operated on by Dr. M. Hartwig. A small localized hemorrhage was found on the side of the head opposite to the one receiving the blow. No change in speech occurred for many hours after the injury. The vessel injured was a small vein of the pia, apparently situated just anterior to the speech center. The diagnosis of hysteria was not entirely excluded until the occurrence of facial epilepsy on the right side, associated with aphasia. The man was restored to perfect health in a few weeks.

Enuresis.—Dr. GEORGE E. BEILBY of the State Industrial School at Rochester, read this paper. He said that enuresis was most common between the third and tenth years of life, and affected both sexes about equally. There were, however, a large number of cases seen in adolescence in institutions, especially among males. These cases were especially difficult to treat. In the State Industrial School at Rochester he found from 4 to 10 per cent. of the population suffered from enuresis. In other institutions the percentage of such cases was even higher. The author had records of seventy-five well-marked cases. Only two of them were imbeciles, and in only seven were there marked signs of degeneracy. Examination of the urine revealed no marked abnormalities, nor was there evidence of calculus of or vesical irritation. In only a few was there any marked phimosis. He, therefore, concluded that the majority of the cases must be explained by irritability of the lumbar enlargement of the cord. Sixty had nocturnal enuresis; two diurnal, and thirteen both nocturnal and diurnal. Six had incontinence of fæces as well as of urine. The duration of the enuresis varied from a few months to several years. Many of these patients were known to be chronic and excessive masturbators; indeed, such a history was elicited in seventy-one of the cases. The ones proving most obstinate were those in which masturbation was most excessive. Treatment should consist in an appeal to the moral sense, and in improving the physical condition and attempting to relieve the irritability of the lumbar cord. Circumcision was performed in his cases, almost as a routine, even when there was no phimosis, because of the profound mental impression it produced, and its tendency to prevent masturbation. Cold spinal douching and counter-irritation over the lumbar cord were indicated, and antispasmodics were generally beneficial.

Toxæmia in Tuberculosis of the Cervical Lymphatic Glands.—Dr. ARTHUR W. ELTING of Albany reported a case of this kind. The patient was twenty-six years of age, and presented an enlargement of the right side of the neck. At first, a diagnosis of Hodgkin's disease was made. The glandular mass was removed by operation, the procedure being greatly facilitated by division of the sternomastoid. This muscle was sutured, with good functional result. Microscopical examination showed the typical appearance of tuberculous glands with caseation. A few tubercle bacilli were also detected. The blood picture presented before operation certainly suggested Hodgkin's disease, yet the blood returned to the normal after recovery of the patient. It was worthy of note that the patient's condition became very critical after the operation, and lasted for some time. This was probably due to the entrance of a large quantity of toxins into the circulation as a result of the manipulations incident to the operation.

Dilated Urachus.—Dr. C. F. TIMMERMAN of Amsterdam read a report of such a case and presented a specimen.

Insufficiency of the Pylorus.—Dr. MARK I. KNAPP of New York read this paper, based on an experience in fifty consecutive cases. He said that it was well known that pyloric stenosis was the forerunner of insufficiency of the pylorus. In insufficiency there was very little chyme, and what was present was coarse. It should be remembered that absence of chyme was not due to hypermotility. The immediate cause was a chronic inflammation of the pylorus. Insufficiency of the pylorus presented no symptoms. Alkaline treatment was appropriate for this condition.

Symposium on Diabetes.—This comprised the following papers:

Pathology.—Dr. R. M. PEARCE of Albany discussed this topic. He said that in only half of the cases of diabetes could any gross lesion of the pancreas be found. The most important work in the histology and pathology of diabetes had been done in this country in the last three or four years, inaugurated by Opie. He showed two definite forms of chronic pancreatitis. (1) an interlobular; (2) an interacinar form. The latter also invades the islands of Langerhans. In the first variety, diabetes practically never occurred, but in the second variety, diabetes was present in one out of the twenty cases studied. Dr. Pearce said he had collected twenty-three cases of cancer of the pancreas, and in only three had glycosuria been present. Two of these three were typical cases of diabetes. In both diabetic cases the cancer was in the heads of the pancreas and obstructed the pancreatic duct. In both cases also, it should be noted, there was distinct involvement of the islands of Langerhans by fibrous tissue. He had traced the development of these islands, and had found that they arose from the true secreting glands, but, at a certain stage, took on a new form and became thoroughly differentiated. It was well known that there was seldom any such special differentiation without the structure being endowed with a special function. It was also significant that the islands of Langerhans were more resistant than other parts of the pancreas to destructive processes. Dr. Pearce said he did not believe that all forms of diabetes were due to the pancreas, but recent additions to our knowledge had certainly given us a more satisfactory basis.

Physiological Chemistry.—Dr. DAVID EDSALL of Philadelphia, Pa., discussed this subject. He said that it was no longer believed that there existed, in the blood-stream, any important glycolytic ferment. It had been shown that diabetes did not occur if the liver as well as the pancreas, were extirpated in birds and frogs. It was a remarkable fact that in birds, extirpation of the pancreas caused a disappearance of the glycogen from the tissues and an excess of sugar in the blood and yet glycosuria does not occur. Sugars were probably far more varied in their nature than they were now known to be. The difficulty in diabetes might be one of glycogen construction, or one of excessively rapid conversion of glycogen into sugar.

Medical Treatment of Diabetes.—Dr. WILLIAM H. THOMSON of New York read this paper. He said that he could contribute very little to this necessarily empyrical subject, except by citations from his own experience. A glycosuria lasting more than a year, he generally pronounced diabetes. The presence of diacetic acid in the urine was generally indicative of confirmed diabetes. The younger the patient, the worse the prognosis. The daily output of urea should be determined, for, even though the patient were obese, if the percentage of urea were continuously high, emaciation was really going on. He very rarely prescribed codeine or any other of the opium derivatives, in diabetes; on the contrary, he condemned their use, for he believed that medicines of this class—"functional medicines"—could not permanently affect the tissues. For many years he had advocated cod-liver oil for diabetes, and especially urged its use in young subjects. This was an undoubted empirical fact, though he was unable to state the nature of its action in this disease. However, obesity contraindicated the use of cod-liver oil, and its administration was not advisable in persons leading a sedentary life. Next to cod-liver oil he would place iron. Arsenic was also beneficial, and was given by him usually in the form of arsenious acid. When the output of sugar was so large as to require prompt relief he gave fifteen grains each of antipyrin and benzoate of sodium, four times a day. After a time he would substitute fifteen grains of aspirin and ten grains of bismuth salicylate. Alkaline waters had for a long time deservedly held a high place, but it should be remembered that the continued use of such waters in persons who were emaciating was always prejudicial. However, diabetes was always a very grave disease, because it necessitated the elimination of an important element from the diet and eventually the system would secure the sugar it so much craved by the conver-

sion of its own proteids. Then would come a condition of toxæmia An impending diabetic coma was often heralded by the kidneys in the deposition of a peculiar form of casts.

General Management of Diabetes.—Dr. F. C. SHATTUCK of Boston read this paper. He said that very little could be done in the preventive treatment of this disease. Except in very mild cases, the diet should be at once restricted. If diacetic acid and acetone were present in the urine, a radical change in diet was dangerous. The patient should be weighed at short intervals, and the patient should learn, in a general way, the quantity of each of the articles of diet to be taken. In the milder cases, a strict diet should be maintained for a month or two, and then the toleration for starch should be tested. In the severer cases one must be more careful in giving bread. He made but little use of the manufactured diabetic breads, having found them unreliable. No diabetic bread, which was palatable, was safe to use for any great length of time. If, in spite of a rigid diet, the sugar in the urine persisted, a certain amount of bread should be allowed. Diabetics were sensitive to cold, and therefore should be warmly clothed. Rest, both of body and mind, was highly important. Exercise should be taken in moderation, and the best general rule in this regard was that, if after exercise and rest for an hour, the feeling of weariness had not passed off, too much exercise had been taken.

The Occurrence of Diabetic and Non-diabetic Glycosuria in the Same Individual.—Dr. HEINRICH STERN of New York presented this paper. He said that the diabetic state might be well established before glucose was excreted by the urine. Diabetic glycosuria was nothing more than the salient feature of the second stage of the diabetic deterioration. Glycosuria was a symptom of manifold other disturbances of ectogenous as well as of endogenous causation. With the assistance of various discrepant factors we were enabled to differentiate clinically between the diabetic and non-diabetic forms of glycosuria. Duplex mellituria was the result of two concurrent or intercurrent affections of dissimilar character having the one symptom, glycosuria, in common. The recognition of duplex mellituria depended on the alternate prominence of one set of symptoms, including the respective glycosuria.

Conflicting Claims of General Education and of Professional Education.—ARTHUR T. HADLEY, LL.D., president of Yale University, delivered an address on this theme before the society at its evening session, held in the Senate chamber. He said that the period of technical training requisite for the modern physician had become so long as to make it a burden to all, and an insuperable burden to those who were poor. The difference at the present time between the professional school and the college was not so much in the things studied as in the atmosphere in which they are studied. In the professional school there was a greater intensity of application, but this was secured by a sacrifice of a certain breadth of view; indeed, the very intensity of the effort in the professional school tended very strongly to an undue predominance of the commercial idea. The speaker advised those contemplating a professional career to obtain some of their preliminary professional education in the broader atmosphere of the college. The sooner a man's brain began to turn to his life work, the better, but the later a man's horizon tended to be narrowed to the sphere of his life work, the better also. He would not shorten the college course, but would include within it all the scientific studies which such a course could be made to convey, and would secure a fuller recognition by our professional schools of the results of such study. Our professional men must be men first and technologists afterward. Any true system of education should find a way of helping men to broaden their mental and moral horizon even while they were learning to concentrate their vision on their special fields of activity.

President's Address: "The Present Status of the Medical Expert."—Dr. ALGERNON T. BRISTOW of Brooklyn took this as the theme of the annual address of the president. After quoting some of the vigorous denunciations of the medical expert emanating from the bench, he asked if it were possible, or even probable, that all the members of the medical profession were liars and perjurers, and that all the noble and true men were in the legal profession. Certainly, the history of the medical profession showed that it never shrank from duty, and that it was not lacking in unselfishness and moral courage. If medical testimony were now without value, it was reasonable, the speaker thought, to look elsewhere for the cause than to the personal character of medical experts. Some judges admitted that the system of medical testimony was inherently faulty, but excused this state of affairs on the specious plea that a change in the mode of legal procedure would result in chaos and disaster. It was a pernicious rule that held that a technical education of three or four years in a medical school was on a par with the man having the same education, with added years of experience. It was this rule which led to much conflicting medical testimony, and brought such testimony into disrepute with the public. Strenuous efforts were made, at the cost of much time and money, to secure an unbiased jury, and yet just an opposite course was pursued in the calling of medical experts. What wonder, then, that little weight is attached to such prejudiced testimony! The remedy for all this was to be found in modifying the present objectionable legal procedure. The hypothetical question was a source of much confusion and error. It was very commonly framed in such a way as to suppress part of the truth, and yet the witness was sworn to tell the *whole* truth. The medical profession was weary of the cheap and violent denunciations from the press, denunciations which were wholly unwarranted in view of admissions made by the legal profession regarding the glaring defects of their system. It was admittedly impossible to convict the expert of perjury because it is opinion evidence, and yet one judge went so far as to suggest that a remedy for the existing evil might be found in the expulsion of the expert from his medical society. Doubtless, the problem was a difficult one, but the legal profession had shown a decided disinclination to meet the medical profession half way in the effort to improve the mode of procedure. A good deal could be accomplished in the way of reform by the enactment of laws which would secure the proper qualification of experts. The selection of the experts for both sides, if made by the bench, would eliminate much biased testimony, and if the experts were paid by the State, another step in advance would be made.

SECOND DAY—WEDNESDAY, JANUARY 27.

Future Meetings of the Society.—In accordance with suggestions contained in the president's address, the society voted in favor of continuing the semi-annual scientific meetings, holding them successively in Buffalo, Rochester, Syracuse, and New York. It was also decided that hereafter the annual meeting in Albany should begin on Tuesday afternoon and continue until Thursday evening, and that the annual dinner be held on that evening.

The Submerged Tonsil.—Dr. THOMAS J. HARRIS of New York read a paper with this title. He said that the term should not be confined to the moderately enlarged tonsil partly hidden by the faucial pillar. The inflammatory, hyperplastic form was the one found in the submerged tonsil. Among the symptoms of the condition were, repeated attacks of peritonsillar abscess and of non-suppurative tonsillar inflammation; pain, vaguely referred to the throat, and perhaps associated with a well-developed follicular condition; a constant collection of mucus in the throat; earache, and annoying cough. It should be remembered that a peritonsillar abscess was at the outer side of the tonsil. A knife, carried parallel to the axis of the tonsil and between it and the anterior or posterior pillar, as the case might be, would enter the base of the

abscess without difficulty or risk of wounding any important blood-vessels. As ordinarily done, tonsillotomy was an incomplete operation. His own practice was to endeavor to secure complete removal of the tonsil. The treatment of the submerged tonsil was essentially surgical and consisted, first, in freeing the adherent anterior pillar, and, if necessary, the posterior pillar; and, secondly, the removal of the tonsil in whole, or in part, the separation of the adherent pillar was an indispensable step in the operation. After cleansing the tonsil and throat with Dobell's solution, both tonsils should be painted several times, at intervals of a few minutes, with a 10-per-cent. solution of cocaine. A final injection into the tonsil of a 2 or 3-per-cent. solution of this drug was made. The adhesions to the pillars must be carefully separated and the exposed tonsil removed with the tonsillotome or other instrument. His personal preference was for the tonsillar punch. After the operation, the patient should remain indoors and gargle the throat with an alkaline solution. The use of an emulsion of orthoform would relieve the soreness of the throat. The other tonsil might be relieved the following week.

Some Phases of Chronic Laryngitis.—Dr. Z. L. LEONARD of New York was the author of the paper. In it he reported two or three cases illustrative of different types of the disease, and emphasizing the fact that chronic catarrhal inflammation of the larynx was by no means incurable, and was deserving of the most careful and painstaking management. The important points to remember were the benefit accruing from rest of the part and a change of residence; sometimes, also, from change of occupation. The importance of prophylaxis should not be forgotten.

A Plea for Accurate Knowledge in the Diagnosis and Treatment of Chronic Suppurative Otitis Media.—Dr. J. F. MCCAW of Watertown read a paper with this title. He said that when pain supervened upon a chronic discharge it was a warning of disastrous results likely to follow if this symptom was unheeded. At the outset, every case of chronic suppuration of the middle ear should be examined carefully for obstructions of the nose and nasopharynx, and all such obstructions should be removed. Adenoid growths in the nosopharynx were the most common and fruitful cause of suppuration of the middle ear. The location of the perforation should be determined, and sufficient drainage secured. A perforation, situated high up, usually pointed to necrosis of the ossicles or inflammation of the structures of the attic, and a tendency to slow healing. The author's special plea was for treatment based upon the pathological conditions present.

Irritability of the Bladder.—R. L. DICKINSON of Brooklyn urged thoroughness of investigation, giving a full list of causes. Cases formerly obscure were now cleared up by the cystoscope. Inflammation of the trigone was the most common cause. Masturbation-hyperæmia was studied, and its diagnosis made by the corrugated enlargement of the labia minora, fourchette, or prepuce; by the dilatable meatus, often admitting the finger tip; by the tiny lateral flaps of the meatus—hypertrophies of the anterior portion of the hymen, due to repeated tractions. Degrees of downward dislocation of the urethra and bladder, sufficient to cause obstinate trouble, might require the upright position to detect. Prolapse of bladder and urethra in women of relaxed habit, or in those subjected to hard labor, or in elderly women, called for lifting by ventral fixation, anchoring the tolerant top of the bladder to the anterior abdominal wall.

Fifteen Years' Experience with Uterine Fibroids.—Dr. W. E. FORD of Utica read this paper, which was based on 162 cases in which the ultimate result could be stated. Of this number, 114 were married, 37 were single, and 11 were widows. Of the 162 cases, 96 were treated by galvanism, most of them during the early years of his experience. He made use of a forty-volt current of a strength of 50 to 150 milliamperes. Seven of these 96 cases recovered, as indicated by the disappearance of the symptoms and of the tumor. Twenty-six cases were improved as to the symptoms of hemorrhage and pain. A few of these relapsed, and were treated again, and then they remained well for at least five years. Twenty-five cases had been followed for five years or more. In these cases the tumor became smaller and the patient's remained well. One patient died as a direct result of infection, an acute inflammation having arisen from an old and unrecognized gonorrhœal salpingitis. This was the only accident observed in connection with the galvanic treatment of fibroids, and he had seen no reason to attribute, as many had done, all sorts of bad results to this mode of treatment. Thirty-one women were treated by curettage, tying the uterine arteries per vaginam, or by the administration of ergot, thyroid extract, etc. Of this series, twenty-four were temporarily improved, but the tumors were not appreciably diminished. His experience with the tying of the uterine arteries was not fortunate, and he soon abandoned it as hazardous, difficult, and useless. He did not think he secured any positively good results from the use of thyroid extract, but he had lately succeeded in stopping the bleeding by the administration of adrenalin or suprarenal extract. Sixty-one women were operated on, six early ones by abdominal section with external treatment of the stump. Two out of these six died; one of them, however, from a second attack of cerebral hemorrhage. Thirty-four of the patients were operated on by supravaginal amputation of the stump by Baer's method. Fifteen women were treated by morcellation, and eleven by evisceration through the vagina. He was of the opinion that probably not more than 20 per cent. of the cases of fibroids demanded operation. He had known small fibroids to remain stationary for many years.

Results in Diffuse Septic Peritonitis Treated by the Elevated Head and Trunk Position.—Dr. RUSSELL S. FOWLER of Brooklyn read this paper, which was based on an experience in one hundred cases. No case, no matter how severe, was refused operation. Sixty-seven patients recovered. The abdomen was entered through a rather small incision, and accessible infection was sponged away with bichloride sponges. The immediate neighborhood was flushed out with a solution of peroxide of hydrogen diluted with an equal quantity of soda solution. This application was followed by washing with saline solution at 110° F., and the parts dried. Other collections of pus were then searched for, and treated in a similar manner. Finally a Chamberlain douche-tube was placed in the pelvis, and then in other parts of the abdominal cavity, and the peroxide-soda solution introduced throughout. The entire abdomen and pelvis were then flooded with saline solution. At no time were the intestines allowed to escape through the wound. The flushing should be rapidly done with a large tube and kept up until the wound was sutured. A glass tube was inserted into the pelvis and brought out through the abdominal wound. Eighty patients were so treated. In twelve cases bundles of wick-drains were used. The glass tube was dressed independently of the operation wound. Directly after the operation the patient was placed in the elevated head and trunk position. The elevation of the bed should never be less than one foot. Before the employment of this elevated postion, 25 per cent. were saved. Of the thirty-three deaths, seventeen occurred within twenty-four hours of operation. These patients were profoundly septic, and were practically moribund at the time of the operation. All but one of the cases operated on showed distinct improvement almost immediately after the operation.

Asthenopia; a Clinical Study.—Dr. D. H. WIESNER of New York was the author of this paper. He pointed out that hysterical or psychical asthenopia did exist and must

be differentiated from other forms by a process of exclusion. In the ordinary forms of asthenopia there was usually more or less headache. If the pain were near the eye, it usually indicated a refractive origin; if the pain were further away, the asthenopia was usually of muscular origin. The headache of eye-strain usually grew worse as the day wore on, but the patient awakened free from pain. Blurring of vision was another very common symptom and occurred both with distant and near vision, particularly with the latter.

A Preliminary Note on the Relation between the Muscles of the Eye and Those of Other Parts of the Body.—Dr. LUCIEN HOWE of Buffalo presented this communication. He said that it was possible to obtain a numerical expression for the general muscular strength of the body. Sargent's method of doing this was demonstrated. It was also possible to obtain an expression in terms of a prism, of the strength of the muscles of the eye. These two results bore a certain relation to each other, a point to which he believed attention had not been previously directed. The practical application of this knowledge was that, by strengthening the muscles of the body, one could strengthen the muscles of the eye.

Diagnosis and Treatment of Glaucoma.—Dr. D. B. ST. JOHN ROOSA of New York presented this paper. He said that when a person in middle or later life came with a weeping conjunctiva, with no sticking together of the lids in the morning, with a red zone around the cornea, with considerable dimness of vision, and with a distressing so-called neuralgia of the eye, the physician should be on his guard for glaucoma. If in addition to these symptoms there were anæsthesia of the ocular conjunctiva, and palpitation showed an increased tension of the eyeball, a presumptive diagnosis for glaucoma might be made. A conformatory test was to be found in physostigmine or eserine, preferably dissolved in oil because less irritating to the eyeball than aqueous solutions. With a two-grain solution of eserine one could quiet the terrible neuralgia, and, perhaps, mitigate the symptoms so that an operation would not be required for a time, and, possibly, not at all. There were only two kinds of glaucoma, acute and chronic. But of these there were subdivisions, such as primary and secondary glaucoma.

A Study of the Climate of Long Island.—Dr. W. H. Ross of Brentwood, L. I., read this paper. He said that although Long Island was one of the oldest settled portions of the United States, little seemed to be known of its healthfulness by the medical profession in general. It was, for the most part, a dry, sandy plain, rising gently from the south shore to the north. The island was of glacial formation, consisting of sand, gravel, and an occasional layer of clay. As deep as the deepest wells had been bored, little but pure laminated sand and gravel had been found. The strata sloping to the south determined the ground water currents; hence, wells should be located to the north of a dwelling, and cesspools to the south. Fogs were infrequent over the major portion of the island. The water supply of the island was very pure, there being many never-failing springs whose waters, coming up through the sand, had a temperature of 50° F the year round. The author's deductions concerning the climate were based on meteorological observations made by him during a period of ten years. The mean summer temperature was found to be 70°, and the annual range only 30°. The eastern portion was five degrees cooler than New York City in summer, and sixteen degrees warmer than the rest of the State in winter. This difference was due to the modifying effect of the ocean. The nearest approach to a maritime climate along the coast was eastern Long Island. The relative humidity was low, the yearly average humidity being 72.75°. The average number of clear, and partly clear, days in the year was three hundred, only thirty less than El Paso, Tex. and Phœnix, Ariz. Long Island was favorably placed to receive the prevailing southwest or south wind in summer, being situated nearly at a right angle to the mainland. The breeze in summer was cooled by a large expanse of pure water. The pine forest region was six miles wide and sixty miles long; there was no other evergreen forest of greater size in the State nearer than the Adirondacks. Such forests had a powerful purifying effect on the atmosphere. The therapeutic elements desired in a climate were a pure air, free from organic or inorganic elements and without excessive dampness; an abundance of sunshine; a sandy soil; and an equable temperature. All these Long Island possessed; and, in addition, there were the antiseptic emanations from its pine forest.

The two healthiest counties in the United States were Suffolk, L. I., and Berkshire, Mass. The inhabitants of the island showed great longevity; thus, 526 out of 770 deaths in 1891, were between 70 and 90 years. Out of 3,935 deaths, over twenty years of age, in 1885-86-87, 1,394 were between 70 and 90 years, and 642 between 80 and 100 years. When the climate of Long Island was better known, fully understood, and medical men appreciated the fact that this island was really a pier, extending a hundred miles into the Atlantic Ocean and attached to the greatest city in America, Long Island would reach its manifest destiny and become one great health resort.

Placenta Prævia.—Dr. THOMAS P. SCULLY of Rome read this paper, based upon a personal experience with nine cases. Five of these were treated by the older methods, and four died from puerperal septicæmia. The remaining four were treated by modern antiseptic or aseptic methods, and only one of these terminated fatally. He said that the Braxton-Hicks method of bipolar version was preferable, when it was applicable to the individual case.

The Treatment of Cancer by Its Own Toxin.—Dr. P. J. MCCOURT of New York read a paper on this subject. He said that the method of preparing this toxin had been described by him in a paper read in November, 1899. In cases of cancer, death commonly resulted from a toxæmia produced by the cancer cells. The accuracy of this statement, he declared, was attested by a very large number of cases. In his first communication he had made no claims further than that this treatment afforded marked relief. Since that time he had furnished the toxin to physicians applying for it in all parts of the world. All stimulants, and especially malt liquors, were poison to the cancer patient, and served to hasten the fatal climax. The diet should be carefully regulated, and but little meat should be taken. A suitable dose of the toxin was usually administered morning and evening when the stomach was empty. It produced the following effects: (1) Diuresis and the discharge of much fetid dark urine; (2) local exudative erythema; (3) diarrhœa, and (4) diaphoresis. There was rarely elevation of temperature, and all symptoms were markedly relieved in a short time. In 5 per cent. of advanced and extremely malignant cases this method of treatment was entirely valueless; 90 per cent. were relieved of pain, fetor, hemorrhage, insomnia, vesical and rectal tenesmus, etc., general improvement occurred and life was materially prolonged. In 14 per cent. of the cases indurated glands had become normal, ulcers had healed, body-weight had increased, there had been complete cessation of objective and subjective symptoms, and the patients were apparently cured.

Recent Researches in Radioactivity and Electricity—Their Bearing on Radiotherapy; Legal Status.—Dr. J. S. WIGHT of Brooklyn read a paper with this title. He said that he had been able to show that the high-frequency discharge would coagulate blood and serum-albumin, in part due to the formation of nitric acid from the air; but there was no destruction of tissue with ordinary care. He had employed this in connection with his method of electrical grafting.

Electrical Grafting.—In carrying out this method, the surface should be made sterile and then curetted thoroughly.

While still oozing, grafts should be applied, and the high-frequency discharge applied with a pointed electrode until clotting was firm and the grafts were fixed on the dry surface. The serum squeezed out in the process of clotting should be sponged off, and the part dressed with three per cent. carbolized vaselin. This dressing would not adhere. It should be renewed on the third day. Healing would be hastened by an application of the secondary Rōntgen rays. These rays were produced by an apparatus which Dr. Wight exhibited. These rays were not reflected, but were truly secondary, being emitted at the elbow of the tube from a plate of metal or paraffine. A number of other interesting discoveries were briefly mentioned.

Lesions in the Structures Surrounding the Knee-joint—Dr. NATHAN JACOBSON of Syracuse read an abstract of his paper on this subject. He classified these lesions as: (1) those the direct result of traumatism: (2) those caused indirectly by injury, and (3) those without known cause. Of the more uncommon disturbances was the rupture of the quadriceps extensor tendon or of the ligamentum patellæ. Another lesion was periostitis of the head of the tibia, usually the result of slight injury. Bone tuberculosis sometimes occurred, and was often excited into activity by traumatism. Cases illustrating these various conditions, were reported.

Report of 615 Surgical Cases at the Albany Hospital.—Dr. ALBERT VANDER VEER of Albany presented in this paper an account of his service at the Albany Hospital for one year, ending March 1, 1903. Referring to fractures of the lower jaw, he said that he had at last settled down to the treatment of these cases by an interdental splint. In cases of tuberculosis of the glands he advised early operation. There were 178 abdominal sections, 18 of which were cholecystotomies. All of the latter recovered. Where sinuses persisted, they could often be induced to heal promptly by dropping in a few drops of pure carbolic acid. Occasionally it was necessary to repeat this application. There were two cases of uterus bicornis, plates of which were shown.

A Case of Gunshot Wound of the Brain.—Dr. JOHN A. WYETH of New York reported this case. The patient was a man of twenty-three, who had received a pistol-shot wound of the head on August 11, 1903. The wound was one inch to the right of the median line, and about the same distance from the junction of the interparietal with the frontoparietal suture. No effort was made to locate or remove the missile. There was mental impairment from the time of the injury, and, on coming under the speaker's observation, five months later, he talked incoherently and was restless. The bullet was located. The skull was cut through just above the eyebrow, and a rubber drainage tube was inserted to drain an abscess that had formed. Although there had been considerable loss of the substance of the right anterior lobe, the man recovered promptly with only slightly diminished intelligence.

Tuberculous Myositis; Report of a Case.—Dr. WILLIAM B. BRINSMADE of Brooklyn reported this case. There was no family history of tuberculosis. The patient was a well-developed and apparently healthy woman who, five months previously, had been struck on the outer aspect of the leg by a falling coal-scuttle. Examination showed a fairly symmetrical and hard enlargement extending from the ankle to the knee. The skin over the tumor was movable. A provisional diagnosis of sarcoma was made, and a section was removed for further examination. This showed typical tuberculous inflammation. Ten days later a long incision was made over the fibula. This showed the muscle to be pale in color and soft, and studded with six grayish areas of the size of a hickory nut. On cutting into these areas, caseous material, typical of tuberculosis, was revealed. The woman made an uninterrupted recovery, and was still well at the present time, four months after the operation. The disease was so rare, Dr. Brinsmade said, as to make it a curiosity.

Associated Cases of Staphylococcus Aureus Infection.—Dr. ARTHUR G. ROOT of Albany reported in this paper a group of such infections occurring in the State Industrial School at Rochester.

The Non-operative Treatment of Trachoma.—Dr. FRANK J. PARKER of New York read this paper. He said that in the non-inflammatory variety which was seen in our schools, the treatment should aim to be germicidal, and also to restore the hypertrophy to the normal condition. He believed the cases for operation should be carefully selected, and that indiscriminate operation was capable of doing much harm, and should never be employed where there were small hard follicles, either alone or with the soft variety. He believed in operation in all well-marked cases of follicular trachoma of the soft variety as the best way of shortening the treatment. It was highly important to improve the patient's surroundings and general health. In the first and second stages of the soft follicular variety, a hard cotton application should be dipped in a 1 to 500 bichloride of mercury solution, and, after cocainization, this solution should be vigorously rubbed into the lids, especially along the tarsal cartilage. This should be done three times a week, and if there should happen to be an excessively violent reaction, ice-clothes should be used. The patient should use at home some organic silver solution, which should be dropped into the eyes night and morning. He had used a 10-per cent. protargol solution with fair results, but argyrol had served him better. He regarded it as the ideal salt of silver. In any case, the treatment must be persisted in until a complete cure was effected.

Aphasia and Agraphia.—Dr. EDWARD D. FISHER of New York read this paper. He said that the various forms of aphasia were divided into sensory and motor, the former being subdivided into intercortical sensory aphasia. In the one case, the perceptive centers of spoken and written language were involved; in the latter only the association fibers connecting these centers were affected.

Motor aphasia and agraphia were both defined as a loss of the memory of the necessary coördination of the muscles of articulation, on the one hand, and writing on the other. There might be also sensory agraphia when the memory of the optical picture to be reproduced was lost, although, as in a case cited, these patients might write accurately from copy. Language being the vehicle of thought, any affection of it must, to some degree, involve the integrity of the mind. Especially was this seen in sensory aphasia, where the memory of the character and uses of an object was more apt to be impaired than in motor aphasia.

Our accepted location of the speech centers in the left hemisphere had been thoroughly established by pathological studies, although much remained to be studied as to the subdivision of the special centers. There was some doubt, according to the writer, as to the location of the writing center being in the second frontal convolution, several cases being cited in which a lesion in that region did not cause agraphia. There would seem, however, from analogy with speech, that there was such a center. There was no doubt, however, that speech and writing were closely allied, as shown clinically by the fact that agraphia and aphasia were usually present together.

Symposium on Abdominal Pain.—This comprised the following papers:

Abdominal Pain in General.—Dr. JOHN H. MUSSER of Philadelphia, Pa., opened the symposium with a consideration of this topic. Speaking of spasm, or rigidity of the abdominal muscles, he said it should be remembered that, in women with enormously distended and relaxed abdominal walls, rigidity was not likely to be present. If toxæmia were present, or there were a moderate leucocytosis, too much stress must not be laid upon muscular spasms as an evidence of pain. On the other

hand, in athletic individuals even moderate abdominal pain was likely to give rise to excessive muscular spasm. It had long been known that in some cases of Bright's disease, particularly in pregnant women, pain occurred in the upper half of the abdomen as a forerunner of an attack of uræmia. Then, there might be cases of supposed abdominal pain dependent upon hysteria. In considering abdominal pain, one should not forget the occurrence of rheumatism of the diaphragm and diaphragmatic pleurisy. With the onset of pneumonia, particularly in children, the symptoms complained of might be entirely abdominal, and lead to a suspicion of appendicitis or a localized peritonitis. Pain due to gastric disease was not by any means confined to the region of the stomach. Pyloric spasm was often confounded with gall-bladder disease. A large proportion of the cases of supposed gastralgia that he saw proved to be cholelithiasis. Pericarditis and angina pectoris were well known to be associated with pain referred to the abdomen. Every known method of investigation must be called to our aid in differentiating gastric, hepatic, renal, and pancreatic pain. The disappearance of pain was often also of much significance, pointing frequently to the onset of toxæmia. Again, there were cases in which pain was absent when it should be present. A notable example of this was intestinal obstruction with paresis of the bowel.

Abdominal Pain Referable to the Abdominal Walls.—Dr. JOSEPH D. BRYANT of New York read this paper. He said that inflammation of the visceral layers of the peritoneum did not cause pain of such severity as to be of much diagnostic importance in most instances. The nerve supply of the abdominal walls should be borne in mind in connection with this subject. A hyperæsthetic surface sometimes overlaid an inflamed area of peritoneum. Involvement of that portion of the pleura supplied by the dorsal nerves would sometimes cause pain, hyperæsthesia and rigidity of the abdominal wall. An infection localized in the abdominal wall itself might be mistaken for intra-abdominal involvement.

Abdominal Pain of Intestinal Origin.—Dr. FREDERICK HOLME WIGGIN of New York presented this paper. He said that abdominal pain was common to all disorders of the intestine. In a general way, sharp persistent abdominal pain indicated involvement of the peritoneum, while dull aching pain indicated involvement of the connective tissue. Tenesmus pointed to implication of the lower third of the intestinal tract. Colicky pains occurring several times a year, in a person not constipated pointed strongly to ventral stenosis. Involvement of the colon was shown by diarrhœa, limitation of the pain and sensitiveness of the course of the large bowel. Colicky pain in the left iliac fossa with tenesmus and blood-stained stools, suggested inflammation of the sigmoid flexure of the rectum. In disease of the upper part of the duodenum there was pain in the right hypochondrium and occurring a few hours after eating. The diagnosis of appendicitis should never be made until after exploration of the chest had excluded disease of the lungs or pleura. Severe abdominal pain in the region of the umbilicus, associated with constipation and collapse, suggested external hernia, and should lead to a careful examination of all the various hernial openings and also a search for a tumor in the linea alba. Subacute symptoms of obstruction, occurring in a man over forty years of age, giving a history of constipation and associated with rapid distention of the bowel, pointed to volvulus. In all cases of persistent abdominal pain of obscure origin, exploratory operation should be done.

Dr. ROBERT F. WEIR of New York discussed the subject of abdominal pain. He called attention to the recent communication from Dr. Ellsworth Eliot of New York on the behavior of the aortal arches as an aid to diagnosis. If, with the thumbs directed toward the sternum, and the fingers crowding the aortal arches inward and toward the vertebral column, an abnormal resistance was encountered, it was very significant of some pathological condition in the region of the liver, pancreas, duodenum, or pylorus, and was sometimes present when there was no rigidity of the rectus muscles. With this resistance, there was oftentimes an additional pain. Dr. Eliot had met with one case of pancreatitis in which leucocytosis was present. So the surgeon could no longer rely implicitly upon absence of leucocytosis as an indication of pancreatitis. Dr. McBurney had told him of one case in which the rigidity of the abdominal wall was not due to some intraabdominal lesion, but to beginning tetanus. Although it had been shown that "McBurney's point" did not accurately represent the position of the appendix, the method of examination known as "finger pressure" suggested by McBurney was in itself so valuable as to warrant the association of his name with it. It was often exceedingly difficult to feel the appendix, and it was well to remember that this palpation could be very greatly facilitated by directing the patient to raise the leg a little outside of the the median line. This would cause the psoas muscle to contract, and as the appendix was usually resting on this muscle or near it, the appendix would be lifted up within reach of the examining finger. In the case of a young child, much information could be obtained by passing the finger up into the bowel.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, Held December 1, 1903.

PEARCE BAILEY, M.D., PRESIDENT.

A Case of Brain Tumor with Autopsy.—Dr. WILLIAM M LESZYNSKY reported this case. (See page 165.)

Dr. J. F. TERRIBERRY said that he had seen this case at the Manhattan Eye and Ear Hospital. The astereognosis was one of the most prominent symptoms at that time. The young woman had spasmodic contractions of the face muscles, first on one side and then on the other. The importance of the astereognosis as a localizing symptom had been forcibly impressed upon him by this case. If these symptoms, coming from the basic area of the brain, had occurred earlier, they might have led to an erroneous diagnosis.

Dr. GEORGE W. JACOBY said that the most interesting part of the report to him was the demonstration of the *x*-ray plates. In the skiagraphy of tumors of the brain we possessed a very valuable adjunct, but we should insist upon more precision in the description of these examinations. Over a year ago he had exhibited to this society two skiagraphs of a case of tumor of the brain, taken during life. The patient was subsequently operated upon, and the tumor removed, and the patient lived five months longer. This case proved the feasibility of obtaining skiagraphs of practical value in these cases of tumor of the brain. Oppenheimer's experiments in this direction were very interesting. He had experimented with a hardened tumor in the brain and with a hardened tumor within the skull, and had succeeded admirably, but had failed on attempting to photograph brain tumors during life. Dr. Jacoby said that he had repeated these experiments, and had discovered that when soft or fresh tumors were used the result was not successful. Since that time he had made many clinical examinations on supposed brain tumors without obtaining a single positive result until the one presented by him a year ago. This experience showed that one should work with a known tube and with a known exposure to determine what would give a complete transillumination of the skull. Having done this, the minimum exposure should be used—say, seven and one-half or eight minutes—and then each successive exposure should be made a little longer. In his own successful case exposures of ten and a half and eleven and a half minutes respectively were successful, whereas longer and shorter exposures led to failure. It has been thought by some observers that the result would only be

successful with a thin skull and a hard tumor, but in his own case the bones of the skull were thick and the tumor friable.

Dr. Leszynsky said that within the last two months he had examined two patients who undoubtedly had brain tumors which could not at the time be accurately localized. In each case there was astereognosis present on one side, yet when seen again the astereognosis had disappeared. These patients were examined a great many times, and it had been noted that the astereognosis was very variable, being present at one time and absent, perhaps, half an hour later.

Is Epilepsy a Functional Disease?—Dr. M. ALLEN STARR was the author of this paper. He said that he had come to the conclusion that epilepsy was an organic disease, and this opinion was based upon a personal study of two thousand cases of epilepsy of which he had satisfactory records. The recognition of Jacksonian epilepsy of several different types was now universal. This form was admitted to be a symptom of organic disease, though the nature of the latter might vary considerably. The character of the attack was uniform because the disease produced a uniform kind of irritation. In 38 per cent. of his cases of ordinary epilepsy the attack was preceded by an aura, which was identical in many cases with the sensation starting a Jacksonian attack; the only difference between a Jacksonian attack of the motor type and the idiopathic form was in the extent of the spasm. The Jacksonian attack might run into a general motor spasm, showing that there was no essential difference between the two. The same might be said of the sensory attack. In many cases the fit began with a cry, a discharge from the motor speech center. If the Jacksonian attack became severe and widespread, consciousness was apt to be lost. The close resemblance between Jacksonian and ordinary epilepsy in 23 per cent. of his cases seemed to him to offer an argument that, in these cases at least, the ordinary type of epilepsy was due to organic lesions. Another argument in support of his proposition was found in a study of cases of maldevelopment of the brain. Of 400 such cases, elsewhere analyzed, 156, or 39 per cent., were subjects of epilepsy. It was not uncommon to suppose a child to be suffering from epilepsy only, and yet careful inquiry showed a previous apoplexy. Among his two thousand cases of epilepsy, 192 showed positive signs of maldevelopment of the brain. Of his cases of epilepsy, 68 per cent. developed before twenty years of age; in other words, during the period of brain development. The speaker maintained that many cases of idiopathic epilepsy were actually cases of maldevelopment of the brain, and that the epilepsy was the manifestation of this organic disease. The incurability of epilepsy afforded another argument for the organic nature of this disease. There was no question that proper care and treatment could reduce the frequency and sometimes mitigate the severity of the attacks. He had come to the conclusion that the surgical treatment of epilepsy by exposing the brain and removing irritating foci, offered as little hope for cure as did medical treatment. He had records of about fifty cases of Jacksonian epilepsy treated by trephining, and he had yet to see a case in which such operative treatment had been followed by a permanently satisfactory result. Another argument for the organic basis of epilepsy might be found in the alleged causes of the disease. The first of these was heredity; the second in frequency was trauma of the head. That trauma of the head was a more potent cause than trauma elsewhere was well shown by the statistics of the Franco-Prussian war. These showed that out of 8,895 wounded in the head, 46 became epileptic, whereas out of 77,463 persons wounded elsewhere only 17 became epileptic. The epilepsies of advanced life could almost invariably be traced to endarteritis and atheroma. Fright was undoubtedly a cause of this disease, as 119 of his patients had the first fit after a severe fright. One great stumbling block to the adoption of the theory of the organic origin of epilepsy was the multiplicity of causes enumerated by pathologists. The epileptic attack was the symptom, not a disease. The disease was a disorder of control. It seemed to him far more reasonable to admit that epilepsy was an organic disease of the brain characterized by a lack of control of the mechanisms over motor energy. If we adopted this rule, we would more readily admit that it was incurable, and would be more willing to aid in the establishment of colonies for epileptics.

Dr. C. L. DANA said that he was surprised that the author apparently assumed that we did not believe that epilepsy was an organic disease. At least ten years ago, the speaker said, he had spoken of epilepsy as a progressive degenerative disease of the brain, but as we did not yet know always what this degeneration was, or where it was, and could not give a morphological description of the diseased cells, it was probably wise to still describe epilepsy among diseases without definite organic basis. He also doubted if the term disease was the proper one to use in connection with epilepsy. There was certainly an underlying organic degeneration, but it seemed to him that in many cases it was rather a morbid condition than a disease process—rather a teratological defect than an actual disease. So far as we knew now, it was probable that the most important factor underlying epilepsy was the tendency of large groups of nerve cells to undergo a rather progressive degenerative process. With regard to the argument about Jacksonian epilepsy, he would not say that the author's statements were not strictly correct. Some forms of Jacksonian epilepsy were as much without known organic basis as ordinary idiopathic epilepsy. He had had a case of Jacksonian epilepsy with classical convulsions confined to one arm and one side of the face, lasting for years, and after death a modern autopsy gave absolutely negative results. With regard to the incurability of epilepsy he would say that the stand taken by Starr seemed to him not only incorrect but disheartening and unfortunate. He absolutely knew of cases in which epilepsy had been cured. He knew personally of a young man who, at the age of seventeen, had nocturnal epilepsy for one or two years, the attacks coming so often as two or three times a month. He had seen the attacks himself, and they were perfectly characteristic. Under the bromide treatment this man recovered, and was now forty-five years of age, and had never had an attack since. There were now none of the interconvulsive symptoms of epilepsy, and this disease should be looked upon as cured just as much as a pneumonia might be considered cured. He had another patient who had been well for twenty years, and another for fifteen years. The very theory of the disease, assuming it to be organic, would make a cure possible. We knew perfectly well that there were certain degenerative processes that we could arrest; for example, tabes and degenerative processes affecting the kidneys or liver, for degenerative processes were not always progressive.

Dr. L. PIERCE CLARK said that Dr. Dana's statement about the curability of epilepsy had interested him, because, in an experience of ten years with epilepsy, he had records of at least two or three dozen who had remained free from epileptic attacks for periods varying from eight to twenty years. It was true that they might run eighteen or twenty years and recur again, but in such cases he would look upon them as practically cured, although the original condition might still persist. He agreed with Dr. Starr that idiopathic disease had an organic basis. He did not believe that the mere existence of an organic disease of the brain was sufficient to account even for the epilepsies of the Jacksonian type. He believed that perversions of nutrition or toxic agents were potent factors.

Dr. WILLIAM HIRSCH asked Dr. Starr for a definition of what he called organic or functional. From a strictly biological point of view, he thought, we could not make such a distinction between organic and functional. That

a disease was organic did not by any means justify us in calling it incurable. When one made a diagnosis of paranoia, one knew that it was an incurable disease, and yet it was classified all over the world as a functional disease because no one had as yet detected any organic changes in the central nervous system. The fact that Jacksonian epilepsy was frequently due to organic changes, which we recognized as such, did not prove that general epilepsy must have a change analogous to that of Jacksonian epilepsy. As Dr. Dana had pointed out, there were cases presenting quite characteristic attacks of Jacksonian epilepsy. He had in mind cases of general paresis, and particularly one case, in which death had been preceded by a very large number of these attacks, yet a careful autopsy on this patient was absolutely negative. On the other hand, there were cases of organic disease, tumors of the brain and arteriosclerosis in which epileptiform attacks never took place. We were all familiar with eclamptic attacks, attacks due to poisoning, and dependent upon transitory changes in the brain. It was manifest that all cases of epilepsy could not be said to have an organic basis.

Dr. WILLIAM H. THOMSON said that the function of a lamp was to give light, and for that purpose its structure might be a glass globe, a wick, and a reservoir of oil. If any portion of that structure were damaged it might interfere with its light-giving function, but this same function could be entirely abolished without in any way interfering with its mechanism, *i.e.* by supplying it with water or poor oil. Similarly, he conceived functional nervous diseases as truly derangements of the source of nerve function independent altogether of the structure of the brain, *i.e.* the blood. Functional disease might be so serious as to terminate life, and yet no nerve cell or fiber could be demonstrated to be diseased, the disorder perhaps having been entirely due to a toxin in the blood. He could not believe that a disease characterized so strikingly clinically by intermittency as was epilepsy could consist essentially in a structural lesion, nutritive or otherwise. He fully agreed with Dr. Starr that epilepsy was not curable by the surgeon, and, indeed, that a surgical operation upon the brain was apt to be followed by epilepsy. A polypus of the nose sometimes gave rise to an intermittent nervous trouble, asthma. He had had a number of cases in which the removal of a peripheral source of irritation had been followed by a permanent disappearance of epilepsy. With regard to the true pathology of epilepsy we were often misled in regarding epilepsy as due to a discharge in the cerebral cortex. This notion he could not reconcile with the fact that every efferent impulse was always secondary to an impulse from the afferent side. His definition of epilepsy was "a *sudden* derangement of the normal inhibition of cortical centers upon one another, dependent, in the first instance, upon an abnormal afferent impression." The majority of cases of epilepsy he believes to be the result of toxæmia. That epilepsy, with such widely varying manifestations, should be dependent upon one organic disease of the brain, he could not believe.

Dr. S. F. HALLOCK thought if we carefully investigated the psychical side in the early history of many cases of epilepsy we would obtain a strong argument for the organic origin of the disease.

Dr. JOSEPH COLLINS said that he personally felt no urgency in putting epilepsy into the camp of organic diseases, neither did he think Dr. Starr had presented any reasons for such urgency. That we might find epilepsy to be an organic disease he hoped, and he also hoped that if such discovery were made we would find the means of coping with this disease; yet Dr. Starr seemed to take a hopelessly antagonistic view on this point. Personally he had never been taught to look upon Jacksonian epilepsy as an organic disease, the point upon which Dr. Starr seemed to found his main argument. He supposed that about 25 per cent. of the cases of idiopathic epilepsy presented Jacksonian attacks, but this phenomenon he looked upon as only an indication that the irritation proceeded from a certain portion of the brain. He understood this was Hughlings Jackson's view. He knew of no organic disease which came on in the first decennium of life and continued practically for the full natural term of life; in other words, a disease that did not cut life short. He did not know of any cases of epilepsy which had been studied in the intervals of the attack except where the observations had been interferred with by medicinal treatment to such an extent as to render these observations of no value. It had been stated by several during the present discussion that changes in the brain in epilepsy had been found with a certain degree of constancy by well-recognized neuropathologists. He would say that these changes were not to be compared in any way with those which occurred in the cell bodies of the neurons in a case of poisoning by bromide of potassium, administered accidentally to a patient in Toronto a year or two ago. He thought Dr. Starr must be persuaded to modify his statement regarding the incurability of epilepsy before the publication of his paper, because it would otherwise give rise to an almost immeasurable amount of despair. He did not think there was any real justification for such pessimism. Personally, he knew that cases of epilepsy did get well, or at least practically so, and he believed we were already able to cope with epilepsy with fair success.

Dr. THOMAS PROUT said that he had studied a good deal of pathological material sent him from the Craig Colony by Dr. L. Pierce Clark. The cases dying in status epilepticus presented a uniform lesion of the cortex. In ordinary idiopathic epilepsies he found the same lesion in the cells of the cerebral cortex, but in lesser degree, and he looked upon these changes as characteristic of epilepsy. A case reported by Wright had attracted considerable attention, but this observer's methods were exceedingly faulty. The autopsy in his reported case was made fourteen hours after death and the body temperature was 108° F.

Dr. ADOLF MYER asked Dr. Starr what attitude he took concerning the fact that he founded his conclusions upon the occurrence of focal symptoms in such a large number of cases of epilepsy. What would he say with regard to the fact that the removal of such lesions failed to cure the epilepsy. The word organic as commonly used implied something far more serious than the disease as described by Dr. Starr. The persistence of the epilepsy after the removal of the organic lesion would seem to indicate that there was a general disorder present.

Dr. W. M. LESZYNSKY said that after a number of years of clinical experience he certainly disagreed with Dr. Starr in his pessimistic views as to the curability of epilepsy. It could hardly be doubted that a certain proportion of the cases of idiopathic epilepsy were cured. Reference was made to two cases in which the patients had promptly improved, and had been practically free from epileptic attacks for several years after the bromides had been discontinued, and proper attention had been given to the general health.

Dr. MAX G. SCHLAPP said that it should not be forgotten that epileptiform convulsions could be produced by many different things; hence, to take a symptom or a group of symptoms and dignify them with the title "organic disease" seemed to him to be going too far. We knew that in children convulsions could be brought on easily by slight irritation of the peripheral nervous system, and to say that these convulsions were produced by an organic lesion in the central nervous system was not justified by the transitory nature of these symptoms. The difference between a Jacksonian epilepsy and an ordinary epilepsy was perhaps to be found in the position of the lesion. If the irritation were beyond the motor center it was possible that the irritation would spread throughout the cortex, giving rise to unconsciousness and various central disturbances. The lesions described by Dr. Prout as occurring in epilepsy were found in other conditions. The principal lesions found, according to the Nissl method,

were chromatolysis, and might be present in connection with various forms of poisoning.

Dr. EDWARD D. FISHER said that he had long believed epilepsy was an organic disease. The fact that we could produce convulsions similar to what we understood as epilepsy, did not necessarily mean that they were really epileptic. The characteristic of epilepsy was its persistence; it was the general mental state as well as the convulsion which constituted epilepsy. We should sharply distinguish between idiopathic epilepsy and epilepsy due to any other non-irritating cause. He did not think Dr. Starr meant to give any definite pathology for epilepsy, but merely to state that it was an organic disease. He could not agree entirely with him, however, regarding the incurability of epilepsy, although he would admit that it probably was the most nearly incurable disease known. He could not conceive of a disease which went on year after year with exactly the same symptoms as at the beginning, without their being back of it an organic lesion.

Dr. Starr closed the discussion. He said he was exceedingly obliged to the society for its full and free discussion of this important topic. He was willing that his statements about the incurability of epilepsy should not be published; nevertheless, he believed, with Dr. Fisher, that epilepsy was one of the most incurable diseases we were called upon to treat. It was true that the various speakers had spoken of one or two recoveries, yet those present must have seen hundreds of cases of epilepsy. He thought this substantiated fully the position he had taken with regard to the general incurability of epilepsy. He had had no idea of establishing a pathology for epilepsy. He certainly regarded, and believed most neurologists regarded, the Jacksonian cases as organic. The same sources of irritation which gave rise to epileptic attacks were present constantly in other individuals, and hence, there was something else in epileptics. He believed in epileptic persons there was, in addition to the toxæmia, some underlying defect, as Dr. Dana had said. It was certainly very important to study epileptics in the intervals of the attacks, and when not under medicinal treatment; he had done this frequently, and believed it was being constantly done by others.

A Monstrous Suggestion.—A pseudo-medical journal prints some advice that would seem to call for attention from the authorities in Ohio, where *Medical Talk for the Home* is published. Apparently, the writer of the article which tells "how to produce a scar resembling vaccination" by means of nitric acid, does not believe in vaccination. He has a perfect right to his own opinion, but when he undertakes to aid in evading the regulations of health boards, the case is one for the officers of the law. "If a doctor wants to know," he says to parents, "whether the child has been vaccinated or not, simply show him the scar, and if he is satisfied with the scar, well and good." There are some added hypocritical words of admonition addressed to his fellow-physicians: "I would not advise any physician to give a certificate of vaccination after having performed this imitation, because the deception would be simply a lie, and lying is not to be approved of even to escape the necessity of being vaccinated." This wise old practitioner knows whereof he speaks. "My own children," he recalls with intense satisfaction, "have been treated in this way, and have been examined a great many times in school for vaccination, and the scars have always been regarded as genuine vaccination scars. Other children have been vaccinated in the same way, but I have always refused to grant a certificate to any one on account of this vaccination." This upright physician is too good for an uninstructed, Health-board-infested world—he should be safely shut away to think upon his extraordinary shrewdness in peace and security.—*The Evening Post.*

Therapeutic Hints.

Tuberculosis of the Epididymis.—A. H. Ferguson, in speaking of the surgical treatment of tuberculosis of the epididymis, advises its early and total extirpation; along with it the vas deferens should be removed in its entirety, and if the seminal vesicle is involved, it should be removed at the same time through the perineum. In nearly all of his cases the testicle itself was not diseased, and he believes that there are many personal and social reasons why they should be saved—*The Chicago Medical Recorder.*

Gastritis.—

℞. Menthol..... gr. ½ to 2.
Sodii bicarb..... gr. 10 to 15
M. ft. chart. No. i. S. one half hour before meals.
—CAMPBELL.

Cystitis.—

℞ Liq. potassæ..... ℥ii.
Olei santali flavi..... ♏ii.
Aquæ cinnamoni.....q. s. ad ℥viii.
M. S. ℥i. t. i. d.
—SAUNDRY.

℞ Potassii bromidi.
Sodii bicarbonatis.....āā gr. cix.
Extr. belladonnæ..... gr. iv.
Ext. buchu..... ℥i.
Syr. sarsaparillæ comp.....q. s. ad. ℥iv.
M. S. ℥ ss. t. i. d.
—PEPPER.

Chronic Pyelitis with Pain.—

℞ Venice turpentine..... ℥iss.
Powered camphor..... ℥iss.
Extract of opium..... gr. v.
Extr. of aconite root..... gr iii.
M. et ft. pil No. xx. One pill every eight hours, with a small glass of infusion of uva ursi, slightly sweetened.
—ROBIN.

Nicotine is a powerful remedy against tetanus. Give gr. $\frac{1}{100}$ every ten minutes till full relaxant effect is reached.—*The Southern Clinic.*

Chapped Hands.—

℞ Tinct. benzoin..... ℥iss.
Tinct. tolu..... ♏ 75.
Glycerin..... ℥ss.
Alcohol..... ℥iii.
Rose water.....ad. ℥vi.
M. Apply night and morning after washing hands thoroughly in warm water.
—J. NEVINS HYDE.

Alopecia Areata.—

℞ Hydrarg. chlorid. corrosiv..... gr. ii.
Tinct. cantharidis..... ℥iv.
Aquæ..... q. s. ad. ℥viii.
M. et Sig. Apply freely to affected area each night, after shampooing and drying.

Chlorosis and Amenorrhœa.—

℞. Acidi arseniosi..... gr. i.
Ferri sulph. exsiccati..... ℥ss.
Pulv. piperis nigri..... ℥i.
Pilulæ aloe et myrrhæ..... ℥i.
M. et ft. pil., No. xl. Sig. pil. i. t. i. d.—after meals.
—FOTHERGILL.

Chlorosis with Neurasthenia.—

℞ Tinct. ferri chloridi..... ℥iiss.
Hydrarg. chlor. corrosiv..... gr. ii.
Liq. arsen. chloridi..... ℥iiss
Acidi hydrochloric dil..... ℥v.
Syr. simplicis.....q. s. ad. ℥iv.
M. A teaspoonful in water three times a day.
—GOODELL.

Dipsomania.—

℞. Quininæ sulph..... gr. ii.
Zinci oxid..... gr. ii.
Strych. sulph..... gr. $\frac{1}{60}$.
Acid arseniosi..... gr. $\frac{1}{100}$.
Pulv. capsici..... gr. ii.
M. et ft. pil., No. i. S. one pill three times a day.
—MANN.

Injection in Lues.—

℞ Mercuric chloride..... .50
Sodium chloride..... .25
Boiling distilled water..... 25
When cold add carbolic acid..... .15
Dose ♏xv, increased to ♏xx.
—BERNART.

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

COOKERY FOR INVALIDS AND THE CONVALESCENT Compiled by C. HERMAN SENN, G.C.A. Third edition. revised and enlarged. 8vo, 101 pages. Price, 1 shilling. The Food and Cookery Publishing Agency, London, S. W.

THE NUTRITION OF THE INFANT. By RALPH VINCENT, M.D. 8vo, 295 pages. William Wood & Co., New York.

TRANSACTIONS OF THE NATIONAL ASSOCIATION OF UNITED STATES PENSION EXAMINING SURGEONS. Second Annual Meeting, Washington, D. C., May 13 and 14, 1903. Vol. I. 8vo, 215 pages. Published by the Association, Rochester, N. Y., 1903.

ÄTIOLOGIE UND AETIOLOGISCHE THERAPIE DES TETANUS. Von E. v. BEHRING. 8vo, 117 pages. August Hirschwald, Berlin, 1904.

LA MEDICATION SURRENALE. By Dr. R. OPPENHEIM and M. LOEPER. 12mo, 79 pages. J. B. Bailliere et Fils, Paris.

THE TREATMENT OF NEURASTHENIA. By A. PROUST, M.D., and GILBERT BALLET, M.D. 16mo, 213 pages. Edward R. Pelton, New York.

ANATOMY APPLIED TO MEDICINE AND SURGERY. By D. E. MUNDELL, M.D. 12mo, 499 pages. Illustrated. E. R. Pelton, New York.

ORGANIC AND PHYSIOLOGIC CHEMISTRY, A MANUAL FOR STUDENTS AND PRACTITIONERS. By ALEXIUS MCGLANNAN, M.D. 16mo, 246 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York.

THE PRACTICAL CARE OF THE BABY. By THERON WENDELL KILMER, M.D. 12mo, 158 pages. Illustrated. F. A. Davis Company, Philadelphia.

DISINFECTION AND THE PRESERVATION OF FOOD. By SAMUEL RIDEAL, D.Sc. (Lond.) 8vo, 504 pages. Illustrated. Muslin. John Wiley & Sons, New York. $4.00.

AN ATLAS OF HUMAN ANATOMY. By CARL FOLDT, M.D. Part II, 4to, pages 164-256. Muslin. Figures 378-489. Rebman Company, New York.

THE SELF-CURE OF CONSUMPTION, WITHOUT MEDICINE. By CHARLES H. STANLEY DAVIS, M.D. 12mo, 176 pages. Muslin. E. B. Treat & Co., New York. Price, 75 cents.

PORTFOLIO OF DERMOCHROMES. By PROFESSOR JACOBI. In two parts. Translated by J. J. Pringle, M.B. 4to, Part 2, pages 93-176. Plates, 44-86, half leather. Rebman Company, New York.

REFERENCE HANDBOOK OF THE MEDICAL SCIENCES. By Various Authors. Edited by ALBERT H. BUCK, M.D. Revised edition, eight volumes, imperial 8vo, 957 pages. Price, muslin, $7.00 per volume; leather, $8.00 per volume; half morocco, $9.00 per volume. William Wood & Company, New York.

MAMMALIAN ANATOMY WITH SPECIAL REFERENCE TO THE CAT. By ALVIN DAVISON, PH.D. 12mo, 250 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia. Price, $1.50 net.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. By Prof. Dr. CARL VON NOORDEN. 8vo, 80 pages. E. B. Treat & Co., New York. Price, 50 cts.

CLINICAL TALKS ON MINOR SURGERY. By JAMES G. MUMFORD, M.D. 16mo, 115 pages. The Old Corner Book Store, Boston.

ILLINOIS STATE BOARD OF HEALTH, REPORT ON MEDICAL EDUCATION AND OFFICIAL REGISTER OF LEGALLY QUALIFIED PHYSICIANS, 1903. 8vo, 380 pages. Illinois State Register, Springfield, Ill.

TEXTBOOK OF OPERATIVE SURGERY. By Dr. THEO. KOCHER. 4to, 440 pages. Illustrated. Adam & Charles Black, London.

TRAITE DE RADIOLOGIE MÉDICALE. By CH. BOUCHARD. 4to, 544 pages. Illustrated. G. Steinheil, Paris. Price, 30 frs.

MT. SINAI HOSPITAL REPORTS, Vol. III, 1901 AND 1902. Edited by N. E. BRILL, M.D. 8vo, 572 pages.

TRANSACTIONS OF THE ASSOCIATION OF AMERICAN PHYSICIANS, EIGHTEENTH SESSION, AT WASHINGTON, D. C. Volume XVIII. 8vo, 716 pages. Illustrated. Printed by the Association.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending January 23, 1904:

	Cases.	Deaths.
Measles	741	23
Diphtheria and croup	395	35
Scarlet fever	427	30
Smallpox	5	1
Varicella	155	...
Tuberculosis	298	138
Typhoid fever	29	5
Cerebrospinal meningitis	...	7

Tetanus and Vaccine Virus.—This question has been studied by J. H. Huddleston, whose conclusions are as follows: (1) The fæces of calves fed on hay may contain tetanus germs. (2) Tetanus germs do not develope in glycerinated virus. (3) If any form of vaccine virus, either dry points or tubes of glycerinated virus, is infected with tetanus, it may convey it. (4) Small amounts of the tetanus infection easily fail of demonstration both by animal and by cultural tests. (5) If tetanus germs are applied in quantity to the inoculated areas of a calf at any time during the period of vaccine production the tetanus may be present in the vaccine virus collected. (6) Inoculation by scarification is a possible method of inducing tetanus in susceptible animals. (7) It is probable that precaution against the issue of infected vaccine virus consists less in tests of the virus than in care taken during production, and especially in the cleanliness of the methods in use in the stable and in the laboratory.—*Medicine.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S Marine Hospital Service, during the week ended January 23, 1904:

SMALLPOX—UNITED STATES.

			CASES	DEATHS
California, San Francisco	Jan.	3–10	3	..
District of Columbia, Washington	Jan.	9–16	1	..
Georgia, Darien	Jan.	15	2	..
Illinois, Chicago	Jan.	9–16	5	..
Danville	Jan.	9–16	7	..
Freeport	Jan.	9–16	1	imported
Indiana, Evansville	Jan.	9–16	4	..
Massachusetts, Lawrence	Jan.	9–16	1	..
Michigan, Grand Rapids	Jan.	9–16	1	..
New Hampshire, Nashua	Jan.	9–16	1	..
New Jersey, Trenton	Jan.	9–16	7	..
Ohio, Cincinnati	Jan.	8–15	3	..
Cleveland	Jan.	8–15	1	..
Dayton	Jan.	9–16	1	..
Pennsylvania, Johnstown	Jan.	9–16	1	..
Philadelphia	Jan.	9–16	58	24
Pittsburg	Jan.	9–16	8	3
Reading	Dec.	11–13	1	..
Williamsport	Jan.	2–16	2	1
South Carolina, Charleston	Jan.	9–16	4	..
Tennessee, Memphis	Jan.	9–16	19	..
Nashville	Jan.	9–16	2	..
Wisconsin, Milwaukee	Jan.	9–16	34	..

SMALLPOX—FOREIGN.

Austria-Hungary, Prague	Dec.	26–Jan. 2	6	1
Brazil, Pernambuco	Nov.	15–30	..	33
Rio de Janeiro	Dec.	6–20	124	63
Canada, New Brunswick, McAdam	Jan.	9	1	..
Great Britain, Birmingham	Dec.	26–Jan. 2	1	..
Bradford	Nov.	21–Dec. 5	1	..
Edinburgh	Dec.	26–Jan. 2	3	..
Glasgow	Dec.	27–Jan. 8	92	9
London	Dec.	26–Jan. 2	4	..
Manchester	Dec.	26–Jan. 2	3	..
New Castle-on-Tyne	Dec.	26–Jan. 2	1	..
Netherlands, Amsterdam	Jan.	2–9	4	..
Russia, Moscow	Dec.	5–12	..	1
St. Petersburg	Dec.	12–26	38	1

YELLOW FEVER.

Brazil, Rio de Janeiro	Dec.	6–20	1	1
Jamaica, Kingston	Dec.	26–Jan. 2	1	1
Panama, Panama	Jan.	2–10	1	1

PLAGUE—FOREIGN.

Brazil, Rio de Janeiro	Dec.	6–20	38	28
India, Calcutta	Dec.	12–19	..	15

CHOLERA.

India, Calcutta	Dec.	12–19	..	25
Turkey in Asia, Kerbela	Dec.	12	50 cases daily	

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Original Articles.

SOME GROUPS OF KIDNEY DISEASE.*

BY FRANCIS DELAFIELD, M.D.,
NEW YORK.

I HAVE been asked to read a paper on the Classification and Pathology of Disease of the Kidneys. The views which I hold on these subjects, however, are sufficiently well known, so that it is hardly worth while to repeat them here.

But it has seemed to me that it might be profitable to consider the ordinary clinical groups of kidney disease and try to state as exactly as possible what our knowledge is concerning them at the present time.

1. There is a group of cases which have in common:

That the disease of the kidneys occurs in the course of some infectious disease or inflammation and is distinctly a secondary lesion.

That the urine contains small quantities of albumin and a few casts, but the excretion of urea is normal.

That the patients do not have headache, muscular contractions, dyspnœa, contraction of the arteries, or dropsy.

That if the original disease terminates in recovery, the urine becomes normal, and no kidney symptoms are developed later.

That the only change in the kidneys is a degeneration of the renal epithelium.

The diseases with which this condition of the kidneys is most frequently seen are: Typhoid fever, pneumonia, measles, cerebrospinal meningitis, measles, erysipelas, sepsis, peritonitis, and the early stages of scarlatina and diphtheria.

It is evident that, whatever we call this condition of the kidneys, it constitutes a distinct clinical and anatomical group. The prognosis of the condition is good and it requires no treatment.

While in most of the infectious diseases the kidney lesion is of the form just described, we have to distinguish five of the infectious diseases which are accompanied with kidney lesions of a different character. These are: Influenza, scarlatina, diphtheria, yellow fever, and acute yellow atrophy of the liver.

In a considerable number of cases of influenza, apparently more frequently in children than in adults, there is developed an acute exudative nephritis of varying severity.

The urine contains albumin, often in large quantities, casts, and sometimes blood; the specific gravity is not lowered. The quantity, in severe cases, is much diminished.

In the mild cases there are no symptoms except the changes in the urine. In the severe cases there may be dropsy or convulsions. As a rule the nephritis is transitory and the patients recover inside of four weeks.

These cases are not to be confounded with exacerbations of a chronic nephritis occurring in the course of an influenza.

In scarlatina and diphtheria we find three distinct forms of kidney disease. They are not different grades of the same form of inflammation varying in their severity, but from the beginning to the end of their course are separate affections.

To the first week of scarlatina and diphtheria belong simple acute degeneration of the cells of the convoluted tubules with albumin and casts in the urine, but no constitutional symptoms.

During the active period of these two diseases is the liability to an acute exudative nephritis with much albumin, many casts, sometimes blood, and a decided diminution in the quantity of urine. With this come subcutaneous dropsy and cerebral symptoms. Such a nephritis may be of severe type and prove fatal. But it regularly runs its course within four weeks, and in the patients who survive the original disease the kidneys return to their natural condition.

After scarlatina and diphtheria have run their course there may be developed a nephritis of an entirely different type. Its course is subacute, protracted, and may last for months or years.

The anatomical changes are such that the kidney can never return to its normal condition. The most marked clinical symptoms are the dropsy, the secondary anæmia and the cerebral symptoms. Albumin and casts are steadily present in the urine and the excretion of urea is gradually diminished.

With yellow fever and acute yellow atrophy of the liver there is regularly present a form of nephritis which, so far as I know, is peculiar to these two diseases.

The kidney lesion is a destructive one. Most of the epithelial cells of the kidney become necrotic and desquamate, while there is also a considerable exudation from the blood-vessels. The urine contains blood, much albumin, and many casts. There are no distinctive renal symptoms to be separated from those of the primary disease.

But the kidney lesion is so extensive that it seems as if it must have much to do in causing the death of the patient.

A very important group of cases of kidney disease consists of the cases which are either caused by or associated with chronic endocarditis.

With chronic endocarditis we find the following lesions of the kidneys: (1) Chronic congestion. (2) Chronic congestion followed by chronic exudative nephritis. (3) Chronic nephritis followed by chronic nephritis without exudation. (4) Chronic degeneration. (5) Chronic degeneration followed by chronic nephritis with exudation. (6) Chronic nephritis with exudation not preceded by congestion and not secondary to the endocarditis. (7) Chronic nephritis without exudation not preceded by congestion and not secondary to the endocarditis.

Here are seven different kidney lesions, each one of them frequently associated with cardiac disease. The diagnosis may be difficult. The general rules which we follow are these:

With chronic congestion of the kidney the cardiac symptoms are not very severe; more or less dropsy is often present; the quantity of urine is somewhat diminished, its specific gravity is normal or high, the proportion of urea to the ounce of urine is increased,

*A paper read by title at the meeting of the Medical Society of the State of New York, January 28, 1904.

albumin is present in small quantities, there are but few hyaline casts.

With chronic congestion, followed by chronic nephritis with exudation, the cardiac symptoms are more severe, there is a good deal of dropsy; the urine is scanty, its specific gravity is lowered, the proportion of urea to the ounce is diminished, the quantity of albumin is large, casts are present in considerable numbers.

With chronic congestion, followed by chronic nephritis without exudation, attacks of contraction of the arteries are of frequent occurrence; dropsy is not as constant; the quantity of the urine varies, its specific gravity is low, the proportion of urea to the ounce is diminished, there is but little albumin except when the arteries are contracted; loss of flesh and strength are marked features.

With chronic degeneration the cardiac symptoms are severe; the dropsy is moderate; the quantity of the urine varies, its specific gravity is unchanged, there is but little albumin. The patients are feeble and anæmic, they die with a prolonged period of scanty urine, delirium, stupor, and the typhoid state.

With chronic degeneration, followed by chronic exudative nephritis, the cardiac symptoms are severe and the dropsy well marked. The quantity of urine is small, its specific gravity is rather high than low. Albumin is present in large quantities, casts are not as constant. The patients are feeble, anæmic, and get worse rapidly.

With chronic nephritis, either with or without exudation, not preceded by congestion, there is the ordinary history of chronic nephritis lasting for months or years. Then at some time a stenosis of the valves becomes tighter, an insufficiency becomes greater, the heart's action fails, the circulation is inefficiently carried on, and cardiac symptoms are added to those of the nephritis.

During the later months of pregnancy, during labor, and immediately after childbirth, women not infrequently become anæmic and dropsical, have albumin in the urine and develop cerebral symptoms —headache, blindness, convulsions, and coma. The cases vary in their severity.

1. There are a considerable number of women in whose urine during the latter months of pregnancy albumin is present in appreciable quantities. They have no other symptoms and pass through labor without trouble.

2. There are women who, during the later months of pregnancy, have scanty and albuminous urine, more or less dropsy of the legs and a secondary anæmia. They may pass through childbirth safely and do well afterward, but some of them go on to have a chronic nephritis dating from the pregnancy.

3. In a small number of women at or about the time of childbirth, either before, during or after labor, there are cerebral symptoms. In some of these women albumin has been present in the urine during the pregnancy; in others, besides the albuminuria, dropsy and anæmia have also been present; but in others the cerebral symptoms are suddenly developed without any premonitory conditions.

The cerebral attacks are characterized by nausea and vomiting, headache, blindness, muscular twitchings, general convulsions, stupor, coma, hemiplegia, a rise of temperature, a pulse of high tension, venous congestion of the skin, the urine diminished and suppressed.

The cases vary as to how many of these symptoms are present.

In the fatal cases death takes place with the convulsions, coma, or hemiplegia.

Of the patients some go on for the rest of their lives without the slightest evidence of kidney disease, others on the contrary after a time develop the symptoms of chronic nephritis.

One would rather expect that in all these cases we would find one form of kidney lesion varying only in greater or lesser development. This, however, is not the case. A number of different kidney lesions have been described.

In my own experience in women dying with cerebral symptoms and albuminuria at about the time of childbirth, I have found the kidneys in the following conditions: Normal kidneys, dilatation of the pelves and ureters, acute degeneration of the kidneys, acute exudative nephritis, acute productive nephritis, chronic nephritis.

In some of the patients, even in young women, I have found well-marked disease of the cerebral arteries.

There is a group of cases which has interested me a good deal—that of young persons, boys and girls, who have albumin and casts in the urine with anæmia and no other symptoms. This group may be divided as follows:

1. The ordinary cases of simple anæmia in young women with albumin and casts in the urine. These are of ordinary occurrence, the patients only need the routine iron treatment, the morbid condition of the kidneys is transitory and unimportant.

2. There are cases which behave as if they had a mild exudative nephritis. The patients are hardly sick enough to go to bed. They have a little headache, perhaps some aching in the back and limbs, loss of appetite, a little nausea, and the feeling of general malaise. They often think that they have taken cold. It is possible that some of them are cases of influenza. These indefinite symptoms last for one or two weeks, disappear, and the patient is well again. If the urine is not examined it is not known that the patient has been suffering from a mild nephritis. If the urine is examined, it is found that the quantity is somewhat diminished the specific gravity is not lowered, an appreciable quantity of albumin is present with hyaline, granular and epithelial casts, sometimes with blood. These changes in the urine last for four or five weeks, sometimes longer, and then disappear. The patients hardly require treatment and recover completely.

3. There are young persons who, for months or years, have a little albumin and a few casts in the urine with a moderate secondary anæmia. It is very difficult to tell whether or no they have a true nephritis. As a rule they get entirely well.

The great secret in managing them is to give them plenty to eat and out-of-door exercise. Iron is not of much service.

4. The cases of so-called cyclic albuminuria, the albumin present in the evening after exercise and absent in the morning after rest have been sufficiently described. The general rules for their management are pretty well agreed on.

There is a group of cases of primary nephritis which run a subacute course from the outset. We call them primary because they occur without discoverable cause in persons whose health has previously been good. The condition is especially common in young persons between the ages of twelve and twenty, but it is also seen in older persons.

In some persons at first there are only loss of appetite, headaches, and an increasing pallor of the skin and mucous membrane.

In some persons dropsy of the face and legs and anæmia are at first and for a considerable time the only symptoms. They continue to eat well, feel

well, and attend to their work. It is hard to realize that they are beginning a serious illness.

In many of the patients dropsy of the legs and face, anæmia, headache, sleeplessness, loss of appetite, nausea, and vomiting are developed at about the same time.

The urine is moderately diminished in quantity, there is a large quantity of albumin, a considerable number of casts, sometimes blood. The specific gravity remains normal, or falls a little.

The course of the disease varies:

1. The patients are sick for several weeks with one or more of the regular symptoms: albumin and casts in the urine, anæmia, dropsy, headache, and disturbances of digestion. The attack runs its course, the patients get well, with damaged kidneys. They do not continue to have a nephritis, but they have kidneys which are susceptible to fresh attacks of inflammation. Sooner or later, it may not be until after several years, they are apt to develop a chronic nephritis.

2. The patients begin in the same way with an attack which lasts for several weeks. Then the symptoms subside, but the nephritis continues, a very slow chronic process with few symptoms, but a gradual fall in the specific gravity of the urine, with the presence of small quantities of albumin. The patients may live in this way for many years in comparative health, but they are not really well, and in children the development of the body is seriously interfered with. It is possible for these patients to recover, but they are apt to die with an exacerbation of the nephritis, or in the condition of chronic uræmia.

3. The first attack is succeeded by other attacks, which follow each other at intervals of weeks or months. Between the attacks the patients are comparatively well. But each attack is worse than the preceding one, and finally there comes an attack which proves fatal.

4. The most distressing cases are those which are severe and continuous. The patients steadily get worse, and yet months may elapse before their sufferings are terminated by death. The color of their skin and mucous membrane becomes more and more white; headaches are constant and troublesome; sleep is difficult and unrefreshing; the eyesight is impaired or lost altogether; there is no appetite, but rather constant nausea and irritability of the stomach; from time to time the arteries are contracted, and there is a disposition of muscular twitchings and general convulsions. The dropsy constantly increases, no matter how large the excretion of urine. The subcutaneous connective tissue is everywhere œdematous and the serous cavities contain more or less serum.

Not only does treatment fail to control the nephritis, but we are unable even to alleviate the symptoms.

The majority of these cases, especially in hospital practice, terminate unfavorably. Either the disease goes on continuously and the patients die at the end of a few months, or the acute symptoms subside and a chronic nephritis supervenes.

But it does not do to forget the favorable cases. Some patients live for many years in very fair health, some seem to recover altogether.

18 West Thirty-second Street.

To Cleanse Hypodermic Needles.—If neglected so that the wire cannot be passed, the point may be heated in an alcohol flame to turn out the organic matter. When the wire is rusted in the cannula, the latter should be allowed to soak overnight in neutral oil, and then heated as before. After that, all traces of rust are removed by forcing into the point more oil.—*Medical Times and Hospital Gazette.*

SOME MODERN VIEWS OF GASTROINTESTINAL TROUBLES AND THEIR TREATMENT BY MASSAGE.

By GUSTAF NORSTRÖM, M.D. (of the faculty of Stockholm), New York.

Several years ago, shortly after my arrival from France, I published in the Medical Record a short article on the "Technique of Massage of the Stomach." This article dealt chiefly with the technical part of the subject. I now purpose to discuss particularly the clinical results of massage of the stomach, based on my experience with it, and to show the relation which exists between the general improvement that has followed its use and the chemical activity of the stomach. This will be followed by a brief article on manual massage of the bowels.

In a number of cases referred to, suffering from gastric indigestion, the gastric juice was analyzed from time to time. We have been able to compare the changes in its composition, and observed that there has been a uniform improvement in the chemical action of the stomach, corresponding to the gradual improvement of the patient. This procedure is not a new one. It has been practised in an empirical way by those in whose hands it was often prejudicial to the patients, and, further, its best results were not obtained.

The beneficial results of massage of the stomach were first set forth by Rubens Hirschberg in his interesting article on "Massage of the Abdomen," which was soon followed by Dr. Cautru in a well-written thesis entitled, "De l'Emploi des Agents Physiques et en particulier du Massage dans le Traitement des dyspepsies," in which he relates the results obtained with its use at the Hôpital St. Antoine (Clinic of Professor Hayem), together with his subsequent results at the Hôpital Necker (Clinic of Professor Huchard). My friend, Professor Zabludowski in Berlin,* Cseri,† Schmidt and others have also written articles on the subject. It is besides a well-known fact that Dr. Metzger, the father of scientific massage, whose methods I am endeavoring to introduce into this country, long ago employed this adaptation of massage, not only in the treatment of local affections of the stomach, but even in systemic conditions, which he thinks result from faulty stomach digestion (gout, etc.). I hasten to say right here that the kind of massage I am advocating in this article for gastrointestinal troubles, differs, particularly in its application in the gastric disorders, a great deal from the methods employed thus far by others and by myself up to about fourteen years ago.

As this one yielded in my hands quite unsatisfactory results, I gave up massage entirely in the first-named disorders for two years. It was at that moment I devised the method I have employed ever since, and which has yielded often the most splendid results, the manipulations, etc., of which I shall describe later on.

The numerous drugs usually employed in the treatment of gastric indigestion, as well as any treatment applied thus far, were dispensed with soon after a course of massage was begun, and then the only treatment employed was the physical agent massage.

We will now briefly discuss what might be termed the chemical disorders of the stomach, as to discuss the subject in a comprehensive manner as I should like, would unduly lengthen the article.

It can readily be assured without further reason-

* *Berliner klinische Wochenschrift*, No. 26, and following.
† *Wiener medizinische Wochenschrift*, 1889, "Die Mekanische Behandlung des Magens."

ing that in that clinical trouble of the stomach that we call *Hypo-chlorhydria* (Hypopepsia-Hayem),* (Hyposthénie—A. Robin), in which, as it is generally known, there is deficiency not only of the gastric juice but at the same time of free hydrochloric acid, the physical agent massage could remedy both conditions. We know that direct or indirect excitation of the stomach immediately provokes a flow of gastric juice through reflex action. This stimulating effect of massage on the glandular function was first demonstrated by Dr. Colombo, formerly of Turin, now of Rome, who employed massage upon dogs, in which he had first made gastric fistulæ. From these experiments he concluded that massage acts upon the glands through a double action, on the one hand stimulating the glandular epithelium and on the other determining an increase in the blood supply to the organ which favors the secretion. In addition to this special action on the glands the secretion is also increased by the peristaltic movements provoked by massage.

I have long taught that massage of the stomach improved the quality of the gastric-juice secretion. A number of others, and particularly Rubens Hirschberg, have followed me in this. But Dr. Cautru (*vid.* thesis) was beyond all question the first to demonstrate scientifically that it also acted in this way.

We must not, however, forget that during digestion two phenomena are taking place: one of them vascular, characterized by increased determination of blood, and the other glandular, by which the chlorides of the blood are decomposed into hydrochloric acid and organic chlorides. In France the name of *chlorhydrie* has been given to the first of these phenomena, and it should be directly proportionate to the amount of chlorides required in the organic chlorides. There should also be a proper proportion between these two phenomena during the whole of digestion, and the various stages of the process ought to take place according to certain rules which maintain this equilibrium.

In order to determine the influence of massage upon the digestion, it appears to me almost indispensable to compare the analysis of the gastric juice on the same individual at different stages of the treatment of both varieties of disturbance of the gastric juice.†

When there is hypochlorhydria, in which there is a diminished chemical action and corresponds to to the formula — HCl, as a result of massage there is hastening of digestion due to an increase of the quality of hydrochloric acid. Glandular action is more active, Cl having increased and osmosis proceeding more rapidly.

The establishment of better gastric digestion through massage is shown by increased appetite and greater rapidity of digestion, the first of which is generally the first sign of approaching improvement in the massage of any disease of the stomach and which causes great rejoicing to the patient.

CASE I.—*Hypochlorhydria — Chronic Gastritis—Atony of the Stomach—Nervousness.* Mrs. S., thirty-seven years of age, came for treatment August, 1895. Treated at first for a fortnight in Europe with slight improvement. Seen again in October in Brooklyn. Was extremely emaciated, having lost about fifty pounds and unable to digest any kind of food. Since 1891 suffered from pain and eructions; cramp in the region of pylorus. Stomach washed out for seven months without relief. Operation refused. Very nervous and was believed to have a functional disease; obstinate constipation. Treatment lasted for six weeks (in this country); could digest anything (plum pudding). Stomach normal. No more pain resp. cramp; constipation gone. Gained thirty pounds in ten months. Perfectly healthy at present time; has gotten stout.

CASE II.—*Hypochlorhydria—Chronic Gastritis—Atony.* Mr. W., sixty-one years of age, complained for thirty years of stomach trouble. Suffered also last three years from chronic diarrhœa; very weak; acid eructations and gases. Since ten years could not digest meat; his diet was milk, eggs, oysters, and meat juice. Very much emaciated. Hypochlorhydria. After five weeks' massage, notable improvement. After nine, perfectly well; diarrhœa gone. His tongue, which had been thickly coated for many years, gradually cleaned off from edges to middle line as improvement progressed. Gained in four to five months twenty-four pounds in weight. Can digest anything. Gastric juice normal. Three years after massage perfectly well. Bowels regular.

CASE III.—*Chronic Gastritis—Atony of the Stomach.* Mr. O. referred to me by Dr. Keys in 1896. Condition bad, face sallow, looked like a very weak man. Has been suffering for at least four years. Got worse through drugs. Could hardly stand any food, not even milk; acid eructations in great quantities; vomiting at times. Vomited matters examined showed hypochlorhydria and a great deal of mucus. On account of his bad condition looked like a man having cancer. I was afraid to massage him. Proposed three weeks' massage; improvement; continued massage five to six weeks. Acid eructations highly improved; no more belching. Can now digest as well as before his illness. Gastric juice normal; very little mucus left. Has enjoyed perfect health, as concerns his stomach, since that time.

When, on the contrary, we have to do with the other variety of disturbance in the chemismus of the stomach named *Hyperchlorhydria* (*Hyperpepsia*—Hayem; *Hyperesthénie*—A. Robin) there is increased acidity, which irritates the gastric mucous membrane; it has, as a general character, + HCl—that is to say, increase in the hydrochloric acid in a free state.

After massage is employed there is generally a regulation of the chemical action, and the different factors approach the normal conditions.

In addition to the plethoric, congestive hyperchlorhydria, to which I would prefer to give the name *true* hyperchlorhydria, Cautru admits a second form, to which he gives the name *false* hyperchlorhydria. I have encountered a certain number of these, which, while giving all the symptoms of hyperchlorhydria (burning acid eructations, sudden feeling of hunger), are found in each by an analysis of the gastric juice to be hypochlorhydria with secondary fermentations. Massage gives good results in both varieties, but particularly in the latter, as might be supposed. Further, the condition is cured in much shorter time.

The indication for massage in the disease in question has not generally been recognized by the profession, and many who admit its usefulness in cases of hypochlorhydria, are rather skeptical of any good results in the latter condition. Dr. Cautru, whose name we have so often quoted, has had quite satisfactory results in its use in the latter affection. I see with pleasure that these results have been confirmed by Professor Huchard, at whose clinic in the Necker Hospital, in Paris, most of the cases have been

*"Chemisme stomacal," Hayem-Winter, Paris, 1892.

† I purposely omit here anachlorhydria, as this is a rather rare disorder of the stomachic chemism.

treated.* On perusing the voluminous and excellent work on gastric disorders by Prof. Alb. Robin,† I learned that he, from personal experience, expressed himself in favor of massage applied to the digestive organs, but excepts hyperchlorhydria, as he always has found the secretion increased after massaging. On account of this, I addressed a letter to him, which he kindly inserted in his journal (*Bulletin Général de Thérapeutique*, May, 1903). I tried in this to explain why he has not obtained the same results as Dr. Cautru and myself in these cases. The real cause of Dr. Robin's failure, I think, is due to the fact that he has not persisted sufficiently long in his treatment. I have always noticed that in massaging cases of hyperchlorhydria there is an increase of the gastric juice during first few weeks, and only after five to six weeks the regulation of the glandular function takes place as a result of the treatment. I would be pleased if, after this explanation of my experience, Dr. Robin would again take up the treatment in the proper cases. I am assured that, if he will do so and apply massage as I do, he would modify his ideas.

Owing to these facts one would readily conclude that the time required for the cure of hyperchlorhydria would be longer than that required for hypochlorhydria. Three months are sometimes required, during which the patience of both physician and patient are often sorely tried.

The treatment of hyperchlorhydria is still more obstinate, when there are complications on the part of the nervous system, and the results are then generally not very good and relapses occur most frequently.

It seems strange that massage, at first stimulating the secretion of the gastric juice, should end by reëstablishing its normal quantity. But this same apparently paradoxical condition is formed, as I shall speak of later on, in the treatment of constipation and diarrhœa by massage, which acts upon the nerves of the stomach, the circulation of its walls, and consequently upon the whole nutrition of the organ, including that of the glands, and reëstablishing in this way the normal anatomical and physiological conditions.

Case IV.—*Hyperchlorhydria—Dilatation of the Stomach—Diarrhœa.*—Mr. K., forty-four years of age, came to me in 1893. Stomach trouble for six years. Strong fermentation in stomach and bowels. Diarrhœa for ten months. Burning of "hot water" after every meal. Sharp pain three hours later. Woke up every morning at five from pain (acidity). Complains of eructations. Some relief from washings. Slight transitory relief, too, from NaBi. Gastroenterostomy proposed. Refused. Test-meal (Riegel). Débris and hyperchlorhydria. Irritation of the bladder due to reflex from the stomach trouble. After treatment gone. Condition now quite healthy; no débris. Reaction almost normal. No more diarrhœa. Treatment lasted almost eleven weeks.

Case V.—*Hyperchlorhydria—Violent Cramp of the Pylorus.* Mr. K., forty-six years old, composer of music, suffers since 1873 from stomach troubles. Every year a season at Vichy; some relief for five or six weeks. End of 1888 exceedingly violent attacks of pain; had their seat in the region of pylorus; radiating upward but especially downward; on this account he was believed by physicians to be suffering from hepatic colic. The attacks came on with predilection in the evening after the principal meal; complained of burning sensation right after meals, but particularly two to three hours after it. At this latter time the cramp was especially violent. Belching up of very acid gases. Bicarbonate of soda in large quantities with only transitory effect.

The stomach often refused to digest anything, in spite of a strict and especially monotonous diet. Got thin and easily tired; could not work for any length of time. Obstinate constipation. Hyperchlorhydria. Treatment by massage for nine weeks, started in the beginning of October, 1893. In the middle of the treatment a violent attack, but up to May, 1895, when I saw him last in Paris, he has not had any relapse. Patient eats everything without complaining of any pain in the stomach. Constipation entirely gone after a particular application of massage.

There exists another affection—more a complex of symptoms of a certain nature than a real disease *sui generis*—named *Reichmann's disease*, and which resembles hyperchlorhydria very markedly, more perhaps in regard to its symptoms than to its etiology. I have no experience as regards the propriety of application of massage in this not very frequent gastric disorder, but concluding from the results massage yields in hyperchlorhydria, and from the same cause, as I am going to show, it seems to me rational and worth while to try it in proper cases. That is particularly the case when there is—what seems to happen rather often—atonic condition of the walls of the stomach coexisting.

Its use is, of course, contraindicated when an ulcus is the causative factor of the affection in question, and this may sometimes happen according to Strauss* and others, without agreeing with Hayem and his school that ulcus ventriculi, "en activité," or in a state of healing up, is always the existing cause in the continuous secretion of the gastric juice.

To sum up, massage influences the glandular elements of the stomach, modifying the chemical action.

1. It tends to approach the relations expressed in the formula to the normal relations.

2. It reëstablishes the equilibrium in the components of the gastric juice, lowering them when excessive; raising them when deficient.

3. It acts particularly upon the "evolutif" troubles, in increasing and regularizing in a constant and manifest manner the evolution of digestion.

The treatment of the dyspepsias, complicated or not, ought to aim to restore the chemical equilibrium, as well as the physiological functions. In order to arrive at this, a strict régime is not always sufficient. It is besides necessary to reduce medication, which is far more harmful than beneficial here, to a minimum, and employ those agents which will reëstablish the equilibrium interrupted, and supply by natural means the physiological agents lacking.

With many others, I hold the view that a great many diseases of the stomach, and especially chronic gastritis and nervous dyspepsia, when the analysis of the gastric juice shows some abnormality, the disease itself remains for a longer or shorter time in a latent state, until the mobility of the stomach begins to suffer. This brings out the symptoms and makes the patient complain of a malady of which he has, up to that time, been an unconscious victim. Whereas, if the motor element

* "Consultations Médicales," Paris, 1901.

† "Maladies de l'Estomac," Paris, 1876, 3 volumes.

* "Klin. Studien des Magensaftflusses," *Mittheilungen aus den Grensgebieten der Medizin und Chirurgie*, 12 Bd. 1 H.

is intact, the abnormal condition of the gastric juice is overcome.*

The condition of hyperchlorhydria is an exception to this rule, although even here we sometimes notice how a rather large excess of chloric acid may exist without the patient complaining of any pain, the latter depending upon the higher or lesser degree of sensitiveness of the mucous membrane and its different reaction against the increased acidity. But even in these cases we observe how the above-mentioned rule is prevailing; the patient starts to suffer as soon as an atonic condition—a state more frequent in my opinion than is generally admitted—is added to the pre-existing one.†

How then may we be able to explain that not only the amyloids but also the albuminoids could be digested, absorbed, and benefit the organism under the most unfavorable conditions of chemical action of the stomach? It is because it has been demonstrated in the most positive way that the pancreatic juice may act as a substitute for the gastric juice‡ and digest any animal food. This would formerly have seemed paradoxical.

*Having perused the literature on troubles of the digestive organs, I notice with pleasure how many specialists of diseases of the stomach—and among them, particularly those of German nationality, and at the head of them the leading specialist, Dr. Boas ("Diagnostik und Therapie der Magenkrankheiten," Berlin, 1901), are getting more and more disposed to recognize that the motor element plays the most important part in the digestive act—what was, until a few years ago, almost neglected. But I am particularly satisfied in observing how, even among the French specialists, this opinion seems at this moment to predominate. Thus, for instance, such an eminent specialist as A. Mathien expresses similar views in an article published some months ago in the *Gasette des Hôpitaux*, when he says: . . . "We have arrived at attributing to the condition of mobility and sensitiveness of the stomach a preponderant value in dyspeptic troubles."

†It has been generally admitted that in hyperchlorhydria the peptonization of the albuminoids is accelerated through the excess of chloric acid secreted, and, moreover, that the albuminoids, owing to this circumstance, leave the stomach sooner than usually. But this last view has been upset by Pawlow (Das Experiment als zeitgemässe und einheitliche Methode mediziner Forschung, Wiesbaden, 1900), as have also been so many others which have prevailed thus far, in the field of gastric physiology and pathology.

By his remarkable experiments it has been shown that the question of passage of the contents of the stomach into the duodenum is regulated by nothing less than the chemical reaction of the duodenal ingesta. A portion of the acid contents of the stomach through reflex action from the mucous membrane of the duodenum provokes a temporary closing up of the pylorus.

At first, when above-mentioned acid mass has been neutralized by the alkaline pancreatic juice, the pylorus opens up and another acid portion is allowed to pass into the bowel.

From this it is clear that the hyperacid ingesta of the stomach ought to take longer time to leave the latter than those of normal composition, and that, consequently, the transformation of the acid stomach-digestion into the alkaline pancreatic one ought to be to a certain degree more difficult and retarded.

The stagnation of ingesta in hyperchlorhydria is, moreover, frequently increased by the reflex cramp of the pylorus that impedes the exit of the sour contents from the stomach.

It really seems as if these retarding elements in the stomachical digestion would not be a matter of chance, as nature, owing to a marvellous disposition here as well as in other gastric troubles, would do its utmost in order to keep up the digestive equilibrium. Otherwise a portion of the very acid gastric contents—the albuminoids being easily, as I have mentioned, peptonized under influence of hydrochloric acid secreted in excess—could leave the stomach too soon, and then a disorder in the digestion could take place.

‡ Those who may be interested in the further study of the most important functions of the pancreas, are referred to the very interesting and epoch-making discoveries of Pawlow, described in his work, "Arbeit der Verdauungsdrüsen," Wiesbaden, 1898 (also in French.)

The action of massage upon the gastric muscle is very evident, and when the abdominal walls are very thin, peristaltic and antiperistaltic movements may sometimes be observed. Its action has been demonstrated by numerous experiments; among others, those of Rubens Hirschberg, who has shown, for instance, that two eggs remain in the stomach four hours and fifteen minutes. After massage of the stomach for ten minutes they remained only two hours and forty-five minutes. Besides 300 gm. of roast meat five hours and thirty-five minutes; after ten minutes massage, three hours and thirty minutes. The same author stated that if two hours and thirty minutes are necessary after administration of salol, before it appeared in the urine as salicyluric acid, after fifteen minutes of massage it will appear in an hour and a half.

Motor insufficiency begins almost always in the shape of an atonic condition of the muscular wall, pathological-anatomical changes being absolutely lacking, and manifests itself only in weakness of the named wall and a tendency of yielding to the pressure of the stomachical contents. This condition may remain as such—and this happens most frequently—or it will, if the etiological conditions persist, gradually turn over ino a real dilatation, on account of fatty degeneration or some other pathological alteration, probably setting in in the tunica dartos.*

In this event the stomach will be unable to empty its contents at the proper time. But it will eventually do so with pain and the digestive process prolonged (atony), or the stomach will only be able to get rid of only a portion of its contents itself, and a greater or less quantity of indigested food will remain when the stomach ought to be empty (dilatation). In the former condition massage often has a wonderful effect, the contractile power of the stomach being entirely recovered; while in the latter, even if a restitutio ad integrum may not occur from an anatomical standpoint, the patient's condition is improved to such an extent that one may almost speak of a cure, the patient scarcely complaining of any symptoms at the end of the course of massage, and no symptoms returning, at least not for a number of years.†

When I first came to this country I treated a number of cases of this kind with great success, which had been unsuccessfully treated by other methods and who came to massage as a last resort, before undergoing a proposed gastroenterostomy. The condition of these was most deplorable; the patients having given up a great many articles of food. In some there was also chronic diarrhœa and they were extremely emaciated. In such cases the treatment required will take much longer, as can easily be surmised—three months being occasionally required for a certain cure.

I have alluded to the fact that the gastric juice is not, as it is commonly believed, necessary for the digestion of albuminoids. Experiments upon animals have certainly demonstrated this, although little was made of this fact. It was alleged that conclusions derived from experiments upon animals did not necessarily apply to man. Dr. Schlatter of Zürich demonstrated, however, in a case of extensive cancer of the stomach, in which total extirpation was

*I hold the same view as Nothnagel and many others that primary dilatation of the stomach is a relatively rare affection, the presence of which has, in my opinion, been highly exaggerated, particularly in France, where, for a rather long time, under the influence of the doctrine of Bouchard, there was almost no case of stomach trouble in which the diagnosis of primary dilatation had not been made.

†We speak here only of idiopathic dilatation, as the one produced by stricture of the pylorus is, of course, not susceptible to our treatment

performed, that the above statement also applied to men. The patient in question was a woman advanced in years. She could digest meat as well after the operation as before, when she was still in possession of a healthy stomach. It is, of course, self-evident that the food had to be administered in small portions and at frequent intervals.

Under this régime she was doing well and had gained four pounds in weight at the end of one year. Two months later this patient succumbed to a disease which did not have the slightest relation to the above condition, namely, to a recurrence of the cancer in the mesenteric glands.

What I have just stated about the non-necessity of the gastric juice for the digestion of albuminoids applies only to stomachs in which the motor power is preserved. However, as soon as the latter begins to suffer, which may happen in any disease of the stomach, the patient begins to complain. The food remains too long in the stomach. It undergoes fermentation, and its walls are being distended by accumulation of gases. Under these conditions the stomach finishes by contracting, the resistance of the pylorus is overcome, and its contents are driven out into the duodenum, the reaction of the food being excessively acid. The alkaline pancreatic juice can neutralize only a part of the contents and the digestion will consequently be incomplete.

If proper massage is applied to the walls of the stomach, the latter will recover their contratile power, the stomach contents, solid as well as liquid,* will remain in the stomach no longer than usually, and decomposition is thus prevented. The food is expelled at the proper time into the duodenum, where it will be digested by the pancreatic juice independently of its chemical reaction.

I have not found it convenient to describe massage in its clinical applications in the different forms of gastric affections. In those which are characterized by what the French call "ralentissement de la digestion"—chronic gastritis, idiopathic dilatation of the stomach, nervous dyspepsia—particularly in the first and the last, different chemical conditions are observed at different times, being produced probably by some particular nervous influence, and from time to time it happens that these conditions change, and sometimes in a very short time, from one extreme through the normal to quite the opposite.

I think, however, I may here make an exception of nervous dyspepsia and gastralgia, as in both these affections we have to do with a nervous element as primary or secondary cause of the disease. The treatment we are discussing is not applicable to the first of these diseases, as I believe in the great majority of cases this affection is dependent upon a systemic condition and is only to be regarded as one of the many manifestations of neurasthenia and hysteria. These ought then to be treated, and not the stomach trouble itself. However, everybody who occupies himself with diseases of the stomach will agree with me in recognizing in some cases the difficulty if not impossibility, at a certain degree of development of the disease, in differentiating the two conditions, and determining whether the gastric trouble is the initial factor, the primary and most important affection, susceptible to our treatment, or secondary to the systemic condition.

It is in these doubtful cases, in which instead of the local disease I regarded and also treated a symptom, that I have failed with my treatment. Still, even in these cases massage of the stomach and bowels has at times yielded favorable results, although only temporarily. A few months after the treatment was stopped a relapse would occur, the time of improvement never exceeding one year.

How can we explain the effect of massage in such cases? I believe that massage stimulating the appetite, a lack of which these patients often complain of, the patients eat more at the same time, as the digestion is improved. This acts as a great tonic upon the general condition of the patient as well as upon the nervous system, while the latter acts favorably back upon the stomach and intestines.

Gastralgia may be divided in two classes: Idiopathic gastralgia, and gastralgia dependent upon a general cause, such as chlorosis, neurasthenia, and hysteria. These last conditions, although sometimes benefited by massage, disappear only when by appropriate means the exciting cause has been removed; all the more, when there is an organic substratum as tabes dorsalis as its cause. In regard to the idiopathic form, we have rarely seen it not to respond to treatment by massage, and strange to say, after but very short treatment the patient frequently experiences relief, as is often the case in neuralgias in other parts of the body. Among others, I may cite the case of a young lady in Paris, who had suffered for a certain number of years from violent gastralgia and who was cured after only three weeks of massage. I saw her two years later, and no relapse, what I have sometimes seen, in similar cases, had occurred.

One might *a priori* suppose that in the *Gastroptose* massage would yield the most satisfactory results; but I am sorry to say that in my experience, no matter how long you apply massage, the results are entirely negative as concerns the abnormal position of the stomach, which will remain absolutely the same after as before this treatment is employed.

We frequently notice, however, cases which are due to a general constitutional cause—as well as cases following a post-puerperal condition and due to an increasing of the abdominal cavity through relaxation of the abdominal walls—in which the gastric displacement does not give rise to any symptom by itself; the patient completely ignoring that he is a bearer of the abnormality in question, which is then only discovered by chance. It would certainly be the same in some cases of gastroptose, in which a local agent is found to be the causative factor, were not the motor element most often more or less lacking in its functions. Yes, motor insufficiency is here in reality not only frequently complicating the abnormal position of the stomach, we are speaking of, but in the second variety it is, at least in the great majority of cases, also the real origin of it, the stomach overcharged by stagnant ingesta yielding to its increased weight and consequently gradually sinking down.*

It is in trying to act by our treatment upon this atonic condition we are often able to bring the patient to such a state that he does not longer complain of any trouble.

Absolute contraindications to massage of the

*According to the experiences of Dr. von Mehring on dogs, water is absorbed in but small quantities in the stomach. This is contrary to what was formerly supposed. Half to three-quarters of an hour after its ingestion the water has entirely entered the duodenum where it it absorbed. (Moritz).

*The motor insufficiency, as a consequence of gastroptose seems, on the contrary, to be a rather rare complication, although theoretically one might suppose that the contrary condition would take place, the pars descendens duodeni remaining fixed, owing to its insertion to the back of the abdominal wall, and the stomach descending, the distance between the lower border of the stomach and the antrum pylori would thus be increased. The food would consequently meet more difficulty in leaving the stomach; the latter would be obliged to make more efforts and contract more energetically in order to empty its contents.

stomach are chronic ulcer and cancer. In regard to massage of the stomach in the former of these it would not only be useless, but dangerous too, as it might give rise to hemorrhage. But the same objection might be raised to the treatment of any gastric affection by internal physical means, the washing out of stomach contents not being excluded.

We have, however, since a short time a means at our disposal in discovering an ulcus ventriculi, namely Mendel's hammer. I consider the latter a great discovery and of very great practical importance, because it enables us to exclude ulcer of the stomach and even of the duodenum in doubtful cases.*

In the incipient stage of infiltration of cancer in the walls of the stomach, when this has not yet given rise to a tumor, an error in the diagnosis can easily be possible, and indeed† has certainly often been made.

But I don't think that three weeks' massage during the initial stage could do any harm. I say three weeks, because after that time I generally notice an improvement, no matter how slight, in all stomach affections in which massage is applicable.‡ If we had to deal with cancer of the stomach, no improvement could of course be expected, and the treatment would be stopped.

I would now say a few words about the *technique* of massage in the affections we have to deal with.

I consider that the remarkable results obtained in the treatment of the digestive organs by massage are greatly due to the position occupied by the patient during the sitting. Up to the present time massage of the stomach was practised with the patient in a position on his back. In this position the operator could only employ frictions, and nothing but frictions, upon the anterior wall of the stomach. And these were, moreover, more or less incomplete, because the stomach, carried down by its own weight, fell backward and became consequently more or less inaccessible to the operator, who was unable to perform the proper manipulations. For the last fourteen years I have discarded this method of procedure and have employed at first the right lateral position and then the left one during the same séance. This method possesses the great advantage of causing the stomach to fall forward and at the same time toward the corresponding side. The stomach is even seen to be bulging out and thus becomes readily accessible to the operator's hands. This position has, moreover, the advantage of allowing the operator to sit with perfect ease at the side of the patient and perform massage, whereas if the patient is in the other position, the operator is obliged to stand upright, which is very fatiguing and a great strain to his back.*

The hands grasp now a large segment of the wall of the stomach and the thumb of the right hand is forced as deep down as possible. Real energetic pétrissage is now practised, the object of the treatment being not to act only upon the glands, nerves, and muscular fibers of the stomach, but also upon the arterial, venous, and lymphatic circulation. Massage will also aid in bringing the contents of the stomach into intimate contact with the secretions.

I have stated above that massage must be practised with a great deal of strength. In hyperæsthesia of the abdomen or stomach walls, however, massage has to be performed gently; the pressure may be increased gradually, not only during the same séance, but also in subsequent séances, when the sensitiveness diminishes owing to massage. The secret of success is to possess a strong thumb and know how to massage. These are two requisites in scientific or Metzger's massage in other diseases, but they are especially requisite in massaging the stomach and the bowels. Without them you cannot penetrate sufficiently deep and know exactly what you are doing.

What is the best time to perform massage? The answer is in the morning when the stomach is more or less empty, or in the afternoon, a few hours after the mid-day meal.† The length of the séance is usually 15 minutes.

The question has arisen if massage, performed during digestion, would not interfere with this physiological process. The experiments of Rubens Hirschberg, as I have mentioned, as well as those of Gopadze, and particularly those of Dr. Beulet of Berne (*Correspondens-Blatt für Schweizer Ärzte*, March, 1888), have clearly demonstrated, however, that massage stimulates the peristaltic movements and increases the amount of the gastric juice secreted through excitation of the glands. This favors better digestion and consequently the quantity of fæces is diminished. This latter may be great enough to frighten some patients.

Manual massage of the bowels for the cure of *constipation* has been employed for a long time. It is only of late that an attempt has been made to replace the human hand by different mechanical devices, such as the rolling disks of Zander's apparatus or rolling large, heavy metal balls in different directions over the whole abdomen (method of Sahli). These mechanics, as well as manual treatment, as practised by the ordinary masseur or masseuse in this country, have very frequently but a temporary effect, if any at all. The effect lasts only as long as the treatment continues, the object of the treatment being to drive the fecal masses in the colon, which is almost exclusively the seat of constipation, in the direction of the least resistance, *i.e.* toward the rectum.

In order to obtain a more permanent result I have followed a way different from the ordinary one. I have, above all, endeavored to act upon the muscular fibers of the big intestine, the atonic condition

*If in a case of ulcus ventriculi we exercise with the percussion hammer a slight percussion on the epigastrium, we provoke a pain over a sharply-circumscribed area, which also remains for a little while. It is then quite immaterial where the ulcus is seated, on the arterior or posterior wall, as the percussion is transmitted in shape of oscillations through the contents of the stomach to the seat of the ulcus, and gives rise to the same kind of pain as if it were on its anterior wall.

On account of the novelty of the invention, there exists thus far only few reports about its having been tried, but these seem to speak in favor of it and confirm its utility and practical value.

†In 30 to 35 per cent. of cases the cancer does not give rise to any tumor.

‡Hyperchlorhydria makes an exception to this rule, since, as I have already mentioned, it requires more time before any improvement is noticeable, but the presence of chloric acid in a free state speaks in favor of the mentioned condition, as it is only in the few cases in which cancer develops on the basis of an ulcer that we find in this latter affection the chemical condition identical to that in hypochlorhydria or ulcus.

*In my practice in Paris as well as in this city I have frequently seen cases which had submitted to massage without the slightest results, and in which only the abdominal wall had been massaged, because the empirical masseur had disregarded these principles I have laid down. I remember among others one case in Paris, indeed, in which the abdominal wall was massaged for four months without the slightest benefit. Such occurrences are daily and not at all exceptional, and they will certainly bring massage into ill repute.

†Massage performed a short time after a meal is unpleasant to the patient as well as to the physician on account of the rippling noise produced.

of which is the real cause of constipation.* Massage, properly and rationally performed, restores, as in the corresponding condition of the stomach, the contractile power of the muscular fibers and a permanent cure may be obtained. In order to accomplish this, you proceed as follows: The patient is placed on his or on her right side; the small intestines fall over to the right side; the left one is then free, so that the sigmoid flexure may be properly massaged—as it is this one which is the most frequent and, at the same time, the most important seat of the affection in question. This is owing to its forming the lower part of the intestine, the fecal matters getting harder in their downward progress, and also to its having the shape of an S, this latter acting as a relative mechanical obstacle to the progress of the fæces. This is, although in much less degree, the case with the angle in which the transverse and descendent colon go over into each other (flexura lienalis), as this one is, according to Merkel,† more acute than the one on opposite side (flexura hepatica).

Besides, in this position the patient does not contract the rectus abdominis as much as in the one on the back, and it is then much easier to take hold of the large intestine and massage it. With the tip of the right thumb you go as deep as possible, trying with the end of the other fingers—just as in massage of the stomach—to seize as large a segment of colon as possible. As the transverse colon is very movable on account of its long mesenterium, it is well to proceed obliquely to its longitudinal axis. In this way a larger portion of the colon can be massaged at every stroke than by any other procedure.

In regard to the direction in which massage of the colon is to be practised, it appears to me to be immaterial if one starts or not at the cæcum and continues along the course of the large intestine toward the rectum, as one generally does, for my sole aim is, as I have said, to arrive at a permanent cure.

Toward the end of the séance, the whole intestinal pocket is massaged with both hands. The position of the patient in this last manœuvre is the same as when massaging the colon, because this position allows a better and firmer hold on the small intestines, falling, as it were, into one's hands.

Here, as in massage of the stomach, and for the same reason, it is only exceptionally that proper massage of the intestines can be performed at the very beginning. It usually requires a few days before this is accomplished; in some cases, indeed, in which the abdominal wall is particularly thick and resistant, a whole week and more may be spent in this preparatory massage.

The séance of massage is, as in that of the stomach affections, lasting about fifteen minutes.

The secret of success in massage of the bowels for constipation does not depend so much upon the various manipulations to be employed as upon a thorough knowledge of the anatomical, physiological, and pathological conditions of the organs to be treated. The manipulations to be employed are, like those in massage of the stomach, very simple, consisting only in frictions, and particularly pétrissage. In various treatises on massage you read descriptions of the different manipulations recommended not only in various diseases, but also in the same disease under different conditions.* I have always followed the school of Metzger, who has greatly simplified these manipulations and who uses but few of them.

I do not discuss the particular quality of the principal agent, the thumb, as I have already alluded to this. I repeat here that the lack of this qualification and other physical qualities is, in my opinion, one of the principal reasons for the failure of so many masseurs. This is especially the case with women, who very rarely have the proper strength in their fingers, especially in the thumb, and who exercise unnecessarily great force and thereby do a great deal of harm.

If you adopt a procedure, as I have just mentioned, you will almost never fail to obtain the most satisfactory results and not meet with disappointments, as is so often the case when you proceed empirically. Excellent results are often obtained even in some of the most inveterate and long-standing cases, in which all kinds of treatment, and especially all kinds of laxative remedies, have been employed without any relief. It is not at all uncommon or infrequent in daily practice to meet cases in which the symptoms have in this way become aggravated and in which the bowels become gradually accustomed to their use.† Purgatives will no longer act, unless the dose be increased. Moreover, the stomach becomes rebellious from the various irritating drugs and a gastritis medicamentosa is often the final result.

I must admit, however, that there are cases, and they are not so very infrequent, in which in spite of all properly performed massage, you don't get any favorable, or, at most, only a partial, result. These are cases in which the chief cause of constipation lies high up in the rectum in the neighborhood of the sphinct. tert. and is depending upon an atonic condition of the muscular fibers in that region. As these cases cannot be massaged through the abdominal wall, you have to go high up in the rectum with the tip of the right forefinger and thus massage the parts.

The results thus obtained have been most satisfactory; the contractile power has been restored to the intestine, and consequently also its activity. It is, of course, of the greatest importance for this purpose to have a long forefinger; a woman's finger will seldom reach high enough. I regard this method of massage as a real innovation, and of the greatest practical importance. I have practised this mode of massage even with girls, who are often great sufferers from constipation, without this condition being always caused by systemic affections, such as chlorosis, and can state that I have obtained most gratifying and unexpected permanent results. I have employed this last method also in women of good social standing without any objection on their part. Massage was here performed under the garments with all proper regard for the modesty of the patients.‡

Besides, there is sometimes, particularly in cases of very long standing of chronic constipation, relaxation and atony of the muscles surrounding the ampulla (expelling muscles). In such cases you will

*We do not believe that flabby and weak abdominal walls, which we see too often in women after many childbirths, exercise any noticeable influence upon the element constipation. I, at least, doubt the part the above condition is by many reputed to play in the production of constipation; at all events, it seems to me to be greatly exaggerated.

†Merkel, *Topographische Anatomie*, page 592.

*Yes, entire works have been written on this subject—as, for instance, those of Hoffa and Zabludowski.

†It is a common experience that enemata will act in the same way.

‡At times mothers, and of the best society, who have heard of its marvelous results, have urged me to adopt this procedure from the start in their daughters. I yield to their wishes, although I don't employ this method, of course, at the beginning of the treatment, from easily conceivable reasons. I only employ it when the other manipulations have not yielded the desired results. It is understood that, before rectal massage is resorted to, an enema must be given to the patient.

find this latter greatly dilated, so as to form a very large cavity containing extremely hard fecal balls.* These weakened muscles have to be massaged too, and most energetically.

SOME ILLUSTRATIVE CASES.

CASE VI.—Mrs. W., fifty years of age, was recommended to me, in the fall of 1899, by Dr. Keyes. Complained of sluggishness of the bowels for several years, but was always able to relieve it by enemata or slight laxatives. For the last three years the constipation became more obstinate, so that she was obliged to take purgatives up to three times daily. She had been massaged at different times by Swedish masseuses with but slight relief, and this of short duration. Other means yielded no better results. I massaged her for six weeks; result only partial. I then resorted to massage per rectum, with the result that after four weeks' treatment permanent recovery followed. Last spring I treated her husband, and I was then told that her bowels moved almost every day and that she was not obliged to resort to medicines any more.

CASE VII.—Mrs. C., twenty-five years of age, from Brooklyn. Has suffered from constipation almost all her life. Has used enemata in addition to cathartics. Her general condition has suffered from this. She looks pale; her complexion is of a sallow gray color. I treated her in the fall of 1902 for more than two months. In the last séances I employed rectal massage. Her improvement after this was wonderful. Bowels moved naturally every day. Was in family way this summer, but was not obliged to take medicine to move her bowels, while formerly she had to take purgatives almost every day. Her general condition is at present very good; she looks and feels splendid.

CASE VIII.—Miss C. M. of Brooklyn, fourteen years old, and a cousin of the former, was treated last February. Her bowels had always been more or less sluggish, but still always yielded to mild cathartics. Her mother urged me to apply rectal massage from the very start, but I refused to comply with her wishes. But when, after three weeks' treatment, I found the results not as satisfactory as I had wished, I yielded and applied it. After a fortnight she was perfectly well, and has remained so up to the present time.

The prolonged presence of fecal matters in the big intestine often causes real decomposition of its contents, formation of flatus and toxins of various nature, as ptomains, etc. These noxious matters may be absorbed and provoke a real general intoxication, being manifested under different forms. Several cases of this kind were treated by me, and I will relate two of them, which will prove it in a most evident way.

CASE IX.—B., a six-year-old girl from Boston. According to the history given by her parents, she has been suffering from constipation since she was born. Up to three months of age she had regular stools by giving her enemata. Since that time this procedure was no longer sufficient. They were obliged to administer to her a great many laxatives and purgatives of the American pharmacopœa. Last year, after having had only one stool during three days, she was seized by convulsions, which lasted twenty-four hours, and which the physicians attributed to a fecal accumulation in the colon. These convulsions ceased after emptying the bowels by an energetic purgative. The same attacks occurred several times, although less violent, and they ceased by resorting to the same means.

I saw the child in Paris in November, 1888. After having related to me all these details, the mother added that her little daughter, generally reserved and almost sullen, isolated herself as much as possible, and never took part in other children's plays. She was not, as she expressed it, like other children.

I tried massage, but without promising anything like a brilliant result. A fortnight later regular normal stools, without the enemata or purgatives. The treatment was continued for a month, after which the child was able to go to the toilet regularly at almost physiological intervals, without being obliged to have recourse to artificial means. No more convulsive seizures.

The child's character has quite changed. As the function of the intestine improved she became bright, lively, and no longer like her former self. Two slight relapses, a few months later, were easily overcome by some few days' massage, and her cure has remained permanent up to date.

CASE X.—Miss R., singer, twenty-eight years old, native of Hungary, complains of constipation almost since her childhood. For the last two years especially obstinate and annoying. Without purgatives she only goes to the toilet every three days. Little by little she lost her appetite; has become thin. Her complexion has changed and become cadaverous-like. The tone of her voice has also, little by little, become altered. All these changes she attributes to her constipation. She has become downhearted and melancholic. A physician from Vienna ordered a course of treatment at Marienbad; the result of it was quite unsatisfactory.

She came to see me in Paris in 1888, greatly emaciated. The walls of her abdomen extremely supple; her case particularly well adapted for massage.

Evident improvement after three weeks of massage. This one was resumed after a fortnight's stopping and continued for two months and a half, only interrupted during the menstrual period.

Formerly the fecal matters were very hard and had the shape of balls; the stools were attended with violent pains, so that she dreaded to go to stool. Now, after cessation of massage, painless movement almost every day. The fecal matters are well formed and of normal consistency. Her appetite satisfactory. I saw her again in July, 1890. The former beautiful complexion, as well as the tone of her voice, have returned. She has gained flesh and this great improvement of health seems to have completely banished all gloomy ideas.

Intestinal paresis is not at all rare in old people It is often mistaken for internal obstruction, or even for a real tumor. In my treatise of massage (Traite Théorique et Pratique du Massage," Paris 672 pages) I have referred to a case which was treated many years ago, and in which fecal vomiting had set in. Purgatives and enemata yielded no results. Toward the end of the second day, after five séances of massage, in which extremely hard fecal matters of a very repulsive odor were broken up, the patient recovered.

All that precedes applies to constipation depending upon an *atonic* condition of the intestine while the so-called *spastic* form has been entirely discarded, as it always has been regarded as not being susceptible to massage. I saw, then, with pleasure that Prof. V. Noorden, in his treatise o

*This coprostate can sometimes give rise to proctitis and even periproctitis, and this one in its turn, in women, to inflammation of ligamenta sacroiliaca with rectal stenosis; a fact to which Dr. A. Mueller in Munich of late has drawn attention as well to the curability of this last affection through massage alone, or with hot water injections (*Archiv fur Verdauungskrankheiten*, Bd. ix, H. 2).

colica mucosa (colitis membranacea)* speaks not only of massage as being absolutely inoffensive here, but even of the quite satisfactory results it yielded in his hands against the always existing causative factor, the constipation, always of spastic origin in this affection—provided the food given to the patient be one rich in residue.

I also had occasion to treat, in this country as well as in Paris, several cases of *diarrhœa* of long standing by massage, and employed the same manipulations as in the treatment of constipation, although with less force. The results have been, without exaggeration, most encouraging. In some of the cases the diarrhœa was complicated by chronic stomach trouble. It is quite evident that massage produces great changes in the tissues, in the glands, as well as in the motor element, modifying their anatomical structures, and consequently their physiological function. It is this interpretation which allows me to explain the effects of massage in constipation and in diarrhœa. Although the two conditions present an entirely different aspect, both are susceptible of being modified by our treatment through changes in the nutrition of the different histological elements in the intestine. In both affections the bowels are restored to their normal condition.

A word from one of my patients, who has been suffering for several years from stomach trouble and diarrhœa, furnishes a striking example of the results obtained. He frequently tells his friends "my physician has put a new stomach and new bowels into my body." This expression explains, in my opinion, most clearly the effect of abdominal massage.

*"Sammlung klinischer Abhandlungen über Pathologie und Therapie," 13 Heft.

PRACTICAL POINTS ON HERNIA.*

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HERNIA, in its broadest sense, is the escape from one of the closed cavities of the body of some part of its contents. Thus we may speak of a hernia cerebri, a hernia thoracis, or a hernia spinalis. Unless, however, otherwise designated, the term *hernia* is always understood to mean hernia *abdominalis*, which is characterized by the escape from the abdominal cavity of some part of its contents, at a point of lessened resistance in the wall, usually inherent, but occasionally acquired. In the nature of things, hernia abdominalis includes always three and sometimes four anatomical elements, viz., ring, canal, sac, and contents; the only inconstant features being the canal and the number of rings, according to the special form of hernia.

Along with these we usually associate in our minds the various superficial coverings, which, of course, are no constituent part of the rupture. There are two predisposing factors in hernia: first, the mobility and elasticity of most or all abdominal organs; second, the existence of various parietal points or areas of lessened resistance. The exciting cause is increased intraabdominal pressure, produced by excessive action of the muscular walls or diaphragm, or both, occasionally by a fall, striking on the feet or buttocks.

The fact that the inguinal and femoral rings, with the umbilicus, are the most vulnerable of the weak points, already mentioned, accounts for the preponderance of ruptures named after these localities, their frequency corresponding to the order given. Thus it is easy to overlook the possibility of hernia in other localities, such as the obturator foramen, sacrosciatic notch, vagina, rectum, and more especially the entire properitoneal space and various retroperitoneal recesses or depressions. Mr. Moynahan of Leeds published last winter an elaborate essay on retroperitoneal hernia, which has attracted widespread attention, and which emphasizes the more frequent occurrence of this variety than has hitherto been supposed. Even with the aid of explorative incision a small or moderate escape of intestine posterior to the peritoneum is easily overlooked unless this possibility is kept distinctly in mind and methodical search is made with a definite knowledge of the possible sites of such an accident. Six so-called recesses or fossæ exist which invite retroperitoneal herniæ, viz., the foramen of Winslow, the junction of duodenum and jejunum, the retrocæcal, inferior and superior, the ileocæcal, and the intersigmoid fossæ. Excepting the foramen of Winslow, they are all rather insignificant depressions in the peritoneum at the base or root of the mesentery, often too small to attract attention, except on careful inspection, but occasionally showing quite a spur with a corresponding pouch, and it is these rare conditions that favor this special form of hernia.

Of all the localities mentioned, the duodenojejunal recess is by far the most frequent site, and the anatomical relations are such that the upper circumference of the ring is always bounded by the origin of the superior mesenteric artery. Sometimes this particular type attains large dimensions. In the Anatomical Museum at Vienna are several remarkable specimens, the size of the sac showing that they must have contained not less than one-third of the intestinal tract.

It is important to bear in mind that while the usual contents of a hernial sac are intestine or omentum, or both, the inguinal, femoral, or vaginal may contain either a testicle or ovary, according to the sex, a portion of the urinary bladder, or even the gall-bladder, while the vermiform appendix is not a very infrequent occupant of right inguinal, or entirely unknown to the left inguinal hernia.

In size, ruptures vary from those containing only an epiploic appendage, or Littre's diverticulum, to one holding nearly or quite one-quarter of the intestinal tract and omentum.

A patient who recently applied to me for radical operation, is, I think worthy of mention in this respect. The patient weighed 240 pounds, and the inguinal rupture was readily visible, through his clothing, from across the street. I had sufficient curiosity to take his measurements, which were: circumference of the base, 30 inches; vertically over the middle, 14; and longitudinally, parallel with Poupart's ligament, 16. Coley, in a recent article, speaks of a hernia on which he operated as being "very large"—"the size of the fist." The one I have described was, in size and shape, more like the longitudinal half of a fair size watermelon. It is needless to say that although my patient had come 200 miles in hope of a radical cure, I resisted the temptation to operate.

The *diagnosis* of rupture is generally easy. A distinct tumor, having an impulse on coughing and a tympanitic note on percussion in either the inguinal, femoral or umbilical region, can hardly be overlooked or mistaken for anything else; but the existence of an obturator, sciatic, vaginal, or even a small femoral hernia, may easily escape notice, while the retroperitoneal type is generally discovered only at autopsy.

It is not sufficient to observe that hydrocele,

*Read at a meeting of the Hudson County, N. J., Medical Society.

varicocele, and enlarged inguinal or femoral glands must be differentiated from hernia by remembering that none of them give an impulse on coughing, and that hydrocele is usually translucent and does not extend through the inguinal canal, but we must also bear in mind that some incarcerated and most strangulated herniæ are not accompanied by impulse; while, on the other hand, some strangulated forms, especially when the constriction is in the sac, instead of at the ring, do give an impulse.

Remember also that a biloculor hydrocele of the cord, lying partly in the canal and partly within the abdominal cavity, may be to some extent reduced, and gives a distinct impulse on coughing or straining.

Perhaps the most important point in diagnosis, is that some patients have a small hernia, existing for months or years, of the presence of which they have been entirely ignorant, and yet which may be responsible for a series of symptoms—gastroenteric, or, perhaps, nervous, or that may suddenly cause the most acute picture of intestinal obstruction.

A surgeon of St. Paul told me recently that he was once called to a remote country place to operate on a young woman who had suffered for a long time with pains at varying intervals in the right iliac region. She had been treated for ovaritis and for hysteria, but her physician had finally concluded that the real trouble was chronic appendicitis. The situation of her pains led the surgeon to agree with the diagnosis, and he proceeded to remove an appendix which required some stretch of imagination to accept as the real cause of the trouble. The same strain of symptoms continued as before, until finally the girl's parents brought her to the city and presented themselves, with her, before the operator, declaring that, in their opinion, he had not in reality removed her appendix. In the course of conversation it developed that the attacks had always occurred while straining at stool, and, acting on this suggestion, the doctor had the patient disrobe and directed her to strain forcibly, when he at once discovered the presence of a small femoral hernia, whose existence had never been suspected. Operation on the rupture cured all the symptoms which had persisted in spite of the appendicectomy.

The narrator was reminded of this experience by our witnessing together an operation by one of the most distinguished abdominal surgeons in England, who removed an apparently healthy appendix on account of vague distress in that region, and being suspicious that he had not discovered the true pathology of the case, he began a thorough search of the neighborhood, which resulted in finding what was quite apparent from inside the abdomen, though not from without, the empty sac of a small femoral hernia that had never been suspected by either patient or surgeon, but which had, undoubtedly, at intervals, when it was down, produced all her symptoms.

It might seem superfluous to refer to the *management* of strangulated hernia. One could almost assume that, at the present time, nothing would be thought of in such a case but operation, provided the patient were not already too deeply collapsed to forbid any such procedure; yet not long ago I was called to see a man suffering from strangulated hernia for more than twenty-four hours, during which time repeated attempts at taxis had been made, and the patient was then in such profound collapse that I dared not operate, and he died within three hours. This experience proves that we should not yet cease to sound the warning *never to trifle with a strangulated hernia.*

Taxis should never be attempted in case of a hernia when we even suspect strangulation. The old rule "when in doubt, operate" applies nowhere more forcibly than here, and the standard we set for ourselves in appendicitis—the earlier the operation the simpler and the safer—is just as true of hernia with strangulation. I fear we still sometimes underestimate the rapidity with which a pinched intestine loses vitality, not only through injury by taxis, but even by a few hours delay. Strohmeyer said to his pupils: "If you find strangulation during the day it should be relieved before sundown; if during the night, it should be relieved before sunrise."

I would say: *Whenever* you find strangulation, in an *operable* patient, *do not waste an hour before relieving the condition by operation.*

One would think that the necessity for discussing the propriety of opening the sac before reducing the contents of any strangulated hernia had passed with that of taxis. That the question still remains open however, seems proved by the following extract, under the head of "Strangulated Hernia," from one of the latest and best treatises on surgery. It reads as follows: "The more voluminous the hernia the more important it is to avoid opening the sac; but in the majority of inguinal herniæ the surgeon must be prepared to open the sac." In other words, the author intimates that there are some strangulated herniæ in which opening of the sac may safely be omitted.

The fact that without such incision we must remain ignorant of the most important matter in the whole case, viz., the condition of the hernial contents, ought to decide this point without further remark.

It is obvious that no one should attempt an operation on strangulated hernia unless he is qualified and equipped as thoroughly as possible to deal with the various problems of intestinal resection and repair. Relieving constriction and reduction of hernial contents are well within the ability of many surgeons whose experience and technical requirements have not made them either competent judges of the necessity of a resection or given them the necessary dexterity and certainty in its performance.

Notwithstanding the fact that all herniotomies in cases of strangulation are done primarily to save life, yet, with the exception of the few cases in which the condition will permit of only the briefest operative procedure, the operation should be so planned as to prevent a recurrence of the condition. This brings us to the consideration of radical cure. So well established and of such frequency is this proceduce that we rarely think of it as comparatively new; but the professional memory of quite a number of my hearers must antedate the origin of what we to-day understand as the radical cure of hernia. During the past fifteen years, at least that many more or less famous surgeons have devised some special method for this purpose.

The majority of these deal with *inguinal* hernia, partly because of its greater frequency and partly because the male sex—which furnishes the most inguinal ruptures—feels the necessity of a radical cure more than does the female, in whom femoral and umbilical herniæ predominate, and whose mode of life and occupation better conform to truss treatment.

While most attention has been given to radical methods for inguinal hernia, some ingenious and practical methods have recently been devised for the cure of the femoral, umbilical, and ventral varieties. This is not an occasion for dealing exhaustively with details of technique. They would

fill a volume, but I will take the opportunity to emphasize a few simple and fundamental principles on which radical cure is based.

With the twofold object of returning such hernial contents as are in fit condition to their normal habitat within the abdomen, and the formation of such a barrier as will effectually prevent their again escaping, the indications are very definite. Accomplishment of the first purpose does not differ from the herniotomies of twenty-five to fifty years ago.

It is with the second and more difficult problem that we are chiefly concerned, viz., the building of the barrier. The materials for construction are the sac or peritoneum, the ring or rings and the canal, when one exists. The rings and canal furnish us with fibrous or aponeurotic and muscular structures, the question is how to use them. For a moment let us apply ourselves to the problem of reconstructing, as nearly as possible, a normal condition of things in the inguinal region where it has been deranged by a hernia formation.

First the peritoneal barrier must be replaced, and it is done in the most simple and effective manner by high ligature—or sometimes suture—of the neck of the sac at the point where it expands into the parietal peritoneum. Experience has proved that the complicated treatment of sac, making it serve as a buttress or pad, as in McEwan's operation, is not only unnecessary but futile, on account of the subsequent absorption of the infolded sac.

Next the internal ring should be reinforced by a suture which strengthens the external muscle oblique at that point.

Furthermore the canal and external ring are narrowed by suture of the conjoined tendon to Poupart's ligament, either over the undisturbed cord, by preference, or beneath the displaced cord, *à la* Bassini. Experience has shown that displacement of the cord, as practised by either Bassini or Halstead, is not essential to perfect results. The working out of those simple indications constitutes the whole problem of radical cure, and the less we complicate it the better our success.

A certain class of completely reducible herniæ, in which the sac can be easily separated up to the internal ring, without opening the canal, are best treated *à la* Kocher, by invaginating the sac and pushing it up through the muscles and aponeurosis above the ring, where it is twisted, sutured in place, and amputated. The canal and external ring are then narrowed by introduction of a few mattress sutures, passing from the aponeurosis of external oblique above, to Poupart's ligament below, while a finger is introduced into the canal to guard the cord from injury. This technique of Kocher's is not applicable to herniæ with adherent contents or whose sac is not readily separable from the cord—in other words, to irreducible or incarcerated forms.

Another variety of inguinal rupture is best managed by the aponeurotic overlapping, priority for which is claimed both by Girard of Bern and Andrews of Chicago. This is a method, the essential principles of which have been quite recently applied to umbilical and ventral types by the Mayos of Rochester, Minn. This technique is especially adapted to large ruptures with considerable stretching and thinning of the external oblique aponeurosis.

It involves division of the anterior wall of the canal and, after dissection and high ligature of the sac, attaching the lower edge of what I may term the upper leaf of the aponeurosis to Poupart's ligament by interrupted sutures, and over this bringing the lower leaf whose upper, or free edge is attached to the aponeurosis by continuous suture—thus materially narrowing the canal and furnishing an anterior wall consisting of a double layer of aponeurotic tissue.

The importance of narrowing the external ring as well as the canal must always be borne in mind, together with the danger of narrowing either ring or canal so much as to unduly constrict the cord.

The risks also of excessive manipulation of the cord or injury to its constituents parts should not be forgotten—especially when operating on children in whom the vas is so small and delicate as to increase the difficulty of recognizing and the danger of injuring it.

For the radical cure of direct inguinal hernia we must rely on suturing either the rectus aponeurosis alone, or combined with some of the muscle fibers, to the inner end of Poupart's ligament or to the periosteum of that portion of the public ramus.

All these methods of dealing with inguinal herniæ at the present day and in this country include the use of buried absorbable sutures and aim at primary wound union. McBurney's contention, in the late eighties, that healing by granulation with production of a dense cicatrix was desirable, has not proven popular. having unquestionably been based on a mistaken principle.

In Vienna they are still—or were a year ago—wedded to silk as a material for all buried sutures, as well as ligatures, and claimed practically no unpleasant results.

As I have already intimated, much less attention has been given to the radical cure of *femoral* hernia than to that of inguinal, partly for reasons already stated and, perhaps, also because the anatomy of the crural canal and its surroundings lends itself less readily to effective barrier formation, though of late this has been rather ingeniously overcome by at least two operators whom I have had the privilege of seeing during the past year. In brief. the methods for preventing recurrence of femoral hernia up to about two years ago were those of Bassini and the so-called "purse-string" operations of Cushing and Marcey, all of which, after high ligature of the sac, depend on some plan of suturing the pubic portion of the fascia lata to Poupart's ligament on one hand and to the falciform edge of the fascia lata on the other. While good results are claimed for the Bassini and the purse-string methods, it must be evident that neither plan aims to close what might properly be termed the internal ring of the femoral canal, viz., the crural arch, but merely shuts the external ring and outer portion of the canal.

Theoretically at least, the operations recently devised by Foederl, former chief assistant of the late Professor Gussenbauer of Vienna, and by Roux of Lausanne, Switzerland, are nearer the ideal, as they obtain firm closure of the crural arch on the median side of the femoral vessels, and so long as this holds no hernia can recur.

Foederl makes either a Bassini incision or supplements it with a vertical branch over the hernial sac. In the former case he incises the floor of the inguinal canal (or the fascia transversalis abdominis), thus reaching the preperitoneal space and the neck of the hernia, when the sac can be withdrawn from underneath Poupart's, nicking, if necessary, Gimbernat's ligament. Sometimes he reaches, separates, and ligates the sac from below Poupart's, as in the older methods. In either case he effects closure of the crural arch by suturing the conjoined tendon to Cooper's ligament or even to the periosteum on the horizontal Ramus, which you will observe also narrows or closes the external inguinal ring, thus forming a barrier against both inguinal and femoral herniæ.

Roux arrives at practically the same result by disposing of the sac after the usual method and then setting a small steel staple astride of Poupart's ligament internal to the iliac vessels and driving it home into the horizontal ramus of the pubes—an extremely expeditious and apparently effective method.

Inasmuch as the femoral canal gives exit to no structure like the spermatic cord, complete closure of both it and the rings is desirable.

An interesting and vital question in connection with radical cure of inguinal and femoral hernia is that of mortality.

I can do no better than quote from Coley of New York, who, in an exhaustive article published in the *Annals of Surgery* for June of this year, gives the death rate in a little over one thousand cases as two—about one-fifth of one per cent. His two fatalities occurred in the first five hundred cases and prior to 1898. Out of his second five hundred operations, done since that date, he has had no deaths.

Coley also gives the following interesting statistics: "At the clinics of Albert and Hochenegg, in Vienna, in 804 operations on 473 patients, all done prior to 1898, there were only three deaths. At the Johns Hopkins Hospital there was but one death in 459 operations, while in Carle's Clinic at Rome, 1,400 operations on 1,285 patients resulted in but two fatalities. Prior to 1890 the death rate was not far from 6 per cent.—enough to make one hesitate to advise operation as a routine matter, but since then the mortality has so steadily reduced, that it is, as already shown, practically nil, and the risk is, in skilled hands, certainly less than the risks of strangulation, even with the hernia apparently controlled by a truss."

As to the permanent cures, Coley's statistics are also interesting. Out of his series of 1,075 operations he has been able subsequently to trace seventeen relapses—about 1.5 per cent.

An analysis of the two series of relapsed cases, at the Hospital for Ruptured and Crippled in New York, shows that in one series 85 per cent. of the relapses occurred within the first six months, and 65 per cent. in the first year. In the second series, 65 per cent. of relapses took place within six months, and 80 per cent. within a year, while 13¾ per cent. occurred from one to two years after operation; but only 6¾ per cent. after two years have elapsed—so proving that recurrence after one year, and especially after two, is extremely rare.

It is probable that were it possible to follow all cases of operation done by surgeons of average skill the recurrences would be found to amount to about 2 per cent.—a very satisfactory showing for the operative procedure.

There remains to be considered among herniæ calling for radical cure the umbilical and ventral varieties. I need not remind you of the unsatisfactory nature of these herniæ as treated by any of the operative methods in vogue until quite recently. I speak, of course, of that form occurring in adults—usually of large size and accompanied by extensive adhesions. The prolonged operations, generally in obese patients, with tedious dissection of sac, from contents, naturally give a comparatively large mortality rate—while the fibrous ring is very unsatisfactory material for barrier formation. Some permanent results were secured by splitting the edges of the ring and uniting the broader surfaces thus obtained. Rather better success followed excision of the ring and closing the individual layers of the abdominal wall with buried absorbable sutures. Many cases, however, refused to hold unless one resorted to buried sutures of silver wire, with their frequent disadvantages. Not until within a few years has a really satisfactory technique been evolved, and for this we must thank the Mayo Brothers of Rochester, Minn. They began in 1895 applying the principles of aponeurotic overlapping to the radical cure of these ruptures with remarkable success.

At the last meeting of the American Medical Association, William J. Mayo reported thirty-five cases operated on by this method, the first ten by a lateral and the remainder by the vertical overlapping. Of these none have died, and but one had recurrence, that but partial, in a lateral overlapping which has since shown a somewhat boat-shaped distention. Their method includes excision of the umbilicus (omphalectomy) with, in most cases, an elliptical piece of skin and fat from the abdominal wall, and excision of sac and ring entire with amputation of sac contents (omentum) without attempt at liberation from the sac, unless intestine is adherent. All this is time-saving, and leaves the aponeurotic and muscular structures about the ring freely exposed for overlapping.

Depending on whether the abdominal laxity, present in most of these cases, is greater from side to side or from above downward, they then either open the median edges of the recti sheaths and lap them past each other like a double-breasted coat, fixating by sutures, or else they draw the same structures over each other vertically and secure them in a similar manner, aiming to produce 1½ to 2 inches overlap. Time forbids a detailed description of the technique.

The Doctors Mayo find that most of their operations are on women with pendulous abdomens—that is, with walls vertically elongated, and so most commonly now use the longitudinal overlapping. In the only case in which I have had an opportunity to apply this method (that of an old man with a combined umbilical and ventral hernia, the rings separated by an isthmus of about one-half inch), I found, on excision of sac and rings with amputation of a quantity of omentum, that I had to close a gap of nearly three inches each way. Lateral approximation was impossible, but I managed, even though the patient's abdomen was not pendulous, to secure about one-half inch vertical overlapping and sutured the recti in that position. This case was not ideal for the Mayo operation—but I doubt if I could have closed the defect by any other method and my patient made a good recovery, having now, at the end of two months, firm union of his recti.

If I may be permitted, in conclusion, a brief résumé of the practical points which I would especially emphasize, I would say:

Never forget the possibility of an unsuspected incipient or small hernia, as a possible cause of obscure abdominal symptoms or of obstruction.

Always remember the unusual as well as the ordinary locations of hernia.

Never practice taxis or delay operation in strangulated cases, nor neglect to open the sac and carefully inspect the contents.

Bear in mind the simple problem of radical cure—restoration of smooth flat peritoneum at the ring—and narrowing or closure of rings and canal—with peritoneum, aponeurosis, and muscle as building materials.

Transplantation of the cord is not an essential of the Bassini or of the Halstead method.

A successful operation on inguinal or femoral hernia dispenses with the necessity for even a temporary truss, but after cure of umbilical or

ventral herniæ a well-fitting abdominal supporter is a comfort.

Removal of the entire sac is not always necessary, and in the inguinal variety the distal portion is better left than to risk injury of the cord by a difficult and tedious dissection.

The radical operation is one of the safest and most certain in surgery; and on that account may properly be advised as routine measure.

On the other hand it should be remembered that in childhood all forms of hernia are usually curable by persistence in the use of a suitable truss, while after fifty-five the mortality rate increases, and as activity usually then decreases, a truss answers very well.

Finally young and middle aged adults—especially males pursuing an active life—ought by all means to have the benefit of an operation which carries practically no danger, relieves them from the discomforts and dangers incident to wearing a truss, and the inevitable, even if small risk, of strangulated hernia.

ORBITAL CELLULITIS; EMPYEMA OF THE ETHMOID CELLS AND THE FRONTAL SINUS; ABSCESS OF THE FRONTAL LOBE; PNEUMOCOCCÆMIA; DEATH.*

By E. GRUENING, M.D.,
NEW YORK.

The patient whose case is here related suffered from chronic suppuration of the ethmoid cells and the frontal sinus. He became infected by a pneumococcus invasion, the portal of infection being the nose. From here the infection traveled to the ethmoid cavities, the orbit, and the brain, passing by the frontal sinus. This fact was demonstrated clinically by the absence of tenderness in the region of the frontal sinus and, bacteriologically, by the sterility of the purulent contents. The pus taken from the nose, the ethmoid, the orbit, and the brain contained the pneumococcus. If in the descriptive title of this paper "orbital cellulitis" occupies the first place in the complex symptomatology of the case, it may be explained by the circumstance that it was the orbital affection with its inherent protrusion of the eyeball which caused the patient to be admitted to the eye wards of the hospital and brought under my care.

L. S., twenty-six years of age, a butcher, was admitted to the Mount Sinai Hospital on March 29, 1903. His left eye was chemotic and both lids were swollen. The motility of the eye upward was impaired and the globe was forced downward and forward. The pupil of the left eye was slightly larger than that of the right. Ophthalmoscopic examination negative. Marked tenderness over ethmoid bone, no tenderness over frontal sinus. Between the left middle turbinated body and the outer wall of the nose a layer of white pus. Temperature 103.8°, pulse 76, respiration 26.

Lungs, heart, spleen, ears normal. The patient was in a stuporous condition and could not be questioned as to the history of his disease. His relatives stated that six days ago he awoke in the early hours of the morning with much headache and pain in the left eye. The first three days he had chills and fever and a copious discharge from his nose. The pain in the left eye persisted, and after some time the patient became delirious, and finally stuporous.

On the day of admission, March 29, the patient was anæsthetized and operated upon. An incision down to the bone was made along the upper and inner orbital margins. The periosteum of the os planum and of the roof of the orbit was softened and perforated at several points. The entire os planum was carious, and the cavities of the ethmoid were full of pus and granulation tissue and communicated with the orbit, which also contained much pus. The lacrymal gland was displaced and lay in a pool of pus. The outer layer of the orbital process of the frontal bone forming the roof of the orbit was softened and discolored. It was, therefore, removed and the frontal sinus was entered from the orbit. The cavity of the sinus contained thickened mucous membrane, a quantity of pus, many mucous polypi, and an exostosis springing from the inner table of the orbital process. The sinus was then cleared of its pathological contents. The remaining bony walls appeared sound, and no communication could be found either with the sinus of the other side or the cranial cavity. Here the operation ended, and the large resulting cavity was loosely packed with iodoform gauze. A rubber draining tube was carried through the nose and a moist dressing applied.

The following day, March 30, the patient appeared but little improved. His mind was not clear, stupor and delirium alternated. The pulse ranged from 64 to 92, the temperature from 101.8° to 103.6o. At the first dressing all packings were removed and renewed moist.

March 31. Patient delirious the greater part of the day. At times he was quiet and answered questions rationally. In the course of the day the temperature rose to 105.4° with pulse 90 and respiration 28. He had a severe chill lasting twenty minutes. Leucocyte count 33,000. Lumbar puncture: 55 c.c. were obtained. Fluid clear. Spreads negative. Culture negative.

Late in the evening the patient had another chill. The temperature rose to 107.2°, pulse 124, respiration 28.

Sponge bath reduced the temperature to 105.8°. Packings removed. Profuse seropurulent discharge from wound. Packings renewed.

Cultures from pus of orbit, ethmoid, and nose: Pneumococcus. Culture from pus of frontal sinus: no growth.

April 1. Involuntary urination and defecation. Temperature 106.2°, pulse 96, respiration 34. Patient in deep coma. Ophthalmoscopic examination: Decided redness of left disk and considerable dilatation of retinal veins. In view of the negative character of the spinal fluid it was decided to explore the brain.

Osteotomy for exploration of the brain: No anæsthesia. The original incision along the inner margin of the orbit continued upward over the forehead, and the skin and periosteum of the flap were turned back. The inner plate of the orbital process was removed and the dura mater exposed. A stream of foul-smelling pus poured into the orbit. The dura matter was discolored and perforated on the under surface of the frontal lobe, and through the opening in the dura the pus continued to flow. After enlarging the opening in the dura, the finger was carried through it into a large pus cavity which had no limiting membrane. A dressing forceps was introduced into the abscess cavity and opened at various points. A number of pockets containing pus were emptied. The outer wound was flushed, but the abscess cavity was not irrigated. It was drained by means of narrow strips of moist selvaged gauze. Culture from brain abscess showed the presence of the pneumococcus.

Immediately after the operation the patient

*Read by title before the American Ophthalmological Society at the Congress at Washington.

answered questions rationally, but slowly, the temperature fell to 103.4°, and in the course of the night to 99.6°. Early in the morning of the following day the patient had a violent chill and lost consciousness. The temperature rose to 105.8°. Pulse 164, respiration 50, involuntary urination. Pulse very weak. Subcutaneous injection of hot normal salt solution. In the afternoon the patient had a general convulsion lasting two minutes, and later another lasting one minute.

April 3. Temperature 106°. Comatose. Involuntary urination. General convulsion lasting five minutes. The wound discharged purulent material and necrotic brain tissue.

April 4. Deep coma. Temperature 106.2°. Pulse 168. Chill lasting ten minutes. Subcutaneous infusion of salt solution. Respiration rapid, but lungs negative. Had five convulsions to-day. The wound continued to discharge foul-smelling pus and necrotic brain tissue. Wet dressings renewed. Report of blood culture taken April 2. Pneumococcus in plates and flasks.

April 5. Coma persists. Had thirteen convulsions to-day; total time, thirty-one minutes. White blood count 20,000. Unable to swallow. Fed by gavage. Temperature from 102.8° to 103°. Respiration rapid—50 to 60. At right base of lung large area of dulness. Bronchial voice and breathing. Mucous subcrepitant râles. At 10 o'clock pulmonary œdema. Cups applied. Œdema less marked. Foul discharge from wound.

April 6. Five convulsions since midnight. Pulse at times imperceptible. Died at 7.30 P.M. No autopsy.

36 East Fifty-seventh Street.

UNUSUAL SEQUELA OF A SUBMAMMARY HYPODERMOCLYSIS.

By O. PAUL HUMPSTONE, M.D.,
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Mrs. S., a III-para, with a flat pelvis, came to term with a face presentation. After a prolonged first stage with no advance, attempt was made under chloroform to flex the head, during which attempt the cord prolapsed and would not remain replaced in uterus. A podalic version was easily accomplished, and the child then, giving evidences of the pressure on the cord, a breach extraction was quickly done, and a live child of 7 lb. 6 oz. delivered. Hemorrhage from a partially separated placenta led me to express the placenta at once. The uterus failed to contract promptly after being so quickly emptied, and profuse hemorrhage occurred, which was controlled only by packing the uterus and firmly holding the flabby fundus down. The patient was also profoundly shocked from the necessarily somewhat violent and prolonged procedures. An attempt to fill the blood-vessels and stimulate by heat seemed indicated.

Enteroclysis was tried and failed, because of the packing in the vagina. So with the needle of an aspirating syringe and a douche-bag rendered aseptic by boiling, 600 c.c. of decinormal salt solution at 116° F. (in the bag) was injected, half under the left breast and half under the right breast. Owing to the alarming condition of the patient this was done rapidly, but with constant rubbing and manipulation of the breasts to cause absorption. The fluid was promptly absorbed from beneath the left breast; but the right breast remained very much distended. This condition persisted in spite of massage and a tight breast binder. Palpation of the breast showed deep fluctuation, and the so-called "water boil" was recognized. On the second day, the patient having rallied, the breast became slightly tender and an ice-bag was applied beneath the tight binder. The temperature went up to 100.6°.

On the fourth day, the condition remaining the same, an attempt was made to aspirate the fluid, but without success, owing to the needle becoming clogged with fibrin and slough. An incision an inch long was made in the outer and lower part of the mass beneath the breast tissue, and about 200 c.c. of turbid fluid, containing masses of fibrin and slough, was evacuated, and a drainage tube was inserted into the cavity. Cultures of the fluid were negative. Microscopically it showed many leucocytes, fibrin, granular débris, and fat globules.

No milk had appeared in either breast which could be expressed from the nipples. The second day after draining the cavity about 225 c.c. of milk escaped from the sinus during the twenty-four hours. Examination showed the milk to come, not from cut milk ducts but from deep within the cavity. The tube was removed and the sinus continued to discharge from 200 c.c. to 300 c.c. of milk daily. No milk appeared at nipple on pressure, and the other breast did not functionate. Belladonna ointment of a 10-per-cent. strength was applied thickly over the breast and a tight binder kept on. Under this treatment the milk stopped suddenly in four weeks, and in a few days the sinus healed. In another week the breast resumed the size and constituency of the other.

The conclusions resulting from this experience, while possibly not new, should always be in one's mind:

1. Hypodermoclysis should, under all conditions, be given slowly and not too hot. Particularly is this true when, because of shock, the lymph sinuses are slow in absorbing the fluid.

2. If a "water boil" is formed it should be evacuated promptly to prevent the pressure from causing sloughing of the under surface of the breast, thus opening milk ducts which in a pregnant woman at least may secrete and delay prompt healing.

92 Greene Avenue.

A Medical View of the Prevention of Appendicitis.—A. G. Browne, Jr., finds a predisposing cause of appendicitis in the embryological structure of the organ, for by inherited uselessness it becomes a tissue of low resisting power. Moreover, its position and anatomical mechanism subject it to frequent attack. Browne believes that the causative factor of the disease is some gastrointestinal derangement, such as gastritis or duodenitis. Every patient therefore with gastric and intestinal complaints, acute or chronic, is a candidate for appendicitis and his cæcum should be kept under constant surveillance.—*Virginia Medical Semimonthly.*

Treatment of Pelvic Diseases in the Female Insane.—Ernest A. Hall reports a number of cases and writes that his experience justifies him in stating that pelvic disease in the insane is not infrequent, and that in a certain percentage of cases the removal of the physical disease is followed by the restoration of the mental faculties. He is convinced that pelvic disease in the insane should receive operative treatment, and that it is advisable that either special detention hospitals or special wards be provided in our general hospitals, where recent cases of insanity may receive appropriate treatment; also that the Lunacy Act be amended so as to allow the commitment of suitable cases for trial treatment in such detention hospitals to be subsequently removed to the State hospital, should such treatment prove insufficient. A competent gynecologist should be associated with all State hospitals for the insane.—*Canada Lancet.*

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RECENT ADVANCES IN THE TREATMENT OF NEPHRITIS.

IN a recent issue of the London *Practitioner*, Dr. Thomas J. Horder remarks that there are few patients whose treatment taxes the physician's skill more than the nephritics. Considering that van Noorden's results mark a distinct advance in our knowledge, Harder starts by epitomizing them. The chief point in treatment is *the course of the disease as modified by different dietaries*. The degree of albuminuria is to be interpreted with caution. Only in acute nephritis perhaps is the amount a conclusive index of good or bad results. In subacute cases with œdema, fluctuations in the albumin may occur quite independently of the diet. In contracted kidney the amount of albumin is notoriously a fallacious guide. Any sudden change in the diet is apt to involve an increase in the albumin. A high figure for the latter is apt to denote an acute exacerbation of the process rather than the degree of permanent renal damage. The third criterion is *the excreting power of the diseased organ*, which may be tested in various ways, van Noorden preferring to test the eliminating power for the food principles themselves. As the result of many observations in acute nephritis van Noorden finds that urea, creatinin, pigments, hippuric acid, phosphates, and inorganic sulphates are excreted with difficulty, and that in the early stages water is eliminated with great difficulty. On the other hand, uric acid, xanthin bases, aromatics, ammonia, amido-acids, chlorides and carbonates are easily excreted. Wherefore we must avoid meat extracts and broths and eggs, with a view of minimizing the creatinin; hæmoglobin containing foods, on account of the resulting pigments; and green vegetables, on account of the hippuric acid formed. On account of the resulting urea and phosphates, milk is to be given sparingly, and water must also be restricted. In all but severe cases, one can give with impunity, cream, butter, white vegetable soups, puddings made from oatmeal, flour or maize, and white bread. With milk a little calcium carbonate is always to be given in order to secure the precipitation of the phosphates and their consequent elimination in the fæces. In severe cases with threatening suppression and increasing œdema, van Noorden gives a pint of milk a day without other fluid, thirst being relieved by a little ice or by very small quantities of water. Full diaphoresis is encouraged. After four or five days, or in less severe cases, two and a half pints of milk a day is allowable, with one-half to three-fourths of a pint of sweetened and sterilized cream; and if more food is necessary, some of the allowable articles are to be added. Where the excretion of water is good or where it is increasing after a period of deficiency, liquids should be given freely, as under these conditions they do good. Convalescence demands a dietary larger in amount and variety. Legumes, cream cheese, and a little egg or meat, may now be given, the total albuminoids being, however, kept within 100 grams a day. If œdema reappear, the skin must be stimulated or a dry climate chosen. Diuretics are never of value in any stage.

In contracted kidney the one problem is to spare the organ. Alcohol, condiments (such as pepper, ginger, mustard, and spices) except salt, vinegar, and lemons, are to be interdicted, as are also celery, radishes, and asparagus. Salicylic acid, resorcin, lead, boric acid, mercury, iodoform, and tar, should be avoided. Coffee, tea, and tobacco are injurious, as they dissipate instead of conserving cardiac energy. Except strong broths and extracts, and "high" game, meats are allowable. A varied and fairly liberal dietary is suitable, but most cases do best on a limited supply of water, and the total supply of fluids should not exceed two and a half pints a day. This limit agrees even with the gouty nephritics. Where, as does not usually occur, the restriction of fluids operates to hamper elimination, one "drinking" day a week should be allowed.

Recently, Widal, Lemierre, and Javal have found in several cases of parenchymatous nephritis a relation to exist between the amount of salt ingested and that excreted, and that of increase of weight and œdema; retention of the chlorides corresponding to increase in both the latter. They are thus led to propose a "cure by dechlorination," and in one case they found that on a diet containing only 1.5 grams of salt, continued for eighteen days, a total disappearance of the œdema took place with a reduction of the albumin from 5.32 to 0.75 grams.

Discussing "Curable Albuminuria," G. Lyon holds that these cases are constitutional and not local, an inheritance from parents with gout, gravel, diabetes, obesity, or megrim. And here treatment is to be directed toward the general health. Lately Lenossier and Lemaine have shown that, even in health, kidney function is interfered with by the erect posture. In view of the marked effect of the latter on the albuminuria, it is important that the patient rest in the recumbent posture for at least one hour after meals. Indeed, any prolonged assumption of the erect posture should be interdicted.

In the uræmia of acute (and of acute exacerbation of chronic) nephritis, the value of venesection is attested by several observers. Marked diaphoresis and diuresis with diminished albuminuria, ensue. Marsden considers venesection especially indicated where, following overstrain and dilatation of the left ventricle, the right heart becomes dilated. Diaphoresis alone seems useless unless it is quickly followed by diuresis; and it may, by further increasing the already high osmotic tension of the serum, do harm. For the same reason, only hypotonic saline solutions (0.5 per cent. solutions ad maximum) should be infused.

As regards surgical treatment, while several surgeons have published records of operation on genuine cases of Bright's disease, and there seems no doubt that in many cases improvement has followed the

operation, it is yet too soon to say whether it is permanent. Patel and Cavaillon, discussing the question somewhat fully, give the following as indications for operation in "nephritis": (1) nephropexy in the albuminuria of displaced kidney; (2) puncture or incision of the capsule in acute nephritis with great congestion; (3) capsulectomy in chronic nephritis; (4) nephrectomy where one kidney is quite useless and it is desired to prevent its reflex inhibition of its sound fellow. Operating on dogs, Johnson finds that two months after capsulectomy a new capsule of homogeneous fibrous tissue thicker than the original, has been formed. No considerable anastomosis between the intrarenal and perirenal vessels was found. Whatever relief follows capsulectomy would, therefore, seem to result from relief of tension and not from the establishment of a collateral circulation.

THE DRUG HABIT AND A SUGGESTED ANTI-NARCOTIC LAW.

THERE would seem to be forthcoming irrefutable evidence that the drug habit is prevalent in this country, and that it is on the increase. The use of cocaine is said, by those who are qualified to speak with authority, to have gained headway with great rapidity within recent years, especially among the ignorant negroes of the South. This evil, however, is by no means confined to the South, but exists to a greater or less extent in the Middle States, is beginning to invade the North, and, in fact, is known throughout the entire land. That steps should be taken as promptly as possible to prevent ignorant and irresponsible persons from obtaining harmful drugs at will, is too self-evident a proposition to need much emphasis. Although, narcotics are, in certain portions of the United States, sold by individuals who have no right so to do, yet, on the other hand, many druggists are guilty of the practice of wrongfully retailing such drugs. The leading druggists the country through, have come to a realization of the situation. They now are aware that druggists in many instances are responsible for the growth of the cocaine and narcotic habits, and also perceive that, if the indiscriminate sale of these poisons be not stopped, that a slur will be cast upon the whole profession of pharmacy. During last year anti-cocaine or anti-narcotic laws were passed in the States of Georgia, Illinois, Pennsylvania, and Texas, while several other States have declared their intentions of invoking the aid of legislation with the same end in view.

The American Pharmaceutical Association, some two years ago, concluded that the question was one that intimately concerned the good name of its members, as well as the health of the community at large, and appointed a committee to look into the matter thoroughly, and further requested Dr. James H. Beal of Scio, Ohio, to draw up a specimen measure. Professor Beal presented his draft at the last meeting of the association, held in September, and after this being discussed and amended it was approved. The most salient parts of the bill are as follows: Section 1. That it shall be unlawful for any person, firm, or corporation to sell, furnish, or give away any cocaine, salts of cocaine, or preparations containing any cocaine or salts of cocaine, or morphine or opium in any form, or chloral hydrate, except upon the original written order or prescription of a lawfully authorized practitioner of medicine, dentistry, or veterinary medicine, such prescription to be written in clear terms, or if ordered by a practitioner of veterinary medicine, shall state the kind of animal for which ordered, and shall be signed by the person giving the prescription or order. The order or prescription shall be permanently retained on file by the person, firm, or corporation who shall compound or dispense the articles ordered or prescribed, and it shall not be recompounded or dispensed a second time, except upon the written order of the original prescriber.

Provided, however, that the above provisions shall not apply to preparations containing not more than two grains of opium, or not more than one-eighth grain of morphine, or not more than two grains of chloral hydrate, or not more than one-sixteenth grain of cocaine, in one fluid ounce, or if solid preparation in one avoirdupois ounce.

Provided, also, that the above provisions shall not apply to preparations recommended in good faith for diarrhœa and cholera, each bottle or package of which is accompanied by specific directions for use, nor to liniments nor ointments when plainly labeled "for external use only." And provided, further, that the above provisions shall not apply to sales at wholesale by jobbers, wholesalers, and manufacturers to retail druggists, nor to sales at retail by retail druggists to regular practitioners of medicine, dentistry, or veterinary medicine, nor to sales made to manufacturers of proprietary or pharmaceutical preparations for use in the manufacture of such preparations, nor to sales to hospitals, colleges, scientific or public institutions. Section 2. It shall be unlawful for any practitioner of medicine, dentistry, or veterinary medicine to furnish to or to prescribe for the use of any habitual user of the same any cocaine or morphine, or any salt or compound of cocaine or morphine, or opium or chloral hydrate in whatsoever form. And it shall also be unlawful for any practitioner of dentistry to prescribe any of the foregoing substances for any person not under his treatment in the regular line of his profession, or for any practitioner of veterinary medicine to prescribe any of the foregoing substances for the use of any human being.

Provided, however, that the provisions of this section shall not be construed to prevent any lawfully authorized practitioner of medicine from prescribing in good faith for the use of any habitual user of narcotic drugs such substances as he may deem necessary for the treatment of such habit. Violations of the provisions of this act will be met with a sufficiently heavy fine.

This measure has already been introduced into Congress as a part of a general poison bill, and has been referred to the Committee on the District of Columbia.

Legislation enacted on the lines proposed by Professor Beal would do much to check the growing tendency to the drug habit. The time is ripe for a halt to be called, but so long as some druggists have no scruples in selling narcotics, but little can be effected to stop the evil. It is a healthy sign that the Pharmaceutical Association has seen fit to take the matter in hand.

HODGKIN'S DISEASE.

ALTHOUGH the etiology of the disorder first described by Hodgkin in 1832, and known by his name, remains undiscovered, its symptomatology and morbid anatomy have been thoroughly worked out. The most recent evidence would tend to show that the affection is not, as has been suggested by some, due to the activity of tubercle-bacilli, and, therefore, is not a form of lymphatic tuberculosis. The lesions considered characteristic consist in hyperplasia of lymphadenoid tissue, with proliferation of reticular endothelial cells, and the formation of mononuclear and multinuclear giant-cells. Marked thickening of the reticular network of the glands takes place, with the development of coarse anastomosing bands of connective tissue. Eosinophile leucocytes are present in the affected tissues in large numbers. Together with the myelocytes, their number is increased also in the bone-marrow. The results of an admirable study of the pathologic histology of Hodgkin's disease made by Dr. Warfield T. Longcope, resident pathologist in the Pennsylvania Hospital, have recently been published in the first number of the Bulletin of the Ayer Clinical Laboratory of the Pennsylvania Hospital. The tissues from six cases were examined carefully, and the conclusion was reached that the disease must be considered as a distinct clinical and pathologic entity. The morbid process originates in lymphoid tissue, and during the course of the disease new lymph-glands are constantly being formed, which ultimately become the seat of lymphomatous growths. In rare instances the retroperitoneal lymph-glands may be the only group affected.

PHYSICIANS' FEES AND THE SHARP PRACTICES OF PATIENTS.

The question of physician's fees is a vexed one, and is a source of much worry, inconvenience, and discouragement to medical practitioners throughout the civilized world. Doctors themselves are agreed that as regards the payment of their dues they are an ill-used body of men. The general public, however, judging from their actions, seem to take an entirely different view of the matter, and, as a rule, treat the bills of medical men with indifference, and put off the payment thereof to a convenient season or neglect to liquidate these debts. It is refreshing, therefore, to find that there are persons outside the medical profession who possess a conscience, and who are in sympathy with doctors in this particular trouble. Such a one has recently sent a communication to the MEDICAL RECORD, in which some of the more obvious means of cheating the physician resorted to by unscrupulous or inconsiderate patients are pointed out, and suggestions are made whereby the doctor may be enabled to avoid giving advice to those who are unwilling to pay for the same.

The writer first draws attention to the fact that the telephone is frequently brought into use to the detriment of the physician. An individual will telephone to a medical man describing symptoms, and generally receives advice as to treatment, for which the giver gets nothing, indeed there is no scale of charges for advice thus tendered. Our correspondent suggests that in order to stop this sharp practice, physicians should charge for "telephone advice," leaving the amount to their discretion, and stating on prescription blanks and bill heads that this procedure would be followed. Another inconvenience and injustice to which the long-suffering doctor is often subjected, is the habit indulged in by some people of waylaying their medical attendant in the street or at a neighbor's house and extracting from him advice. Of course this is done so as to evade the fee which would have to be forthcoming if such cunning individuals went to a physician's office. The writer thinks that "these ways that are dark, and tricks that are vain" should not be allowed to pass without at least a protest, while, if the doctor took matters into his own hands and had a full understanding with his patients that a charge would be made in those instances in which actual professional advice or a prescription was given, that to this decidedly underhand habit would be put an end once and for all. The writer explicitly vouches for the truth of the statements made, and declares that neighbors have confessed without shame that they have employed the above-mentioned devious methods to evade the payment of an office fee.

The physician's position is a peculiar one. A tradesman, as a butcher or greengrocer, simply delivers his goods at the door and expects his money whenever due. If payment is not promptly made, he, without scruple, takes steps to recover his debt. With him it is merely business, and sentiment does not enter into the case. The doctor, on the other hand, from the very nature of his calling, is more often than not a friend of the family; he is cognizant, to a greater or less extent, of the pecuniary situation of his patients, and not infrequently forbears to press the payment of an account for personal and sympathetic reasons. His forbearance is mistaken, and his tolerance abused, and as a consequence not only is he the last man to be paid, but he is cheated—as no other class of bread-earners is cheated—by that large army of persons who want to get something for nothing. The suggestions of our correspondent are worthy of consideration by medical men.

MOSQUITO EXTERMINATION AN ENGINEERING PROBLEM.

At the "General Convention to Consider the Questions Involved in Mosquito Extermination," held in the rooms of the Board of Trade and Transportation, New York, on December 16 last, Mr. Henry Clay Weeks read a paper, the gist of which was as follows: "Mosquito extermination is essentially an engineering problem. Other features of the work are highly important, but the engineer may best determine and carry out plans to get rid of the breeding-places, often involving the redemption of thousands of acres of marsh or saturated areas of vast value. Heretofore engineering has been for and not against the mosquito. Breeding-places have almost universally been caused by engineering works. This applies to highway, railroad, and landscape engineers. The result has been often the depopulation of valuable sections by malaria, and its bearers, the anopheles. The better term is "economic engineering," for the work covers a wide range, besides simple extermination—the utilization of large areas for agriculture and even for habitation and the improvement in living conditions of a vast population."

The foregoing quotation is a true presentation of the facts of the case. Engineering can undoubtedly do more than any profession toward the extermination of the mosquito. It is undoubtedly also correct that up to the present time engineers have greatly assisted in the propagation of mosquitos, and consequently in the spread of malarial fever. It is more than likely, although no definite information on the subject is forthcoming, that the engineering

works of the French in the cutting of the Isthmus of Panama have rendered the locality about the route more infested by mosquitos and more malarious than before, and numerous other instances of a like nature could doubtless be given. The question of mosquito extermination is essentially an engineering question. Drainage, filling, and, in some cases, the construction of dams or tide gates to control water levels may solve for all time the mosquito problem. The encouraging feature of the matter is that engineers themselves now have come to the conclusion that such is the case. All that is needed is money, and private and public coöperation to exterminate the mosquito and drive away malaria. Of course, this desirable result can be reached but slowly. In civilized countries the work can be proceeded with at once, but in far-away tropical countries mosquitos will continue until the land is opened up by the white man.

Reforms Needed in the Methods of Administering Anæsthetics.

Mr. Frederic Hewitt, an anæsthetist of great repute in London, contributes to *Lancet*, December 12, a letter urging the need of further reforms in the department of anæsthetics. He asserts that there is little or no uniformity in the existing arrangements for administering anæsthetics. At some hospitals the great majority of anæsthetics are administered by officially appointed anæsthetists, who are, as a rule, non-resident. At other institutions the great bulk of the anæsthetics are given by clinical assistants, house surgeons, or students, the surgeons holding themselves more or less responsible for the safety of their patients. According to the writer, the result of this unsatisfactory state of things is as follows: In the first place, the public as represented by the patients who are subjected to the unskilled anæsthetization incidental to the present systems, are unnecessarily inconvenienced and alarmed. In the second place, the success of operations is greatly interfered with. In the third place, human life is unnecessarily sacrificed. These are the conclusions reached: (1) In all institutions in which anæsthetics are frequently administered special departments should be formed. (2) In all such institutions there should be at least one special officer to control the department, and in large hospitals, such an additional staff of anæsthetists as would provide for the efficient working of the department. (3) Resident anæsthetists should be appointed in all hospitals in which the work of the department calls for such an office, and these posts should, as far as possible, be filled by previous house officers. (4) In hospital practice the administration of every anæsthetic should be either conducted or supervised by an officially appointed anæsthetist, and no anæsthetic should ever be given unless two qualified persons are present. (5) In appointing senior anæsthetists in the future, an endeavor should be made to obtain the services of those possessing the highest medical and surgical qualifications. At each hospital the officer at the head of the department should be a member of the staff. (6) In large hospitals and schools the duties of the head of the department should be upon the following lines: (*a*) he should personally supervise the department, report at least once annually to the lay and medical authorities as to its working, and keep records as to the anæsthetics administered; (*b*) he should personally inquire into any accident that may have occurred during anæsthesia, and comment upon the same in his annual report; (*c*) he should be responsible for the system of instruction to the students, giving lectures and demonstrations according to the requirements of the hospital and school; (*d*) he should provide, if possible, for a proper examination of patients before anæsthetics are administered, and in any exceptional case should confer with the medical or surgical officer under whose care the patient may be; and (*e*) he should take such a share in the practical work of the department as may be specified by the authorities electing officers for the department.

The fact has been for long notorious that anæsthetics are often administered by unskilful hands, and that thereby many avoidable deaths occur. There is every reason that anæsthetists should be qualified by experience to fulfil their duties properly, and the time has come when this question should be thoroughly considered, and necessary reforms introduced.

Diabetes and the Islands of Langerhans.

The *London Hospital*, December 26, reviews the progress made in investigations as to the causes of diabetes. Pflüger in his *Archives*, 1903, suggests that the change of glycogen into sugar is stimulated by impulses coming from various parts of the body as their need for sugar rises or falls, and on the other hand it is checked by the antidiastase found in the pancreas. On the balance of these forces the absence of diabetes depends. The local stimuli usually act through the splanchnic nerves, but in some cases by secretions poured into the blood. He holds to the belief that the transformation is affected by a ferment and seems to overlook the strong evidence which has been brought against the presence of such a ferment. The *Hospital* article touches on the latest views propounded by various authorities with regard to diabetes, including those of Rumpf, who is of the opinion that coma may be due to the loss of water and dehydration of the tissues, and then proceeds to discuss an article by A. E. Finney, which appeared in *The American Journal of the Medical Sciences*, in which he deals with the islands of Langerhans in connection with diabetes. These structures were first described in 1869, and consist of small spherical masses of epithelial cells, just visible to the naked eye, lying in irregular columns separated by tortuous vessels, and are most numerous in the tail and next in the body of the pancreas, where they are distributed among the acini, though they have no connection with excretory ducts. Laguesse, in 1893, first suggested that they furnish the secretion which regulates the metabolism of the carbohydrates. In the embryo they are formed even before the acini, and remain more numerous in childhood than in adult life. Now as long as a portion of the pancreas remains in the body pancreatic diabetes does not occur, and even ligature of the duct fails to produce it. The explanation seems to be that since after ligature the islands remain intact, though the rest of the gland wastes away, the islands supply the needful secretion. Though many cases of diabetes have been found in which the islands were normal, yet in a large proportion marked changes were present. The author's dissection of thirty-five cases lead him to the conclusion that morbid changes in the islands may take place independently of those in the rest of the pancreatic tissue, at least to a great extent, that diabetes may occur when the islands alone are affected by morbid changes; but, on the other hand the disease may be found when the islands are apparently healthy, and in this case the affection may be of nervous origin of the alimentary type. Slight lesions may be found where no diabetes exists, if a healthy sufficient number of islands remain to carry on the work. The writer in the *Hospital* concludes by stating that the discus-

sion of the functions of these islands of Langerhans has been joined in by numerous writers, especially during the past three years, while its importance has been increased by the discovery of adrenalian glycosuria. The observations of investigators upon the action of the adrenals and their influence upon the excretion of sugar in the urine are then quoted.

The islands of Langerhans exert some influence on the production of diabetes, but the extent of this influence is by no means clearly known. Further investigations may decide more definitely the importance of these structures in connection with diabetes.

Relating to Whiskey.

Both the drug habit and the drink habit loom large in the public eye at the present time. Efforts are constantly being put forth to check these practices. Spirit drinking may be said to be the bane of the so-called Anglo-Saxon race, for after all the drug habit is not nearly so widespread, either in this country or in Great Britain, as in certain parts of the European Continent. Of all the beverages with which the inhabitants of the United States and of Great Britain stupefy their brains and dull their intellects, whiskey appears to be the one most in favor. Its consumption, especially in England and Scotland, has increased enormously within recent years. In fact, so disastrous have been the results of the whiskey habit on the other side, that special inquiries have been instituted to investigate the matter exhaustively. The *British Medical Journal*, December 26, has a special article which gives the outcome of investigations into the modes of manufacturing whiskey in England and Scotland. These were the conclusions come to: It appears, first, when whiskey began to come into extensive use it was made from malted barley, and that such reputation as it possesses for relative wholesomeness was founded on the malt whiskey. Second, we now learn that this type has been replaced by two-thirds of the total consumption by a spirit made from different materials by a different process, and that the by-products it contains are, as might have been anticipated, different. Third, it appears that knowledge of the chemical nature of these by-products, though it has increased in recent years, is still very imperfect, and that practically nothing is known as to their physiological action; and, lastly, that nevertheless this new spirit is sold as whiskey both at home and in the colonies, and is used for blending with malt whiskey, the blend being in some instances so labelled as to give the purchaser the impression that it is malt whiskey.

The question as to whether the consumption of alcohol at all is conducive to good health has been answered in the negative by the majority of scientists who have investigated the matter; while all are of one mind in that excessive drinking of alcohol is injurious in a high degree. However, if a person drinks spirits, he should at any rate be able to obtain the kind of spirits he desires. When he asks for old whiskey it is not right that he should be given a product mysteriously prepared and chemically matured. This is an age of sham and delusion, so far as many foods and most spirituous beverages are concerned. There is needed a Dickens or a Read to expose the methods in vogue among manufacturers of preserved foods and of alcoholic beverages. Probably, if the subject were thoroughly probed, it would be found that American makers of whiskey are as conscienceless as are their British brothers and care little for the public health so long as they can fill their own pockets. Adulteration of any kind should be strictly prohibited, or if practised the public should have the means of knowing the methods employed. By far the safest and most satisfactory plan, however, would be to prohibit adulteration entirely.

Nervous Dyspepsia.

Dr. Andrew MacFarlane writes in the jubilee number of the *Albany Medical Annals* concerning this extremely and increasingly frequent condition. Dr. MacFarlane says truly, "Nervous dyspepsia is a functional disorder of the stomach which has become the most common of gastric diseases and with its protean form may imitate, oftentimes successfully, any organic disease." The diagnosis of nervous dyspepsia is in a high degree difficult, and as the writer points out, the question has been raised as to whether nervous dyspepsia is a disease *per se* or only one of the manifestations of neurasthenia. The affection is developed by mental worry and a consequent inattention to the rules of health, and especially so far as eating and drinking is concerned. The experiments of Pawlow and his associates have shown that it is neither the chemical nor mechanical stimulation of the buccal mucous membrane which is responsible for the gastric secretion, but the eager desire for food and the feeling of satisfaction and contentment derived from its enjoyment. Gastric secretion appears at the call of appetite; and when appetite is absent so also is the gastric juice.

Dr. MacFarlane demonstrates the manner in which nervous dyspepsia develops, and describes the distressing physical symptoms which are characteristic of this state. The mind, too, becomes involved, and the sufferer has various mental symptoms which augment *pari passu* with the increase of the bodily ills. The complaint exhibits a variable course; for days together a patient with nervous dyspepsia may feel in good health, and then suddenly, without apparent cause, he will revert to his former condition.

With regard to treatment, the writer says "that this should consist first in gaining the entire confidence of the patient by your manifest comprehension of his condition and by the assurance you are thus able to give him that he is not suffering from an organic disease of the stomach. The nervous system in general should be strengthened and improved, and the digestive function in particular. If the patient is well-nourished the treatment is largely that of neurasthenia. If he is emaciated, which is usually the case, the treatment should be directed to the improvement of the nutrition. For this purpose as full a diet as possible should be given with regulated out-of-door exercise and gymnastics. In many cases a modified Weir-Mitchell cure is most effective." Medicine is of little avail and should be given to meet the symptoms. Change, of scene, if possible, and a natural animal existence, free from care and worry, is the only panacea for nervous dyspepsia.

Dr. MacFarlane, of course, only writes of the symptoms, diagnosis, and treatment of nervous dyspepsia, and says nothing of its prevention. The condition is a concomitant of the present-day life in towns, the endless striving for wealth and the worries incidental to its pursuit. The ordinary city business man leads an obviously unhealthy life. As a rule he neither eats, sleeps, nor exercises properly. When he is in his office, in addition to being in an atmosphere not generally conducive to good health, his mind is taken up with stress of business, and he pays but scant attention to the needs of his stomach. In many instances such a man is apt to eat injudiciously and too quickly, while his errors with regard to what he drinks are even more patent.

The conservation of good health in the majority of cases lies with the individual. A city man has not the advantages of his country brother in the way of preserving "the sound mind in the sound body," but he could if he so resolved, use both his mind and body with more discretion than he usually does use them. The present trend of medicine is toward prevention rather than cure, and in no one disease does this precept apply more fittingly than to the distressing condition known as nervous dyspepsia.

News of the Week.

The International Congress for Tuberculosis.—Under the auspices of the Maryland Tuberculosis Commission an informal meeting of American physicians and hygienists was held in Baltimore on January 28, 1904. The chairman, Dr. Wm. H. Welch, explained the purpose of the convention. A resolution was offered to elect a national committee of two, to represent the American profession at the coming international Congress for Tuberculosis to be held in Paris in 1905. Another speaker requested that it should be decided first what attitude this committee should take regarding the various American congresses for tuberculosis which have been announced from time to time. A lengthy discussion then followed by Drs. Osler, Knopf, Freudenthal, Daniel Lewis, Klebs, Ravenel, Minor, and others. Finally it was decided that a committee should be appointed by the chairman, with full power to act regarding the tuberculosis question and to increase its number if considered necessary. The following gentlemen were then announced as composing the committee: Drs. Osler, Trudeau, Theobald Smith, Adami, Bowditch, Knopf, Klebs, Janeway, Ravenel, Jacobi, Flick, Biggs, and Welch *ex officio*. Besides the above-named there were present Drs. Otis of Boston, Thayer of Baltimore, Health Commissioner Darlington of New York, and many others.

Radiotherapy of Œsophageal Stricture.—It is reported from Vienna that Professor Gussenbauer has relieved a cancerous stricture of the œsophagus by means of radium. A rubber capsule containing sixty milligrams of radium was attached to the end of an œsophageal tube and passed down to the seat of the stricture. After a certain time, which was not definitely stated, in the cabled report, the stricture yielded and the tube passed into the stomach.

Convalescent Home for the Orthopedic Hospital.—Through the benefaction of Miss Emily A. Watson, the New York Orthopedic Hospital will soon open a $100,000 branch at White Plains, which will be both a home for convalescent crippled children and a school for their industrial education. Miss Watson has also promised to endow the new home with a fund of $250,000, so that the entire amount of her gift will be $350,000. The institution will be known as the Country Branch and Industrial School.

Tour of Health Inspection in Mexico.—Early in February a party of health officers from Louisiana and Texas will start on a two weeks' trip on inspection through Mexico. The party will be composed of Drs. Tabor of Texas, Nolte and Owen of Louisiana, and Dr. Souchon, president of the Louisiana State Board of Health. A representative of the Marine Hospital Service will probably complete the party, which expects to investigate quarantine conditions in Mexico, and report upon necessary changes in the rules governing ships from her ports.

The Orleans Parish (La.) Medical Society has received about $900 as a nucleus for the Permanent Domicile Fund. This money was turned over by the Committee of Arrangements for the meeting of the American Medical Association held in New Orleans in 1903. After paying all expenses for the entertainment of the American Medical Association, the committee contributed $650 to the entertainment of the Military Surgeons at the Confederate Reunion, and set aside its balance of about $1600 to promote the founding of a Pasteur Institute in New Orleans during 1903. As the Charity Hospital opened a "Pasteur Institute" department, which cost about $700, the committee paid this expense and turned over the remaining $900 as above.

The Lenval Prize.—It is announced that Baron Léon de Lenval of Nice has given 3000 francs to found a prize to be awarded periodically to the otologist who has made the greatest progress in the practical treatment of the affections of the ear, since the previous award or to the inventor of a portable apparatus susceptible of notably improving the hearing of deaf persons. The value of the prize is the interest on this sum accruing in the interval of two meetings of the International Otological Congress. The prize will be awarded this year at the meeting of the Congress in Bordeaux during the first week in August. Those desiring to compete for the prize should send in their claims before July 1, 1904, to Dr. E. J. Moure, cours du Jardin-Public, 25 bis, Bordeaux, France.

Dr. James T. McKibben of Cincinnati, who has for eight years proved a most efficient district physician, tendered his resignation recently to Health Officer Davis. Dr. McKibben's district comprised the Fourth Ward.

An Osculatory Ship's Doctor.—A man who said he was surgeon on one of the German steamers in port, was arrested early one morning last week for kissing a number of girls as they were coming from a ball in Tammany Hall. After a night in the caboose the lively young practitioner was fined for disorderly conduct and sent back to his ship.

Drainage Canal Fight.—On the final answer by the Supreme Court of the United States to the following questions will rest the result of the suit now pending before that body and in which St. Louis and the State of Missouri seek to enjoin the operation of the drainage canal of Chicago: (1) Has there been an increase of typhoid fever in St. Louis since the opening of the drainage canal? (2) Are typhoid germs able to survive the journey of 357 miles from Chicago to St. Louis, and to enter the intake at Chain of Rocks, Mo.? During the trial of the case to the present time more than ten thousand pages of typewritten testimony have been taken, and the case will probably last three months more, if heard six days each week. It has proven to be the greatest inquiry into water analysis, water supplies of cities, ordinary sanitation, and the study of three large rivers that the world has ever known. Prominent sanitarians, bacteriologists, epidemiologists, and water chemists of the country will appear and give testimony before the court before the closing arguments are heard.

The Canton, Ohio, Medical Society held its annual banquet at the Hotel McKinley on January 8. Dr. Edwin Rickets of Cincinnati was the guest of honor, replying to a toast and reading a paper on "Infection of the Biliary Passages." Other toasts were delivered by Drs. H. P. Pomerene, Harry A. March, and J. F. Kahler. Dr. J. F. Marchand was toastmaster. The officers elected for the ensuing year are: *President*, D. F. Banker; *Vice-president*, E. S. Folk; *Recording Secretary*, C. A. Crane; *Corresponding Secretary*, C. F. Zinninger; *Treasurer*, F. DaHinden; *Censors*, C. E. Schilling, F. W. Cavin, and E. O. Morrow. Guests were present from Cleve-

land, Akron, Alliance, and Massillon. Dr. Rickets was elected an honorary member of the society.

Alumni Association of the College of Physicians and Surgeons.—A smoking concert, under the auspices of this association, will be held at Sherry's, Fifth avenue and Forty-fourth street, Monday, Febuary 8, 1904, at 8.30 P.M. There will be a vaudeville entertainment and supper.

New Children's Hospital.—Mrs. Julia A. Porter has given $75,000 toward the erection of a new hospital in Chicago, which will accommodate sixty children, this hospital to take the place of the present Maurice Porter Hospital. The Maurice Porter Hospital had at first twelve beds, but later thirty-one beds. The new building is to be a modern fireproof structure, and furnished with every facility for the care of six children. The six requirements of the Children's Hospital Association provide for an observation department, where children are kept two weeks before admission to the wards; and isolation department, laboratory facilities, pure milk supply, bedside and didactic instruction for nurses, and one thousand cubic feet of air for each patient.

Antitoxin Plant in Chicago.—It is said that a municipal antitoxin plant will soon be established in Chicago. Dr. Preble, President of the Chicago Medical Society, has urged that the matter be laid before the City Council. Some of the members of the City Council who have been interviewed in regard to the matter have expressed their interest in the establishment of such a plant, and it is believed that something will be done. Dr. Ludwig Hektoen, Secretary of the Memorial Institute for Infectious Diseases, has been authorized to say that if a fund should become available, the institute will furnish space for a laboratory and grounds for stables, provided it is not attempted to furnish serum for any State other than Illinois.

Philadelphia County Medical Society.—At a stated meeting, held January 27, Dr. Orville Horwitz read a paper entitled "A Study of Eighty-nine Cases of Operation for the Relief of Various Forms of Hernia, with Their Complications." Dr. Leon Brinkmann read a paper entitled "Acute Appendicitis: A Review of the Causes for the Delay of Early Operation, and an Attempt to Place the Responsibility for the Continued High Mortality after Operation." He contended that the present mortality of from 4 to 5 per cent. in cases of acute appendicitis should be reduced to one per cent., and that to attain this end operation must be undertaken immediately the diagnosis is made.

Dr. Henry S. Atkins has been appointed Superintendent of the St. Louis Insane Asylum, taking the place of Dr. Edward C. Runge who resigned to enter private practice. Dr. Runge was Superintendent for eight years. Dr. Atkins was born at Lexington, Ky., thirty-six years ago, and graduated in medicine from the Beaumont Medical College (St. Louis) in 1888. For four years he was first assistant of the Eastern Kentucky Hospital for the Insane.

Ohio State Nurses' Association.—Trained nurses from all over the State of Ohio met at the Cincinnati Hospital last week to organize a State society with the object of securing legislation for the advancement of the nursing profession. Registration and State examination laws similar to those governing physicians, dentists, and lawyers are desired. Miss Mary Hamer Greenwood of the Cincinnati Jewish Hospital had the chair. An address of welcome was made by Miss Annie Laws. Dr. Chas. A. L. Reed, Chairman of the Committee on Legislation of the American Medical Association, made an address in which he urged the nurses to organize and promised his support in securing the desired legislation. At a later meeting a State society was formed and the following officers elected: *President*, Miss Mary Hamer Greenwood of Cincinnati; *Vice-Presidents*, Miss Olive Fisher of Cincinnati, Miss Ella Crandall of Dayton, Miss Fannie Wright of Cleveland, and Misses Elizabeth Allen and Doe of Columbus.; *Secretary*, Mrs. Elizabeth M. Hartsock of Cincinnati.

An Embargo on Chicago Hospitals.—Building Commissioner Williams of Chicago has notified those in charge of eight of the smaller hospitals in that city that they must receive no new patients in their institutions until certain specified building changes are made.

The Right to Protect One's Name.—Dr. Ferd. C. Valentine of this city has recently been greatly annoyed by the action of a manufacturing company which made and sold an alleged remedy for gonorrhœa under his name, though with other initials. Neither of the incorporators of the company nor any one connected with it, so far as known, has that name. Dr. Valentine, through his counsel, called upon the company to desist from the use of the name Valentine, and upon their refusal, caused a petition for an injunction against their so doing to be prepared for filing in the Circuit Court of the United States. On January 20, however, the counsel of the company had an interview with his legal adviser, which resulted in the former unequivocally advising his clients to cease using the word Valentine in any manner whatever. In an address to the medical profession Dr. Valentine asks that he be informed in case of any disregard of this advice, in order that he may take steps to uphold his rights.

Crawford County, Ohio, Medical Society.—The Crawford County Medical Society met in Bucyrus, Ohio, on January 27 to discuss topics of interest and to adopt a schedule of fees for the county.

X-ray Prize Essays.—*The Illustrated Review of Physiologic Therapeutics* offers the sum of fifteen hundred dollars in cash prizes for the best essays on *x*-rays in medicine and surgery, the first prize being $1,000.

Obituary Notes.—Dr. GEORGE H. R. BENNET died at his home in Brooklyn on January 24, aged sixty-seven. He was a graduate of the Medical Department of the University of the City of New York in the class of 1860, and was a surgeon in the Twenty-third Regiment in the Civil War.

Dr. GAIUS A. NASH died at his home in this city on January 30, at the age of seventy-eight years. He was graduated from the Medical Department of the University of the City of New York in the class of 1865.

Dr. PHOEBE J. B. WAIT died at her home in this city on January 30 at the age of sixty-six years. She was born in Rhode Island, and was graduated from the New York Medical College and Hospital for Women in 1871, and later held the chair of obstetrics in that institution.

Dr. J. J. A. LIEBENTANZ, a physician of Zurich, Switzerland, died of an overdose of morphine on January 26. He was a passenger on a German steamer which had just arrived at Baltimore, and was on his way to Austin, Tex.

Dr. BRAINARD LEAMAN died at Leaman Place, Lancaster Co., Pa., on January 29 at the age of sixty-two years. He was a surgeon in the United States Army during the Civil War and at one time president of the Lancaster City and County Medical Society.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

CONFISCATION AS A REFORM!—REBUILDING ST. BARTHOLOMEW'S HOSPITAL—READING IN BED—PNEUMOCOCCAL PERITONITIS DISCUSSED—OBITUARY NOTES.

LONDON, January 15, 1904.

MOST people are desirous of preserving any rights they may have acquired even when they do not propose to employ them. But certain busybodies of the British Medical Association propose as a sort of reform to deprive other practitioners of some of their rights to practise. The central division of the London Branch has issued a notice of a meeting to consider the amendment of the medical acts, from which it appears that a member will propose the insertion of clauses in the bill making every registered practitioner eligible to all medical appointments, and, secondly, taking away from registered practitioners their immemorial right to provide and dispense medicines. It is difficult to understand the ideas of so-called reformers who begin by confiscating the rights and privileges of those on whose behalf they profess to act. Think what must be the state of mind of a man who proposes to forbid a fellow practitioner to administer his own remedies under a penalty of "not less than one hundred pounds." Such nonsense reminds one of the superfine fellow of the College of Physicians who let a man die, according to his own opinion, rather than practise surgery by bleeding him. Happily such a confiscating clause is not likely to commend itself to Parliament, but its proposal may well open the eyes of the bulk of the profession to the danger of trusting men incapable of understanding them. Such folly comes of the propensity to regard certain medical work as *infra dig*. Thus we see nurses entrusted with hypodermic syringes, midwives converted into rival practitioners, and numerous instances of duties being shirked. Then comes the young doctor's pride in his position as physician or surgeon, his scorn of the apothecary or general practitioner and the handing over of dispensing to the pharmacist who has long been encroaching on the doctor's work by counter-practice. When every doctor aspires to specialize we need not wonder at the bitter cry of the general practitioner who has to compete with nurses, midwives, chemists, and quacks. But we might have been spared this treachery within our ranks. Let the conceited gent who thinks his fingers too sacred to be soiled with drugs or any remedial agent give up dispensing for his own gratification, but to coerce others to do the same would be intolerable tyranny and decidedly injurious to the public.

The Post Office availed itself of its option to purchase the land of Christ's Hospital which was wanted for St. Bartholomew's, and is not disposed to hand over any part. The rebuilding of old Bart's must, therefore, be otherwise arranged for, and it is pretty well decided that a suggestion I made at the opening of the question will be adopted, which, namely, to remove the nurses' home and other buildings beyond the hospital precincts. Plenty of room for the patients could thus be secured.

Do you read in bed? The practice has been generally decried, and no doubt it has sometimes been the cause of fire. But it is frequently indulged in, and with a varying degree of carefulness. I am afraid doctors are themselves not seldom given to it, though they are ready enough to condemn it in their patients. There is a little discussion on it going on in the press, but not of an enlightening character. That some states of insomnia are aggravated by the habit must be admitted, though others appear to be relieved. I think it is largely a question of the choice of reading and, so far as the danger of fire is concerned, of common-sense precautions.

Pneumococcal peritonitis occupied the Clinical Society at the last meeting. Sir D. Duckworth and Mr. Howard Marsh opened with notes of a case in a woman of twenty-seven, who the day after rigors developed symptoms of general peritonitis; temperature 104.2. Three days later a diagnosis of typhlitis with general peritonitis was made and Mr. Marsh operated. There were signs of inflammation in the peritoneum and large intestine, the appendix, constricted at the base, was dilated above and full of mucus. It was removed. Some thin, dark fluid was found in the cavity; no adhesions; no evidence of perforation. Cultures of this fluid showed the pneumococcus, and inoculation confirmed this. Three days later abdominal pain and hiccough set in. Antipneumococcic serum was tried. Later abscess at the left base formed, leading to resection of part of the ninth rib, when twelve ounces of pus were evacuated and the recovery was steady. The rapid development of grave peritonitis observed in this case resembles what occurs in pneumococcic inflammations elsewhere.

Dr. F. Taylor (President) then related a case admitted to Guy's Hospital under his care last November. The patient was a girl of eight with abdominal tenderness and diminished respiratory movements and physical signs of consolidation at both bases. Laparotomy was performed and pus with masses of lymph removed. The cavity was irrigated with hot saline solution and drained. The right base cleared up, but the left went on to empyema and resection of rib was performed and the pus evacuated. Cultures of the peritoneal pus gave pure growth of pneumococcus, and others from a second collection in the left iliac fossa showed it associated with staphylococcus aureus. Cultures from the pus aspirated from the chest were sterile, but under the microscope showed the badly staining diplococci and empty capsules characteristic of pneumococcic empyema. The child is doing well. Dr. Taylor thought the primary infection was in the lung.

Mr. Stanley Boyd mentioned a case in a woman of twenty-six on whom he operated, removing three pints of pus. Cultures showed pneumococcus. No information as to the primary infection was obtained.

Dr. J. H. Bryant referred to three cases which he recorded in 1901. In these the primary infection was in the peritoneum—a seat he did not consider improbable, as the pneumococcus often invaded healthy throats. Abdominal pain was common in pneumococcal pneumonia, perhaps due to the adhesions between the lung and diaphragm, which we sometimes find after death.

Dr. J. Fawcett said that in one hundred and eighty-two fatal cases of lobar pneumonia in which autopsies had been made only five showed evidence of infection of the peritoneum and that very slight.

Drs. Langdon-Brown mentioned a case of empyema in a girl of ten in whom signs of fluid appeared in the abdomen and right knee-joint, but no operation was performed, as the fluid cleared up. He regarded the case as pneumococcal peritonitis recovering without resort to surgery.

Mr. Golding-Bird remarked that tuberculous appendicitis was recognized and Mr. Marsh's case seemed to justify the further classification.

Dr. J. Eyre said the pneumococcus would be more often found if sought for. He mentioned that the pus from these cases had the curious property, that the upper layers soon became clear, and this might serve as a simple test at the operation, but animal inoculation experiments should be used.

Dr. Herbert French read notes of a fatal case. At the autopsy acute peritonitis with consolidation of one base were found. He divided cases into two groups, one with infection directly into the peritoneum, the other through the blood.

Sir D. Duckworth, in his reply, thought there were varying degrees of virulence of the infection.

Professor Marsh, in reply, said he could not decide if his case were primary appendicitis, but to the list of conditions which may imitate that we must add pneumococcal peritonitis.

The president added that the presence of pneumococci association with another organism was interesting in his case.

Dr. C. E. Saunders, who died on the 3d inst. at Nice, had filled important offices, among them superintendent of the Sussex County Asylum. Prior to that he had been M. O. H. of the district Middlesex and Herts combined. His health failed some four years ago, and he spent the winters in the south of France. He was M.D., Aberdeen; D.P.H., Cambridge; M.R.C.P., London. In earlier days he practised here in London, and is remembered by many as a courteous gentleman of fine presence as well as a sound physician.

The death, at the age of sixty, is announced of Mr. G. E. Legge Pearse, F.R.C.S., late surgeon and lecturer on surgery, and at one time on anatomy, at the Westminster Hospital. Among his contributions were "Two Successful Cases of Ligature of the Common Carotid," and "One of Regnoli's Operation for Removal of the Tongue."

THERAPEUTIC OPTIMISM.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: Allow me to write that among the unique and valuable features of the MEDICAL RECORD are its letters from foreign correspondents. In your number of January 2, 1904—unless your Auckland correspondent is a victim of therapeutic exhaltation—is a letter of surpassing importance, for it more than hints at the certain cure of three rather common diseases which are usually considered incurable. Such intelligence from New Zealand recalls Macaulay's prophecy as to the future importance of its citizens. This correspondent regrets that so few English-speaking physicians study the action of hypnotism. If the word suggestion is sustituted, it is to be regretted that such is the case, for their is a broad field of usefulness for its employment, particularly in the treat-

ment of women, who, with children, constitute the majority of the average physician's patients.

The Auckland correspondent inveighs with much spleen against the idea that leprosy and cancer cannot be cured. His opportunity for the study and treatment of lepra has been most abundant, covering over thirty-five years. If the leper can be cured, this is a most welcome and important announcement, since our expansion in territory has expanded our responsibilities in pathology. Of lupus, which in its worst form is locally equivalent to cancer, your correspondent writes that "lupus of the very worst kind is invariably cured in four or five weeks by the use of a drug which is in every pharmacopia in the world." This hurts our therapeutic pride, as we cannot even guess the drug which will put an end to the gnawing of the wolf, or the lupus. And it is fervently desired that your veteran correspondent will not be like the native animals of New Zealand, keeping this information, as it were, in a pocket, or like the silent birds in that clime, but that for the sake of those suffering and to suffer from such diseases, and for the sake of his reputation, he will again tell the world the names of the remedies and define the system. Let him not be discouraged.

There will always be doubting Thomases, but we guarantee that their will be belief in the report of the doctor's cases upon the part of a large majority of the readers of the MEDICAL RECORD, and that if he proves that he can invariably cure lupus exedens, a monument will be erected to his memory more enduring than brass.

THOS. R. EVANS, M.D.

DEEPWATER, W. VA.

SHALL THE CONSULTANT DIVIDE FEES WITH THE GENERAL PRACTITIONER?

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: Under the above caption in the MEDICAL RECORD for January 30, "Specialist" asks, "Would it not be well to obtain some general opinion on this vital subject?"

It seems to me that the question can be settled promptly and easily, on moral grounds. It is proper for the consultant to divide the fee with the general practitioner. If it is worth ten thousand dollars to a man to have his gallstones removed, there is no doubt that the physician who carries the patient through convalescence to fine recovery, the anæsthetist who gives the luxury and safety of modern anæsthesia, the assistants who are chosen because of special fitness for the work, should all share in receiving dignified compensation for their services. There is only one little point to be observed, and that is that the whole transaction must be made with the knowledge of the patient. Otherwise we are guilty of collusion. The physician is a friend to the patient, and does not look upon the latter as his prey. Even among lawyers I find the same spirit prevailing, Horace Greeley to the contrary notwithstanding.

If, on the other hand, the specialist charges a fee for expert work, and gives a part of it to the physician as a sort of commission, the transaction is in the nature of trade, and on analysis will probably be found to have its basis in the idea that the specialist is making a bid for trade, and that the physician is making a confession of weakness in his relation to his patient. So long as the ideals of our profession are ideals of intellect and of character, collusive division of the fee will not occur among men who try to occupy representative positions in the profession. We fight a good deal among ourselves, and say uncomplimentary things, and all that that; but after all we know pretty well who the right men are, and the right general practitioner and the right specialist work together in New York, at least, with single-hearted interest in the welfare of the patient who has reposed confidence in them.

ROBERT T. MORRIS, M. D.

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TO THE EDITOR OF THE MEDICAL RECORD:

SIR: In answer to letter in the issue of the MEDICAL RECORD for January 30, signed "Specialist," on the question, "Shall the Consultant Divide Fees with the General Practitioner?" I would like to express my views on the subject. These I base on the dictates of conscience rather than on the opinions of those who are solely actuated by motives of self-interest. We all know that in the majority of these cases where the patient is referred to the specialist, the burden of obligation is on the part of the specialist, which should be a state of affairs that all self-respecting men hesitate to assume without making some return as soon as possible.

It is, therefore, the opinion of the writer, and should be also of all who are fair-minded, that it is the duty of the specialist for all cases sent to him to reimburse the general practitioner, who loses his patient, for the time at least, besides for the sacrifice of the patient's confidence. For there is nothing that is less readily pardoned in the physician, on the part of the public, than an admission of inability to treat the case. There is too much of a tendency at the present time to take all we can get and give nothing in return, and of which the question at issue, taken from a negative standpoint, is a most marked exemplification of the case. If we are willing to accept we should not fail to return the favor, otherwise we put ourselves in a position to be characterized only by a term that is applied to a certain animal which our Hebrew brethren most wisely abstain from as an article of diet. In fact too many of us preach "Code of Ethics" and at the same time absolutely ignore the "Golden Rule," two factors which are about as diametrically opposite in their intent, although seemingly the same, as politics and religion are to each other. The former of which provides how others should treat us, while the latter prescribes how we should do to others. Again many of us are prone to lash ourselves into a state of almost frenzy over what we term "commercialism," but when the case is made plain simply demonstrates an inability to make something out of nothing.

We all know that there is no law in any land or a single verse in the Bible that even hints at the prohibition of an act of justice and generosity, such as is exemplified in the case of the specialist reimbusing the general practitioner for the loss of a patient. Parsimony, however, would make such a one. We learn, however, from the Bible that "Charity covers a multitude of sins!"

Therefore let us endeavor to purify our motives at all times, which is a state of affairs that can never be if we are forever thinking of dollars and cents.

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Progress of Medical Science.

The Boston Medical and Surgical Journal, Jan. 28, 1904.

Experiments with the McGraw Elastic Ligature.—Fred. T. Murphy concludes, from his experiments on animals, that a successful anastomosis between the stomach and intestines, or two loops of intestine, is possible by means of the elastic ligature. The method is not applicable when an immediate opening is required. The time of the cut-out varies, depending upon the character of the ligature, the method of application, and the resistance of the tissues in any case, but the ligature will ultimately cut out. A knot at either end of the elastic loop increases the rapidity of the cut-out. The pinching of the gut by the ligature seems to cause no bad symptoms. The serous surface of the outside of the joint when completed is smooth. The anastomosis by gross or microscopical examination shows no evidence why there should be any greater tendency to contraction of the opening than with the ordinary methods of intestinal suture. The procedure causes a minimum operative risk, both as regards shock and infection. Adhesions across the opening are a possible, but not a probable, complication. The writer believes that in cases in which an immediate opening of the bowel is not imperative, and in which the avoidance of operative shock is an important factor, the elastic ligature may prove to be the operation of choice in gastroenterostomy and lateral anastomosis.

Differential Diagnosis of Rheumatism and the Arthritides.—Thomas F. Harrington states that rheumatism and arthritis are not synonymous terms. The characteristic symptom of rheumatism is an arthritis, but there are many arthritides which cannot be associated with rheumatism as clinically accepted. No case of arthritis should be considered rheumatic unless an undisputed attack of acute rheumatism can be given. Rarely is rheumatism diagnosed other than it is; the danger lies wholly in the opposite direction. There is probably but one form of rheumatism, namely acute rheumatism. The writer then suggests the following classes of arthritis: Infective arthritis, arthritis deformans, osteoarthritis, traumatic arthritis, gouty arthritis, hæmophilic arthritis and senile arthritis. Idiopathic arthritis probably never occurs. In infective arthritis there is usually a history of a primary infection to which the arthritis is secondary. Arthritis deformans closely resembles rheumatism in its acute stage, and may occur in combination with acute rheumatism, but it is not caused by rheumatism. It is non-inflammatory and may occur without pain. There is seldom redness or tenderness. It is rarely monarticular, and it never suppurates. It is probably due to some nerve disturbance. Osteoarthritis may result from many causes. It may start without any known cause. It is essentially a chronic disease. In traumatic arthritis, the history of the case is important. There is usually water in the joint in traumatic cases. The character-

istics of gouty arthritis are sudden onset, especially at night, often disappearing in the daytime, also the presence of deposits in the ear (tophi). It attacks usually single small joints. Hæmophilic arthritis usually occurs between the fourth and sixth years and most often in males. The joints affected are knee, 50 per cent.; elbow, 25 per cent. In senile arthritis there is a thickening of the capsule, but not of the bones. It has no relation to rheumatism and is more stiffness than soreness. It does not involve the heart and grows better as the day progresses. In children the family history, or a history of "growing pains," especially if accompanied with even slight swelling (fibrous nodules), suggests rheumatism.

Journal of the American Medical Association, Jan. 30, 1904.

Pathology of the Cervical Sympathetic.—J. E. Weeks enumerates the various abnormal conditions following: First, irritation and, second, paralysis of the sympathetic. He does not believe that the testimony in our possession enables us to say that there is any constant change in the cervical sympathetic peculiar to glaucoma, or to exophthalmic goiter. In the aged these ganglia undergo degeneration to some extent. Changes also occur in constitutional syphilis, leukæmia, pellagra, tuberculosis, and infectious diseases. These changes are variously of the nature of either atrophy-hyperæmia, sclerosis, pigmentary and fatty infiltration, amyloid degeneration or accumulation of colorless blood cells and micrococci in the blood-vessels of the ganglia. Brief allusions are made by the author to some of the more interesting cases of lesions of the cervical sympathetic recorded in literature.

Pathology of Inebriety.—T. D. Crothers offers the following conclusions: (1) In all cases of inebriety there are marked changes in the capillary and vascular system of the brain. The walls of the vessels show fibrinous deposits and sclerosis. The nerve cells and dentrites are altered and retracted, in some cases permanently destroyed; in all inebriates shrunken and disintegrated states exist. (2) The liver, kidneys, and heart show diminution or enlargement with fibrous and fatty deposits. Both the organic and functional activity of the organ are changed and sclerotic states are present. Conditions of starvation and poisoning exist in all cases. (3) Pathologic changes are apparent in the paralysis of the sense organs and the higher psychic functions of the brain. These conditions are so common following the use of alcohol, sometimes in its moderate use, but always when taken in excess, as to constitute a pathology that is traced directly to alcohol as the most prominent cause. (4) The recent researches into the chemicophysiologic action of alcohol on the heart, blood-vessels, cells, and nerve fibers show a paralyzing and eroding action that cannot be mistaken for any other cause. The final conclusion is that the peculiar brain and nerve wreckage so commonly seen in persons using alcohol is due to the specific cause, alcohol following a uniform line of degeneration which is traceable with more or less exactness.

The Treatment of Emotional Disturbances.—H. T. Pershing lays down the following general rules of treatment: (1) The idea exciting the undesirable emotion should, as far as possible, be removed and replaced by ideas of an opposite tendency, as when a patient who is frightened and depressed by the idea that he has heart disease is thoroughly examined and positively assured that his heart is perfect. (2) The motor reaction characteristic of the emotion should, as far as possible, be voluntarily suppressed and replaced by the motions and demeanor characteristic of the opposite emotion, as when a patient threatened with a hysterical spell forces himself to breathe deeply and slowly, relaxes the muscles and assumes a calm demeanor. (3) An exhausted and irritable nervous system must be rested, built up and soothed so as to make it less susceptible to emotional storms: (4) Poisons which irritate and depress must be eliminated, as in the so-called uric-acid diathesis, uræmia, diabetes, alcoholism, etc. (5) A diseased organ which sends abnormal sensory impulses to the cortex and thus causes the feeling of fear or of grief without such mental cause as would otherwise be necessary, must receive appropriate treatment, as in certain cases of disease of the heart, stomach, liver, intestinal canal, or pelvic organs. (6) Other means proving inadequate, a painful emotion may be controlled by full doses of opium, as in the opium treatment of melancholia.

Medical News, January 30, 1904.

A Brief Note on the X-ray Treatment of Glandular Tuberculosis.—Frank P. Vale reports this case. The patient was a man who had never been ill till the present sickness, which began about six months before he came to the writer. A slight swelling first appeared on the left side of his neck. It had increased slowly in size and the patient had progressively lost weight. The writer exposed the affected side of the neck to the *x*-rays twice a week for fifteen to twenty minutes. The patient rapidly improved. During two weeks he had gained fifteen pounds, and during the next four weeks he almost entirely regained his normal feeling of well-being and strength. The swelling in the neck was greatly reduced. In order to prove the nature of the lesion in the glands, operation was performed and microscopical examination made of the parts removed. This histological picture was that of tuberculosis. The patient remained in good health for about a year when symptoms developed which pointed to an intracranial lesion. Improvement at the end of a month of renewed *x*-ray treatment—exposing the head to the rays three times a week—has been most satisfactory.

A New Method for Performing Intestinal Anastomosis.—John W. Keefe describes his method of performing intestinal anastomosis as follows: The intestine to be excised is clamped at a right angle to its long axis with a ¾-inch blade of the electrothermic angiotribe; a current of 60 ampères is applied for one minute. In this way complete hæmostasis, with occlusion of the gut, is produced, with no extrusion of fæces. The angiotribe is removed and the desiccated strip of intestine is clamped with a straight artery forceps. The same process is repeated at the other point on the intestine where it is to be severed. Incision is made. The mesentery attached to the partly excised part of the intestine, is clamped with the angiotribe, and the current applied, in as many sections as is necessary. The mesentery is separated and the excised part of the intestine is removed. The desiccated ends are now approximated and their peritoneal surfaces united with a modified and an interrupted Lembert suture. The modified suture is first inserted. The interrupted Lembert suture is inserted at opposite poles on the intestine to the stitch previously made. In placing the two Lembert sutures and the Cushing suture, the main point to remember is not to penetrate the mucous coat of the intestine but to have it enter the submucous coat, since it is tough and fibrous. After the edges of the intestine are sutured, the intestine is invaginated with the finger and sufficient force is used to make a lumen through the desiccated strip. Gases and fæces are pressed through the anastomosed ends to see that there is no leakage. The writer sums up the advantages of this method as perfect asepsis, no intestinal obstruction, no eversion of mucous membrane, little danger of cicatricial stenosis, a firm, strong union, and a rapid operation.

New York Medical Journal, January 30, 1904.

Solitary or Fused Kidney.—W. A. Dennis reports one case and discusses various aspects of the question. His paper is summarized as follows: (1) Complete absence of the kidney is found once in 2,650 cases, the horseshoe shape once in 1,000 cases, and the fused kidney (exclusive of the horseshoe variety), once in 16,000 cases. (2) The majority of fused kidneys are misplaced, being usually abnormally low and in the median line. (3) The completely fused kidney with normal position and approximately normal outline is the rarest of all. (4) Cystoscopic examination with catheterization of the ureters will prevent the error of removing the only organ present in all cases except those of fusion. (5) Horseshoe and irregularly fused kidneys may be recognized on exposure by their abnormal shape and position. (6) The single remaining and rarest variety (that with normal outline and position can probably always be at least suspected if the ureter and pelvis are found shifted to the anterior surface.

Purulent Pericarditis Secondary to Pneumonia, with Operation and Recovery.—The patient of J. A. Scott was an Italian laborer, thirty-six years, with consolidation at first the right base and later the left. Later the pericardial sac became involved, and the needle withdrew a light-greenish turbid fluid, showing a pure culture of pneumococci. Aspiration removed fourteen ounces of such fluid (1016 albumin 2 per cent.), but it reaccumulated and further exploration revealed pus. The pericardial sac was opened under cocaine anæsthesia (the patient doing badly under chloroform and was slowly drained), about twenty-four ounces of non-odorous pus coming away. Recovery was without especial incident. Peculiar features of the case were: (1) The absence of a leucocytosis during the pneumonia, and its development with the pericarditis. (2) The absence of the pericardial friction both before and after the pericardium was opened. (3) The absence of fever—subnormal temperature—with pus in the pericardium. (4) The recovery of the patient without the physical signs of an adhesive pericarditis, no pericardial friction sounds being heard.

American Medicine, January 30, 1904.

Unpublished Symptoms of Rötheln.—J. D. Maddox reports that in an epidemic of rötheln or German measles

now under observation, he notices two symptoms which have so far been constant in every case. He does not find these symptoms mentioned by any authority that he has consulted. They are: a bloody discharge from the nose as if produced by rupture of the engorged capillaries; and soreness, stiffness and swelling of the fingers, soreness and sometimes stiffness of the wrists, elbows and knees, and less frequently of the ankles, as if there were present transient inflammation of the synovial membranes. In some cases there seems to be the same conditions present in the sheaths of some of the tendons.

Postoperative Intestinal Obstruction.—A. M. Pond states that intestinal obstruction occurs as a complication in about 5 per cent. of all abdominal operations. Its natural classification as to cause is as follows: (1) Impairment of physiologic function; (*a*) impaction, (*b*) paresis, or disturbance of motor nerves, (*c*) lowered resistance following hemorrhage, (*d*) atony from alcoholism, diabetes, etc. (2) Pathologic processes, such as (*a*) inflammatory impairment of function, (*b*) destruction of parietal peritoneum, (*c*) intoxication by pus, (*d*) thrombosis of mesenteric veins, following contusion. (3) Mechanical obstruction due to (*a*) adhesions to stumps improperly covered, (*b*) velamentous or adventitious bands arising from the parietal peritoneum, (*c*) omental rents or tears, (*d*) accidents to the sutured wall, (*e*) presence of gauze sponges or other foreign material accidentally left in the cavity after the operation. It can be easily seen from the foregoing, that the treatment of postoperative obstruction depends very largely upon its cause. In cases due to impairment of physiologic function, stimulation of peristalsis should be the object aimed at, and it will probably respond to any medication that will secure such stimulation. An enema, medicated or plain, is by far the simplest treatment and the easiest of administration. If it does not prove effectual, the application of the cautery over the abdomen should be tried. The use of cathartics is very questionable, since the nerves which stimulate peristalsis are already impaired and will not readily respond, and when they do, it is at the expense of more energy. Increased medication is required to secure each succeeding evacuation. Rest is valuable, and if the patient is doing well aside from the bowel movements, too much energy should not be excited in order to secure evacuation. In cases due to pathologic processes, cathartics are positively counterindicated. Treatment should consist in lessening the peristalsis and securing rest. The sedative action of atropine in all spasmodic conditions stands second only to opium, and it is superior to the latter drug in that it is not constipating. It dilates the blood-vessels and relieves stasis and congestion. The use of oxygen is valuable since it lessens the formation of ptomains and albumoses by supplying the congested blood-current with its vitalizing element, the same as it would receive from the inspired air through the pulmonary circulation. In mechanical obstruction the only rational mode of treatment is to release the intestine. This can be accomplished only by operation. The earlier this operation, the more favorable will be the prognosis.

The Lancet, January 16, 1904.

Physiological or Functional Albuminuria.—The conclusions of Samuel West are as follows: (1) Albuminuria may occur as a transitory symptom in persons who, except for this symptom, may be judged to be perfectly healthy, for they appear to be so at the time and remain so. (2) But it may also occur in persons who, though they appear at the time to be healthy develop signs of disease subsequently. (3) It is difficult to distinguish at a given time between those who will remain well and those who will not. (4) It is difficult to exclude for certain many of the pathological causes to which the albumin might be due. In other words, though there may be no proof that these causes are present, there is equally no proof that they are absent, and in some cases, the result shows that they were not absent. (5) Speaking generally, the larger the amount of albumin in the urine and the longer it persists the greater the probability of some permanent disease. (6) Continued observation of these cases shows that the so-called physiological albuminuria does very appreciably increase the risk of life, and that this risk grows rapidly with every year of age after thirty years. As a result of the foregoing proposition, the author is led to the general conclusion that functional albuminuria is never, strictly speaking, physiological at all, but that it is, on the contrary, always pathological though not necessarily renal.

The Termination of a Case of Recurrent Mammary Cancer Treated by Oophorectomy.—The history of the case is given by G. E. Herman. The original cancer was removed in 1890. Six years later it had recurred and invaded the axilla and neck, so that removal of the recurrent growths was impossible. Three months later the ovaries were removed, and the patient remained in good health for over four years. Evidences of cancer of some internal organ then appeared, and she gradually succumbed. The author justifies the performance of oophorectomy in such cases on the following grounds: (1) The immediate risk to life is small; (2) the suffering caused by the operation is but temporary, and (3) the effect of ovariotomy on certain functions is for the patient's good. On the other hand, a reasonably certain promise can be given the patient that her life will be prolonged for some months, and possibly for some years.

Some Forms of Chronic Abdominal Surgical Disease.—E. S. Bishop notes that such diseases are found especially in connection with the digestive tract, either in this alone or in connection with the liver and pancreas, and the excretory ducts of the latter. Infective material in the biliary passages may cause cholecystitis leading to suppuration, empyema of the gall-bladder, and gangrene, or it may produce hemorrhagic pancreatitis. Sloughing and abscess. Such infective material may lead to or lodge in biliary calculi, which thus become the more direct cause of trouble, various tumors of the gall-bladder and especially cancer may follow. This is another argument for the removal of calculi as soon as they give demonstrable symptoms and can be definitely located. Another large class of abdominal complaints is comprised of those affecting the large intestine. Peristalsis does not occur here under the conditions obtaining in the smaller bowel. To use the author's phraseology, "the small intestine with the stomach is the kitchen which pours its refuse into the slopstone and drain of the cæcum and colon. Most morbid conditions affecting the large intestine are mainly chronic in character, and extend in their whole course over long intervals of time, although many of them signalize their presence only when pathological changes have reached a certain stage, after which their further progress may be much more rapid. A condition of difficult and painful defecation should always draw attention to the anus and rectum. Some cases of obscure pain in the latter may be puzzling. An ulcer may exist on Morgagni's valve, and for a long time elude detection. Hence in all obscure cases a complete rectal exploration is necessary. The sigmoid flexure is a favorite seat for cylindroma. The treatment of mucocolitis, in its many forms with and without ulceration, which may be specific, gonorrhœal, simple, lupoid, herpetic, dysenteric, or cancerous, has been greatly assisted by the clearer ideas which have been gained of the actual condition of the interior of the gut since the more thorough use of the proctoscope and sigmoidoscope; the newer silver salts, especially protargol, have supplied us with agents which are not rendered ineffective by the rapid formation of an inert albuminate, as was the case with the older nitrate, but permit of far deeper and further reaching action upon the tissues and the microorganisms which have penetrated them. The author dwells, in closing, on the necessity for constant observation of chronic cases with a view to the discovery, if possible of new symptoms which will throw light upon their earlier stages, and which may act as danger signals, so that effective surgical interference may be carried out whilst there is every reason to expect a successful issue and before dangerous complications have arisen, or at least before they have reached such a stage as to render all our efforts ineffectual.

British Medical Journal, January 16, 1904.

A Note on the Tendon Reflexes in Uræmia.—W. Mitchell Stevens is convinced from the examination of a considerable number of cases that an exaggeration of reflex activity is often present in cases of uræmia. The condition may show itself not only by an exaggeration of the knee-jerks, but in severe cases such phenomena as ankle-clonus, knee-clonus, wrist-jerk, and elbow-jerk may all be present and well marked. The writer does not assert that the reflexes are constantly excessive in cases of uræmia. Nevertheless, this symptom is common, and it may prove of diagnostic value in comatose states and in certain convulsive affections, such as the epileptiform convulsions of uræmia. In a case of this kind, the presence of exaggeration of the deep reflexes might be helpful.

Chronic Cyanotic Polycythæmia with Enlarged Spleen.—William Osler suggests to those who meet with cases of chronic cyanosis with polycythæmia, to study carefully the condition of the heart and lungs, and in the blood the specific gravity and the viscosity, as the cyanosis probably depends upon the latter and upon the increased difficulty in the flow of the blood through the capillaries. The writer adds several cases to those which he has previously reported. The chief symptoms of this condition are constipation, headache, vertigo, and weakness. In some cases the patients were in very good health, in spite of an intense cyanosis. The cyanosis is the most remarkable feature of this affection. There is, as a rule, no respiratory distress, nor any obvious cause for this condition. The blood in the cases reported presented a greatly increased viscidity, an unusually dark color, and

in eight of the cases the red-blood corpuscles were above nine millions per cubic centimeter. The hæmoglobin ranged from 120 to 150; the leucocytes showed no special changes. In the study of obscure cyanosis, the writer states that it is well to bear in mind the possibility of chronic poisoning with the coal-tar products.

A Lecture on Lumbago; Its Lessons and Analogues.—William R. Gowers declares that although we have a sufficiently clear and precise conception of the symptoms of lumbago, our conception of its nature is not at all precise or clear. Lumbago is correctly regarded as muscular rheumatism. Lumbago in particular, and muscular rheumatism in general, are a form of inflammation of the fibrous tissue of the muscles. The writer designates this affection as "fibrositis." Although there is no indication of the formation of "inflammatory products," lumbago has the acute course of an inflammation and may result from a frequent cause of this in any part—exposure to cold. Its symptoms appear to develop with extreme suddenness. The writer believes this to be apparent and not real. The production of the pair is sudden, but the condition upon which it depends has been gradually developed. This process varies considerably according to its cause and seat. Apart from the muscles and tendons, the fibrous tissue of the joints is liable to a condition in which tension causes acute pain. The writer then discusses brachial myalgia. Its great feature is pain in the muscles. Any attempt at passive movement causes extreme pain. This brachial fibrositis may spread just as sometimes does the lumbosacral form. For "sacral lumbago" often spreads, apparently by the fasciæ, and reaches the sheath of the sciatic nerve. There it may increase to definite sciatic neuritis. In the brachial form the fibrositis may reach the nerve sheaths of the arm, and in them set up a secondary brachial neuritis with all its consequences, tenderness of the nerves, pain along their course and in their distribution, œdema of the hand, and even muscular wasting or impaired sensation. Rheumatic fibrositis is seldom strictly symmetrical. Muscular rheumatism is more common in the second half of life than in the first, while the opposite is true of the acute articular form. It is currently associated with gout, but it is "gout with a difference." Another definite form of fibrositis is the traumatic, induced by sudden violent tension on tendinous and ligamentous structures, much less frequently by tension on the muscles. In discussing the general treatment of these forms of rheumatic fibrositis, the writer calls special attention to the measures of diaphoresis and rest. Above all things, rest is that which these painful muscles need.

Deutsche medizinische Wochenschrift, January 7, 1904.

Musical Heart Murmurs.—Galli reviews the theories that have been advanced to explain the musical or metallic murmurs sometimes heard, and describes a case of his own in which the relation between cause and effect seems very plain. The patient was a man of fifty who, after a more or less complicated illness died, of multiple pulmonary infarctions. During life a systolic, musical murmur was heard at the apex and part way to base, and sometimes, but not always, faintly over the aorta. It was never present over the pulmonary area. The murmur was accompanied by a pronounced thrill. On autopsy, in addition to various irrelevant lesions, an intraventricular band was found running from the anterior papillary muscle toward the apex and having a sufficient space under its arch to permit a considerable volume of blood to flow under it. A point of interest is that for a day or two before death the musical murmur disappeared, and it was found that an ante-mortem clot had formed about the base of the adventitious band, thus preventing it from vibrating.

Further Observations on the Preparation of Specific Substances from Bacteria.—Mayer describes several methods of extracting substances from cholera bacilli which produce strongly bactericidal sera in experiment animals. One method is analogous to that employed by the author for typhoid bacilli, and consists in macerating the organisms for eight days in ammonium sulphate solution. The fluid is filtered and the bacterial mass remaining on the filter is washed off, rendered faintly alkaline, and subjected to autolysis at a temperature of 37°C. In about three days the process is complete, and the result is a tenacious, almost gelatinous fluid in which no bacterial bodies are demonstrable. By injecting this into rabbits, sera are obtained which have a high bactericidal but low agglutinating titer, while exactly the reverse is true for typhoid bacilli. It was found that by simply shaking cultures of cholera bacilli in a machine for six and for forty-eight hours, substances were extracted from the bacteria by this purely physical process which produced sera of fairly high bactericidal value.

The Pathology and Treatment of Cardiospasm.—Mikulicz believes that the so-called idiopathic dilatation of the œsophagus is the result of spasm of the cardia. In order to understand the development of the condition it is necessary to consider the mechanism of deglutition. This differs essentially for fluids and solids. The former overcome the normal tonic contraction of the sphincter-like cardia solely through the effect of gravity, while solids are forced onward by peristaltic contractions of the œsophagus. If the natural tension of the cardia is increased, fluids no longer can leave the œsophagus freely, and a column of fluid remains in its lower part. Gradually dilatation follows and, once started, increases rapidly, as a larger surface is exposed to pressure and atony of the muscular layer is produced. Now solids also remain in the œsophagus, for its walls can no longer contract firmly over them in the dilated portion, so that fermentation is induced and œsophagitis is set up by the presence of the irritating food masses. A vicious circle results, the cardiospasm causing stagnation, this giving rise to œsophagitis, which, in turn, increases the spasm. Palliative treatment by diet, lavage of the dilated œsophagus, etc., often accomplishes much, but the author has had perfect results in four cases after instrumental dilatation of the cardia through a gastrotomy incision. The degree of dilatation can be perfectly controlled by touch so that there is no danger of rupture, and the patients have been completely cured.

Deutsche medizinische Wochenschrift, January 14, 1904.

The Neutrophile Leucocytes in Infectious Diseases.—Arneth gives in generalities the results of investigations he has been pursuing regarding the polymorphonuclear neutrophile leucocytes; the details are to appear in book form. The aim of his communication is to point out that although a great deal of blood counting has been done, the advances of the past few years have been very slight. The information to be gained by enumerating the leucocytes and making differential counts of their various types has reached its limit, and he has opened a new field for study by analyzing the class we have heretofore considered as an entity and termed the polynuclear neutrophiles. By special methods he has found typical and consistent variations in the nuclei of these cells, and has constructed a classification composed of five variants. In normal, hyper- or hypoleucocytosis many variations of proportion among these five classes occur and the author proposes the following terms to be used accordingly, as the neutrophilic blood picture agrees with or varies from the normal: (1) Hypercytosis; (*a*) isohypercytosis, (*b*) anisohypercytosis. (2) Normocytosis, (*a*) isonormocytosis, (*b*) anisonormocytosis. (3) Hypocytosis, (*a*) isohypocytosis, (*b*) anisohypocytosis. As is to be expected, such considerations lead to speculations in the fields of chemotaxis, antitoxin formation, immunity, the genealogy of the leucocytes, etc., but these are too general in nature to be susceptible of abstract in brief, and their value can hardly be judged of till the complete work with details and statistics appears.

The Physiological Action of the Radium Rays and Their Therapeutic Application.—Scholtz has been experimenting with radium on animals and on patients and finds that its rays have certain properties in common with the *x*-rays and the Finsen rays and that they also differ from them in certain respects. While the general effect of radium rays on the skin resembles that of the *x*-rays and overexposure produces similar lesions, important gross and microscopical differences are noted. The visible changes produced by the *x*-rays usually appear only after the fourteenth day, but the radium rays cause a pronounced erythema in about twenty hours, even after an exposure of only three to five minutes. In sections made at this time a dilatation of the vessels of the papillary layer is visible, and on the third or fourth day there is slight swelling of the connective tissue. The *x*-rays produce no changes to be detected by the microscope so soon after the exposure. In order to test the penetrating power of the rays the author fastened the ears of a rabbit one over the other on the animal's back and then exposed them to the radium for fifteen to thirty minutes. A marked reaction was produced in both ears and the skin of the back became inflamed and lost its hair. Bacteria are killed by the rays both in agar plates and suspended in fluids. With the radium at a distance of two mm. typhoid bacilli were killed in three hours. The author's therapeutic results on cases of furunculosis, lupus, psoriasis, and epithelioma are very encouraging, two cases of the latter appearing to have been permanently cured. The great advantage of the radium is the ease with which the substance can be applied to otherwise inaccessible regions, such as cavities like those of the mouth, vagina, nose, etc., and even the interior of tumors.

Berliner klinische Wochenschrift, January 11, 1904.

The Methods for Determining the Boundaries of the Heart.—Rosenfeld reviews the various methods which have been employed to establish the size of the heart by percussion. The much-discussed question as to whether

the absolute (superficial) or the relative (deep) dulness is a more reliable index of the condition present seems finally to have been summed up by the dictum that the absolute dulness is easier to determine, but that the relative dulness gives a more accurate picture of the cardiac dimensions. The author employs the palpatory percussion of Ebstein, performed with a special hammer and plessimeter. His technique is first to determine the absolute dulness by finger percussion, performed as gently as possible, and then to obtain the true dimensions of the heart by palpatory percussion. In both instances it is preferable to proceed from the center of greatest dulness toward the periphery. Other methods that are less satisfactory are the auscultatory percussion of Ewald and Runeberg, the friction auscultation of Reichmann and Bianchi, and the method similar to the latter employed by Smith with the phonendoscope.

Expulsion of a Tubular Cast of the Œsophagus after Poisoning with Muriatic Acid.—Strauss reports this case, which belongs to the rarities of medicine, inasmuch as only one other has been described. The patient was a middle-aged man of tuberculous history and poor general condition. Twenty-five c.c. of hydrochloric acid were swallowed, and shortly afterward he came under observation. The treatment consisted in lavage with soap solution, and after that calcined magnesia and rectal feeding. On the ninth day in bringing up a quantity of brownish secretion, which had been very abundant from the first, the patient expelled a tubular cast of œsophagus twenty-three cm. long. This apparently was the mucous membrane which had separated in the submucous layer. From this time on small amounts of fluid were given by mouth and fairly rapid improvement followed. About two months after the poisoning, however, he began to do poorly again, and died a little over a month later of malnutrition. The autopsy showed that the œsophagus was not stenosed, but that it was entirely devoid of mucous membrane for most of its length, and that the stomach was the seat of a diffuse thickening, which was so marked at the pylorus as to give rise to a true stenosis. The dissection of the mucosa from the underlying structures is supposed to have been the result of an inflammatory necrosis due to suppuration along this line, and the thickening of the stomach due to a general sclerosis starting from a multitude of minute scars. About a dozen cases of the expulsion of similar casts have been described, but these have been after the ingestion of sulphuric acid or strong alkalies. Probably the occurrence is more frequent than supposed, as the mucous membrane is easily overlooked in the vomitus.

Münchener medizinische Wochenschrift January 5, 1904.

The Staphylococci of Chronic Eczema.—Veiel studied the microorganisms of chronic eczema in order to determine their nature, whether they were purely saprophytes or not, and what relation they had to the etiology of the disease. He found that both in the early and late stages of the disease staphylococci were found almost exclusively. These were identical with the ordinary pus producers and could be distinguished from those of the ordinary skin by agglutination and hæmolytic reactions. Their importance in regard to the etiology of the disease is still undetermined, but it is not likely that they are pure saprophytes, and probably they are concerned in some way in the causation of the pathological processes. No other bacteria, however, were present in the early stages, so that the existence of any specific organism is not likely.

Modern Theories of Eclampsia.—Wormer has repeated the experiments of various investigators who have published results tending to show that eclampsia is due to some form of cytolytic poisoning. Veit found that the serum of animals that had received injections of placental tissues from some other species possessed the property of dissolving placental cells of the same sort *in vitro*. He concludes that eclampsia is a direct poisoning of the mother's blood through fetal substances which enter it and are not neutralized with sufficient promptitude. Ascoli injected rabbits with guinea-pig placenta, and so produced a serum containing a syncytiolysin specific for guinea-pig placenta. On injecting this serum subdurally into guinea-pigs, they died with eclamptiform manifestations. Ascoli's theory is that the excess of syncytiolysin resulting from overproduction is the toxic agent. Weichardt treated placental tissues with a specific serum until solution took place and then injected it into animals. Out of nine three died under conditions comparable to eclampsia, and he believes that syncytiolysis gives rise to free syncytiotoxins which are the cause of eclampsia. Liepmann obtained a serum giving a precipitin reaction specific for placental tissue by injecting animals with placenta of the same species. The author repeated the experiments of all these authors with much attention to detail, but failed entirely to get the same results in any set of observations.

The Toxins and Antitoxins of Fatigue.—Weichardt experimented with mice to determine the nature of the substances formed during fatigue. At first he injected the blood of the fatigued animals into other mice intraperitoneally, but these did not die any oftener than did control animals injected with the blood of normal mice. Attempts with intravenous and subcutaneous injections were equally unsatisfactory, and it seemed most likely that either no toxins at all were formed or else that they were very quickly taken up by the antitoxins of the blood and so lost their virulence. Acting on the latter hypothesis, he made muscle extracts from the fatigued animals under rigid asepsis, and then found that the extract from fatigued animals was toxic, while that from others was not. The toxins so produced are thermolabil, and are rendered inactive by an exposure of two hours to 56° C. During the first forty-eight hours their toxicity increased, but then diminished, and at the end of eight days had vanished completely. This gradual increase in toxicity leads the author to believe that the products of fatigue are at first not true toxins, but become so as a result of fermentative changes produced by the body juices. By injecting rabbits with this toxin an antitoxin was produced of very stable nature and capable of neutralizing the toxin both in the body and in the test tube.

Münchener medizinische Wochenschrift, January 12, 1904.

A Case of Indigo Red in the Freshly Voided Urine.—Gröber reports this unusual phenomenon, which occurred three months before the death of a fourteen-year-old girl, who was suffering from advanced chronic parenchymatous nephritis and mitral stenosis with broken compensation. The urine which had been very pale, suddenly showed a deep pink color. The examination showed the absence of indican, while the coloring matter could be extracted by the addition of chloroform without the intervention of any reducing reagents. Indigo blue or red is not a rarity in urine that has undergone decomposition, but in this case it was present in the freshly voided urine.

The Anterior and Posterior Divisions of the Urethra, and Urethral Injections.—Lucke says that the prevalent view that the anterior urethra is separated from the posterior by a competent sphincter, the compressor urethræ, is open to criticism, and has produced errors of treatment. Individuals vary greatly in the tonicity of the cut-off muscle, and the practice of injecting comparatively large quantities of fluid into the anterior urethra with the idea of distending all the folds of the mucosa and reaching the gonococci hidden there, is a frequent cause of posterior urethritis. The anterior urethra is usually kept distended with the injection for about five minutes, and during this time the cut-off muscle relaxes and allows the infection to invade the posterior urethra. The proof of this is found in the frequency with which posterior urethritis is observed nowadays, whereas it was much rarer under the old régime of syringes, with small pointed nozzles and of small capacity. A positive two-glass test is evidence of the existence of posterior urethritis, even in the absence of increased frequency of micturition, and conversely the infection may have gone posterior and the two-glass test be negative.

The Treatment of Gastric Ulcer.—Wagner recounts the results obtained on a large series of patients treated for gastric ulcer by Lenhartz's method. This consists in dispensing entirely with the customary nutritive enemata and in giving the patients raw eggs as adjuncts to the milk diet from the very first. The idea is that most of these patients, particularly those that have had hemorrhages, are likely to be more or less anæmic and of poor vitality, so that to put such individuals on a starvation diet is to furnish the least favorable conditions for the reparative effort which is to heal the ulcer. The patients are kept in bed four weeks, an ice-bag over the stomach being used to combat pain and promote contraction of the organ. In the first twenty-four hours iced milk is given in spoonfuls up to 200-300 c.c. and from one to three iced, beaten, raw eggs are allowed. Two grams of subnitrate of bismuth are given two or three times a day. The amount of milk is daily increased by 100 c.c. up to one liter, and one egg a day is added until six or eight are being taken. On the sixth day 35 g. of finely scraped raw beef are given, and the dietary is rapidly extended until it comprises rice, gruel, milk toast, and at the end of three to four weeks, a mixed diet including cooked meat. The histories of sixty cases are appended in brief and show most satisfactory results, fifty-two of the number being discharged cured within two months of treatment.

French and Italian Journals.

Radiotherapy and Cancer.—Tuffier has two patients suffering from cancer of the face whom he is treating by the *x*-rays. In one of these cases the lesions are evidently undergoing improvement. Tuffier thinks that perchance

radiotherapy will render good service in the case of superficial cancer. As to its influence on visceral cancers he is not so certain.—*La Presse Médicale*, December 5, 1903.

The Use of Catgut Prepared after the Method of Claudius.—Giuseppe Coen thinks that this iodized catgut cannot be praised too highly. He tried it in fifty important operations. Three of these patients died—one after cæsarean section, one after Talma's operation for cirrhosis of the liver, and the third after vaginal hysterectomy on the twenty-second day following operation from pyelonephritis. Death in all the cases was entirely independent of the sutures. The remaining thirty-seven cases went on to recovery. The rise of temprature did not go above 99.5°, and the cicatrization took place entirely by first intention.—*Archivio di Ostetricia e Ginecologia.*

Arthropathy of Syringomyelia.—Prof. E. Bressaud thinks that in a case of double arthritic disease with rapid destruction, but no pain and preservation of function, there is probably an organic lesion of the cord. The spinal origin of such affections is practically certain. The differentiation of tabes and syringomyelia is more difficult. The major symptoms of both conditions are alike; the only diagnostic difference lies in the minor and transitory symptoms of the initial stage of this slowly progressing disease. In a typical case there are four of these symptoms: (1) Intermittent clonus, (2) localized sweating, (3) polyuria, and (4) testicular pain. Their coexistence and number alone justify the hypothesis of syringomyelia. The burning and smarting pains have no relation to the joint lesions except as they are coexistent. They have no differential diagnostic value between tabes and syringomyelia, but if their central origin is admitted there is no ground to doubt that they are also dependent on the spinal lesion.—*Archives Générales de Médecine*, No. 52, 1903.

The Action of Corrosive Sublimate on the Spinal Cord.—Dr. Aldo Tartarini-Gellerani thinks that if corrosive sublimate is injected into the cortical substance of the spinal cord of a rabbit we find a deposit of lime salts in the small vessels surrounding the seat of injection. The deposit of calcareous salts does not appear in the first days after the injection, which causes at first only some necroses in the various envelopes of the cord. The loss of substance consequent to the lesion is at first replaced by fibrin and cellular infiltration, afterward by the proliferation of connective tissue; and the space is filled by granulation tissue, which gradually becomes cicatrix. In the second period the calcification appears (ninth or tenth day) and it continues up to the fifteenth day after the injection. This remains circumscribed at the point of injection. There is no fatty degeneration. The calcification occupies in preference the epithelium of the tortuous blood-vessels, and is very like that described in poisoning by mercury introduced in other ways. The calcification may vary in quantity from a deposit of a few calcareous granules to the filling of the vessel by the crystals. The most extreme result is a complete occlusion of the vessel by a calcareous cylinder. The calcareous deposits were tested by their solubility with effervescence in dilute mineral acids, and the formation of crystalline sulphate of calcium with sulphnric acid.—*La Riforma Medica*, No. 51, 1903.

Organotherapy in Renal Insufficiency.—J. Renaut concludes that macerated kidney is the most effective remedy for renal insufficiency that has yet been suggested. Better than all known remedies, it clears the kidney of œdema, because of its rapid and intense diuretic action, and when it is given for a long time it restores and maintains the urinary excretion. It does all this without any prejudice to the diseased kidney, and also reduces the amount of albumin at the same time that it restores the function of the kidney. It may even remove the albumin for long periods, and thus allow the restoration of the renal epithelium in the cases not too far advanced. When taken by the mouth it exercises a true antitoxic action, because its antitoxin is not injured in its passage through the digestive tract. If taken in too great a quantity it may excite slight disturbances, as pruritus, urticaria, millium, attacks of sweating, and, after a fortnight, a little dyspepsia. It has never caused important complications, but has almost unexpectedly exercised its antitoxic action. High arterial tension and passive dilatation of the heart, have always grown less under its influence if its use was sufficiently prolonged. This treatment should be followed in all cases of nephritis from the beginning, at least in connection with the other remedies, especially when any intoxication is evident. The difficulty of the procedure is the inconvenience of preparing the macerated kidney in the proper way every day. It is difficult to impress the patient, his nurses, and others of the necessity of coöperation with the doctor to save the patient's life.—*Revue de Thérapeutique*, No. 1, 1904.

The Relation between Unilateral Aural Disease and Hallucinations of Hearing.—I. Capgras finds that these relations vary with the disposition of the patient and the effect of the lesion on the sensorial and intellectual elements of which all hallucinations are composed. There are five distinct categories. (1) A patient having a tendency to delirium but not to hallucinations allows only the delirious interpretation of the functional disturbance to take place. This condition is distinct from hallucination. (2) The unilateral lesion can exist with independent hallucinations. (3) The unilateral affection can work on the sensorial element alone without affecting the intellectual element. In this case despite the unilaterality of the lesion the hallucinations are bilateral, and they stop with the cause which originated them. (4) The unilateral affection has no effect on the sensorial element. It is not the provoking cause of the hallucinations; but through the intervention of the intellectual element it determines the unilaterality because it furnishes a point of departure. This condition disappears only after a cure of the lesion. The hallucinations have been known to become bilateral (one case). (5) The unilateral lesion has a double rôle when the two preceding categories are united. It acts at the same time on the sensorial and on the intellectual elements. The first action determines the apparition of the hallucinations, the second accounts for their unilaterality. The progress of the lesion and that of the hallucinations are therefore parallel and their cure simultaneous, which is the case in the majority of unilateral hallucinations.—*Archives de Neurologie*, December, 1903.

Annals of Surgery, November, 1903.

The Diagnosis and Treatment of Acute Pancreatitis.—George Woolsey gives details of three cases coming under his personal care. He includes in his consideration of the subject those cases of pancreatitis beginning suddenly and severely, usually but not always accompanied by pancreatic hemorrhage and often associated after a few hours with fat necrosis. He presents the following conclusions: (1) In the severe acute cases of pancreatitis, the symptom complex, in connection with some predisposing factor or factors, and perhaps some other early signs, renders it possible to make a probable diagnosis. (2) The diagnosis is easier than in the less acute cases. (3) It is only likely to be mistaken for conditions which also require early operation. (4) The finding of fat necrosis at the operation confirms the diagnosis. (5) The treatment should consist of early operation, including infusion for collapse, evacuation, and drainage. This may be done under local anæsthesia. (6) Extensive or prolonged operations are not justifiable.

Recurrent Dislocation of the Ulnar Nerve Cured by Operation.—Farrar Cobb has found fifteen cases of dislocation of the ulnar nerve recorded in surgical literature. The accident may happen from "habitual" or idiopathic causes or from trauma. His own patient was a man aged fifty-two years who struck his elbow while trying to save himself from a fall. The diagnosis was not difficult. Operation revealed that the arcuate ligament passing over the nerve had been torn by the accident and that the long groove normally occupied by the nerve had become filled with muscular fibers. The groove was cleared out and an artificial restraining ligament constructed from the surrounding fascia. Two and a half years later the motion of the arm was in every way normal. Cobb declares that one must conclude that operation for this condition has every chance of perfecting a cure. It should be remembered that only the severe cases, few in number, and for the most part traumatic, need ever to be operated upon. Operation should never be undertaken for dislocation of the nerve alone, but only for the symptoms caused by the recurring dislocation, and only in those cases in which the symptoms are severe and disabling. The steps of the operation are simple, and will necessarily be the same in the majority of cases.

The Surgical Problem in Prostatic Hypertrophy.—G. W. Hawley offers as his conclusions from a study of this problem, the following: (1) That it is not the prostate but the adjacent urinary tract which demands relief. (2) That the direct cause of the interference with urinary evacuation is the displacement of the outlet and floor of the bladder resulting from enlargement of the retrourethral portion of the prostate. (3) That until the precise cause of prostatic overgrowth is known and successful preventive measures evolved, we can only hope to relieve this condition by correcting the displacement. (4) That until an effectual method which is sufficiently safe and simple for application before infection and disorganization of the urinary tract has resulted, surgery cannot bring any great relief. (5) That the logical mode of correcting vesico-urethral displacement is by reduction is evidenced by the fact that operative methods improve urinary evacuation

by virtue of their power to reduce, more or less successfully, this displacement. (6) That while some of these methods partially (sometimes completely) accomplish reduction with comparative safety, and others entirely reduce the displacement, but at considerable risk, none does so with both safety and success. (7) That since the reduction of the vesicourethral elevation is essentially a mechanic problem, reduction based on anatomic and mechanic principles should prove the simplest and safest method.

Splenectomy for Banti's Disease.—C. G. Levison relates a case of this nature, the operation being followed by thrombosis of the right internal jugular, subclavian, and innominate veins. Recovery ensued. The interesting features of the case as summarized by the author are the following: First, the long period of personal observation (eight years). Second, the invasion of the disease, preceded by an infectious appendicitis. Third, the intervals of perfect health, interrupted by profuse bleedings. Fourth, the blood findings, which corresponded in every particular to Senator's description. Fifth, the exacerbation of temperature and the accompanying leucocytosis, both indicative of some form of infection. Sixth, the slate-colored stools and the diarrhœa, evidence of a digestive disturbance. Seventh, the severe pains between the shoulder-blades, and the enormous quantities of morphine given necessary to relieve pain. Eighth, the disappearance of the distended abdominal and chest veins, followed by the spontaneous disappearance of the ascites. Ninth, the splenectomy, followed by the rapid increase in the percentage of hæmoglobin. Tenth, the appearance of the normoblasts and the megaloblasts in the blood subsequent to the splenectomy. Eleventh, the rapid regeneration of a very abnormal blood. Twelfth, the disappearance of the melanoderma following the operation. Thirteenth, the thrombosis of the right innominate, subclavian, and internal jugular veins, and the recovery of the patient from the same.

One Thousand Abdominal Closures by a New Method without a Known Hernia.—The paper of J. F. Baldwin is a plea for the use of annealed iron wire, tinned. It is strong, tough, flexible, and cheap. It is obtained in the hardware stores. The steps of his method of closing the abdomen may be thus summarized. The bellies of the recti muscles are exposed so as to allow of exact apposition from the tightening of the sutures. Through-and-through silkworm gut is then introduced *from within out*, catching the peritoneal edge, and then passed well back through the muscle and fascia and out at a proper distance from the skin margin. The fasciæ are now brought together in an over-and-over stitch by a double coarse thread of silk or cotton. This is so used as to allow of the wire being hooked into a long loop over which is hooked the wire. A handled needle with an eye at the point is then introduced through the skin and fat about an inch from the other end of the incision, and brought out just above the fascia so as to engage the other end of the wire, which is then withdrawn. This needle has been previously passed through two pads, about an inch square and made of six or eight thicknesses of gauze. Before withdrawing the wire from the needle, one of these gauze pads is slipped down over the wire so as to rest next to the skin. The other end of the wire is then threaded through the needle and the other gauze pad placed in position, and a perforated shot placed outside of each pad. The incision is then carefully dried, if there has been any oozing, and while an assistant draws up the ends of the silkworm gut, so as to secure apposition of the peritoneum throughout, the wire helix is drawn straight by traction with forceps on each end, care being taken to see that no kinks are formed during this process. The wire should be drawn back and forth once or twice so as to be sure there are no kinks. The shot are now pressed down against the pads and clamped. The fasciæ are thus brought into absolute contact, no fat or muscle being included. The silkworm gut is then tied in the usual way, care being taken that it is not too tight. All dead spaces are thus obviated, and each tissue is opposed, layer to layer.

Annals of Surgery, December, 1903.

Local Anæsthesia.—F. G. Connell describes the various methods in use. The advantages are: (1) Removal of the danger of death on the table. Others which may be mentioned are: (2) Avoidance of the after-effects of general anæsthesia on the heart, liver, kidney, and lung; but postoperative pneumonia seems to occur about as frequently after one anæsthesia as the other. (3) No period of postoperative nausea, vomiting, or unconsciousness. (4) No danger of patient being drowned in fecal vomitus. (5) Patient being conscious, is able to assist the operator in various ways. (6) Reducing by one the number of assistants; although it will be found to be convenient to have an assistant at the head of the patient to encourage and reassure him, and to be ready to administer a whiff or two of chloroform, if necessary.

Method of Suturing the Prolapsed Kidney.—A. H. Goelet describes his method tested by 171 consecutive nephropexies on 134 patients. In thirty-seven both kidneys were fixed at the same time. There were no deaths and no failures to secure sufficient fixation. The method differs from the Brödel suture in the following particulars: (1) The apex of the triangle formed by the suture is above, the ends emerging on the surface of the kidney near together. In Goelet's suture the apex of the triangle is below, the ends of the suture emerging on the surface more apart from each other, because they are brought out and tied on the external surface. (2) The sutures are placed at a greater distance apart, the lower suture at the lower pole; and they include less area of surface. The author's suture does not include the lower pole, which is left normally free, and it includes a larger area of surface. (3) The suture material is silk, while his is silkworm gut. (4) The sutures are tied to and buried in the muscles, while his are brought out upon the surface and tied over a pad of gauze.

An Experimental Research into the Temperature Relationship Existing in Shock.—From an elaborate series of experiments on dogs, G. C. Kinnaman declares that shock must not be considered as due to the lowering or exhaustion of one bodily function, but as a composite condition embracing an interference with the normal height of the blood-pressure (lowering), an interference (lowering) with the respiratory act, and a marked fall in the body temperature. Of these, as shock increases in severity, the most uniform and progressive factor is the fall in temperature. That there is a relationship existing between the fall in body temperature and shock is evident by considering: (1) That in one series the fall in temperature *was* the *sole* cause of shock; (2) That where, by continuous bath, the temperature fell but one degree Centigrade (average), the respirations were increased instead of diminished, and the fall in blood-pressure was greatly lessened; (3) That by raising the body temperature previously lowered in shock, the respiratory rate was increased and the blood-pressure raised. This relationship may be thus expressed: (*a*) A sufficient fall in the body temperature *can* cause a decrease in the respiratory rate and a marked fall in the blood-pressure, which, together with itself, we designate as shock; (*b*) Conversely, a limiting of the fall limits the fall in pressure and prevents a fall in the respiratory rate. Therefore shock is limited or prevented. (*c*) Antagonistically, a rise of the temperature causes a rise in the blood-pressure and the respiratory rate (reduced in shock), with the result of a gradual amelioration of all the symptoms. Thus, of the three factors concerned, the temperature commands first place by its power of production, by its power of limitation, and by its power of amelioration of the composite condition—shock.

Traumatic Epilepsy.—J. C. McCoy refers to the great difficulty and almost impossibility of removing all the cicatricial tissue which, following head injuries, may cause sufficient brain irritation to set up epileptic seizures. Operation is justifiable, however, in all cases in which the seizures are referable to a recent trauma. He relates the case of a boy who was struck on the head by a piece of concrete falling from a building. Immediately after the injury he was taken to the hospital in a semi-conscious condition. A compound fracture of the skull was found over the frontal and parietal bones on the right side, and there was a fracture running back into the occipital bone. Still a third fracture extended down into the temporal fossa. The brain tissue was more or less lacerated. On the third day after the operation there was a convulsion on the left side. Attacks of this nature recurred at intervals for several months, and finally the area which had been involved in the fractures was again exposed, and found covered with cicatricial tissue. This was adherent to the edges of the bone, extended for a distance of two centimeters beyond the edges of the bone on the upper surface of the skull. It was closely adherent and incorporated with cortex over the entire area, and completely filled the cup-like depression in the anterior portion of the wound. This mass of cicatricial tissue was excised, the plug of tissue in the depression carefully removed, and the tissue dissected from the edges of the bone. A celluloid plate was inserted, but the seizures continued to recur, though less frequently than before. The area was opened a third time and a fresh plate was inserted. The subsequent history of the case is given, showing that the cicatricial tissue tended to recur, and that seizures were occurring from time to time.

Book Reviews.

DIE FUNKTIONSPRÜFUNG DES AUGES UND IHRE VERWERTUNG FÜR DIE ALLGEMEINE DIAGNOSTIK. Für Ärzte und Studierende. Von Prof. Dr. O. SCHWARZ in Leipzic. Mit Ein und Achtzig Figuren im Text und Einer Tafel, Berlin: S. Karger, 1904.

THIS volume, which is one of 322 pages, is divided into three parts, of which the first part, occupying seventy-two pages, is devoted to a consideration of the principles of optics, the eye as an optical apparatus, and a few pages to a description of glasses for the correction of errors of refraction. The second part deals with the methods for the examination of the various functions of the eye, the visual acuity, light sense, accommodation, visual fields in health and disease, visual memory sense, the iris in health and disease, the motility of the eyes and the anomalies of motility, movements of the eyelids, simulation defects. This part takes up 230 pages. It is followed by a third part which treats of the diagnostic value of the findings on examination of the eye, considering the significance of departures from the normal in refraction, acuity of vision, fields of vision, movements of the irides, extrinsic muscles, eyelids, etc., a part occupying eight pages. There is a comprehensive index.

The work is carefully prepared and is exhaustive. It is admirably adapted to the needs of the ophthalmologist who wishes to know more of the subject treated than he can obtain from the standard text books.

NORMAL HISTOLOGY, A Manual for Students and Practitioners. By JOHN R. WATHEN, A.B., M.D., Professor of Surgery and Gynecology, formerly Professor of Histology, in the Kentucky School of Medicine; Surgeon to the Louisville City, the St. Anthony's, and the Kentucky School of Medicine Hospitals, Louisville, Ky. Philadelphia and New York: Lea Brothers & Co., 1903.

THE present volume (one of the Medical Epitome Series, edited by Dr. V. C. Pedersen) is a condensed treatise containing the essentials of histology. The subject is too extensive for many of the modern practitioners to take up in great detail. For the purpose of review or examination, this little compend is most convenient. Enough embryology has been included to make the context clear. There are one hundred and fourteen illustrations in the text. The book is concluded by a special chapter on histological technique.

MODERN METHODS IN THE SURGERY OF PARALYSIS, with Special Reference to Muscle-grafting, Tendon-transplantation, and Arthrodesis. By A. H. TUBBY, M.S. Lond., F.R.C.S. Eng., Surgeon to and Lecturer on Clinical and Orthopedic Surgery, and in Charge of the Orthopedic Department at Westminster Hospital; Senior Surgeon to the Evelina Hospital for Sick Children; Surgeon to the National Orthopædic Hospital; Consulting Surgeon to the Hospital for Hip Disease, Sevenoaks; Corresponding Member of the American Orthopædic Association; Chairman of Council of the Society for the Study of Disease in Children, etc.; and ROBERT JONES, F.R.C.S.E., Honorary Surgeon to the Royal Southern Hospital, Liverpool; Hon. Surgeon Liverpool Country Hospital for the Chronic Diseases of Children; Corresponding Member of the American Orthopedic Association, etc. Illustrated by ninety-three figures and fifty-eight cases. London: Macmillan & Co., Limited; New York: The Macmillan Company, 1903.

THE writer presents here his personal experiences in treating, by the most modern methods, the sequelæ of congenital and acquired types of paralysis. The older methods he merely touches upon. He believes that muscular-grafting, tendon-transplantation, and arthrodesis promise to bring about an entire revolution in this department of surgery. The book is profusely illustrated, adding greatly to the value of the text. The author discusses paralysis in its different phases and divides the context into three sections: Infantile Paralysis or Acute Anterior Poliomyelitis; Infantile Spastic Paralysis, or Cerebral Paralysis of Children; and Paralysis and Deformities Arising from Injuries and Diseases of Nerves, and Some Degenerations of the Spinal Cord.

INFECTIOUS DISEASES: Their Etiology, Diagnosis, and Treatment. By G. H. ROGER, Professor Extraordinary in the Faculty of Medicine of Paris; Member of the Biological Society, Physician to the Hospital of Porte D'Aubervilliers. Translated by M. S. GABRIEL, M.D. Illustrated with forty-three Engravings. New York and Philadelphia: Lea Brothers & Co., 1903.

As the translator says in the preface, "The effect of the present volume is to harmonize any seeming antagonism between experimental research and clinical observation, and to reduce the theories of infection and immunity to the basis of practical utility."

For this purpose but few are fitted, due to their experiences being either that of the clinician or the laboratory experimentalist. Professor Roger has been an active worker in both fields and the symmetry of the book has thus been preserved. The work does not take up the different diseases *seriatum*, but rather the principles underlying them, treating of the etiology of infections, their pathogenesis, the effects of association of different microbes and their clinical manifestations. Some specially interesting chapters are written on the influences of infections upon the various organs, their capacity for begetting systemic reaction and the theories of immunity and predisposition. The significance of sclerotic changes, such as follow acute and chronic infections, is admirably explained by the author and will afford interesting food for thought to all readers.

The philosophy of the book is generally sound and convincing in so far as we can go with our present knowledge. The subject of therapeutics, which occupies the last two hundred pages of the book, is also presented in a novel way and gives evidence of the vast clinical experience from which the deductions have been made.

The author has presented his ideas with clearness and in a most readable manner and should win a wide audience among the profession.

THE PRINCIPLES AND PRACTICE OF SURGERY. For Students and Practitioners. By GEORGE TULLY VAUGHAN, M.D. (Univ. of Va.). Philadelphia and London: J. B. Lippincott Co., 1903.

THE author's object to present the subject of general surgery in "a way best adapted for the uses of the student and general practitioner." The range of general surgery to-day is a very wide one. In draughting a book for students and general practitioners, only such parts of the subject should be considered as they have most use for. These are etiology, pathology, symptomatology, and diagnostics, with the indications for treatment. Such a book would do well merely to mention the operations by name, referring the reader to other textbooks on operative surgery for descriptions of the operative procedures. In the book before us the author attempts to cover both fields, and must of necessity, in the very limited space, be incomplete. The student should have facts stated clearly, concisely, tersely, but not incompletely. What is given by the author is good—but there is not enough of it.

BLOOD-PRESSURE IN SURGERY. An Experimental and Clinical Research. The Cartwright prize essay for 1903. By GEORGE W. CRILE, A.M., M.D., of Cleveland. Philadelphia and London: J. B. Lippincott Company, 1903.

THE author opens up the new field of experimental surgery; the future possibilities of which and its bearing upon surgical practice cannot be estimated. The author experimentally proves that shock is due to an exhaustion of the vasomotor center, with consequent fall of blood-pressure. Stimulation of a totally exhausted center (deepest shock) is impossible; and of a partially exhausted center (milder shock) increases the degree of exhaustion. Vasomotor stimulants, *e.g.* strychnine, are consequently contraindicated in shock. As the heart (according to the experimenter) has little to do with the maintenance of blood-pressure, cardiac stimulants, such as alcohol and digitalis, have little value. Saline infusion raises, but cannot maintain blood-pressure; hence is of little value in shock. Adrenalin and external pressure (by the author's pneumatic suit) were the only means the author found, by which blood-pressure could be sustained. By artificial respiration, rhythmical pressure upon the thorax over the heart, and the infusion of adrenalin, with a rubber pneumatic suit, a patient conventionally dead for nine minutes was partially resuscitated for thirty-two minutes.

These are, in the main, the author's conclusions. Experimentally we must accept them as facts. In practice one sees in conditions of mild or moderate shock good results from cardiac stimulants, such as camphor, and from subcutaneous and intravenous injection of saline solution. In fatal shock (absolute exhaustion of the vasomotor centers) nothing has heretofore availed; the physiologists have not yet taught us how to restore activity to cells that have been paralyzed. The measures recounted by the author have partially resuscitated animals and one human being from conventional death, but they have not restored permanent activity to the vital centers.¶

COMPEND OF DISEASES OF THE EAR, NOSE, AND THROAT. By JOHN JOHNSON KYLE, M.D., Lecturer on Otology, etc., Medical College of Indiana. Eighty-five illustrations. Philadelphia: P. Blakiston's Son & Co., 1903.

THIS manual is No. 19 in the series of Compends issued by the publishers. It is essentially a compilation from the various standard works on these special topics. The illustrations are unusually good for a book of its class, and it will be of service to the student desiring to review for examination or as an introduction to more comprehensive treatises.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held January 7, 1904.

ANDREW H. SMITH, M.D., PRESIDENT.

Report on the Library.—This report showed that the library contained 63,691 books and 36,000 pamphlets, and that in 1903 14,243 readers availed themselves of the privileges of the library. The card catalogue of authors and that of subjects had both been materially enlarged.

Guides to Prognosis in Epilepsy, with Remarks on the Curability of the Disease.—Dr. WILLIAM P. SPRATLING of the Craig Colony, Sonyea, N. Y., read a paper with this title. He said that epilepsy was cured in 5 to 10 per cent. of all cases, but it required, as a rule, a long-continued course of treatment, never less than two or three years, and this treatment must be carefully mapped out. The failure to secure better results generally was commonly attributable to the failure to treat the individual and along very comprehensive lines. The drug treatment of epilepsy alone, while valuable in many cases, and of some use in every case, often failed completely. Guides to the prognosis in epilepsy were always uncertain and unsatisfactory until the treatment had been in operation for a period of six months to a year or more.

The speaker embodied in the paper a report of thirty-four cases of epilepsy, which, in his opinion, had been cured at the Craig Colony. It was his unqualified belief that the methods of treatment at the Craig Colony were the best yet devised, and that the system of records were as complete as it was possible to make them. It was his custom to follow the cases for years, and they instantly recorded every seizure occurring in the colony, giving its type, duration, and severity. The degree of success attained was measured by their ability to apply well-rounded forms of treatment to a visual malady, which was often only a symptom complex. He was personally so sure that epilepsy was a curable disease that he was obliged to feel that those who took a different view had not had a sufficient opportunity for treating this disease on a large scale, along broad lines, and for a sufficient length of time.

Age at Onset.—The first point of interest in connection with the cases reported was the age at which the disease began. It should be remembered that epilepsy was essentially a disease of early life. In 20 of the cases it began before the fourth year; in 9 between the tenth and twentieth years; in 4 between the twentieth and fortieth years, and in one after the fortieth year. Of the cases reported, 23 had grand mal attacks, 7 grand mal and petit mal attacks; 3 petit mal only; one hysteroepileptic convulsions of great violence, with occasional grand mal attacks, apparently unaffected by the hysteria. In 1,325 cases studied at the colony, 4 were classed as psychic only, yet he did not regard even this form of epilepsy as incurable in some instances. Fits that were localized at the beginning and later on passed into a more general form of epilepsy were sometimes observed. Of all the forms of epilepsy, the Jacksonian type demanded the earliest treatment.

Duration of Treatment.—The length of time the epileptic was under treatment was often far too short to be of any lasting benefit. The shortest period in the series under consideration was twelve months; the longest period was five years and a half, and the average for the whole number was three years. Persistency in the treatment was always to be commended; the patients and the friends should always be impressed with the necessity for this. In some cases there would be no material improvement for a long period, perhaps as much as a year, and then there would be a sudden reduction in the number of seizures.

Duration before Treatment.—In the cases under discussion, thirteen had suffered from epilepsy from one to five years; ten from five to ten years; seven from ten to twenty years, while four had had it twenty years or more. These figures seemed to indicate that while the degree of chronicity should have some weight it could not be held that even marked chronicity should be regarded as a bar to a cure. While it was generally true that the more frequent the attacks and the greater their number in the aggregate the less favorable the prognosis, there were notable exceptions to this rule. On the other hand, infrequent attacks did not necessarily argue for a favorable termination, and, in his experience, many of these cases required a longer period of treatment than the more severe ones. Some cases showed occasional attacks that were apparently the expression of the acme of some morbid attack from which the patient must obtain relief or become insane; in other words, the epilepsy must exist or else an active insanity would develop. According to his experience, insanity was not unlikely to be the final termination.

The Aura.—A fraction over 50 per cent. of the cases presented an aura of some kind, and in all but three the aura was sensory. Five had an epigastric aura, while the others were disturbances of sensation in some other part of the body.

Sex.—Twenty-five of the thirty-four cases were males, and nine females, but it was a well-established fact that twenty males had the disease to sixteen females. He was prepared to believe that after about the twentieth year the proportion of cures was somewhat higher in males than in females, but that there was no difference between the two sexes before this time of life.

Mental Condition.—There were types of epilepsy which destroyed all the faculties of the mind in a very short time, while other types of epilepsy left the mind unimpaired even for a long period of years. An impaired mental condition was often attributable to the prolonged use of the bromides. In a study of 1364 cases he had been struck with the undoubted relationship between the mental state, the age of onset of the epilepsy, and the average duration of the disease. The younger the patient when the epilepsy developed, and the longer the period without proper treatment, the more unsatisfactory would the mental condition become.

Epilepsy a Curable Disease.—He firmly believed that epilepsy could be cured, and could be acquired again. In this respect it did not differ greatly from insanity. It was difficult to see how any inflexible rule regarding the duration of treatment could be fixed. Some epileptics could be cured in two or three years, and remain so; others could be cured only with the greatest difficulty in from three to five years, and then could be kept so only with the greatest difficulty. He wished to assert his unqualified belief in the curability of the disease; not only could it be cured, but not infrequently cases, apparently the most hopeless, could be cured, uplifted, stimulated, and encouraged sufficiently to make them contented and useful members of their communities.

Epilepsy an Organic Disease, and Rarely Curable.—Dr. M. ALLEN STARR said it was a most fortunate thing that these colonies for epileptics should have been established in this country, and particularly that this Craig Colony should have been established in this State through the efforts of Dr. Frederick Peterson and others. It was not only a fortunate thing for the unfortunate epileptics, but for the members of the medical profession, for these colonies were under most capital supervision, and hence very valuable information regarding this disease was gathered and presented to the profession. He was very glad to hear these statements of the reader of the paper regarding his hopeful attitude as to the treatment of the disease, and his statements with regard to individual cases. Evidently there was a certain amount of hope that could be held out to these patients. He thought it was undoubtedly only along the lines of constant observation and of control of

the life, habits, diet, and entire régime of the individual that one could hope to do a great deal for those suffering from epilepsy. Those who had had to deal with epileptics in dispensary practice knew how difficult it was to accomplish anything, a fact which probably explained to some extent the pessimistic view which the statistics from this source seemed to justify. On the other hand, in the treatment of epilepsy among the higher classes under excellent environment, he regretted to say that his experience did not lead him to subscribe to the statements that had been heard regarding the curability of epilepsy. He was free to admit that any one who had studied epilepsy extensively had seen occasional cases in which recovery had taken place, but these results were certainly exceptional. This subject had been recently discussed in the neurological societies of New York and Philadelphia, and while the members were willing to say that they had seen occasional instances of recovery, they had been compelled to admit that the vast majority of their epileptic patients did not get well. That had also been his own experience. In many cases, while one might reduce the number of the attacks, lengthen the interval, make the attacks themselves less severe and produce general improvement, yet, according to his experience, a cure of epilepsy was a very rare thing. Perhaps his dispensary records should be excluded, yet out of two hundred and fifty consecutive cases of epilepsy in private practice he could only recall one patient who had recovered, and had remained free from fits for a period of seven years. It was very rare for him to see a patient who could go more than a year or a year and a half without either a series of attacks or at least one or two. For these reasons he had come to take a rather pessimistic view of the results of treatment in epilepsy. Studying these cases he had also come to find a reason for this pessimism. He did not believe that epilepsy, except in a very small percentage of cases, was a functional nervous disease. He would admit that in a certain proportion of cases the fits might be of toxic origin, that they might arise from some disorder of metabolism of undetermined nature; but the vast majority of epileptics he believed were suffering from an organic nervous affection, the result of imperfect development of the brain. This would explain why epilepsy developed in early life. These patients presented stigmata of degeneration, which were not post-epileptic but prior to this disease, and they pointed to an imperfect development of the nervous system. Another argument in favor of the organic nature of epilepsy was found in the great resemblance between cases of Jacksonian epilepsy and cases of ordinary epilepsy. Jacksonian epilepsy was known to be due to organic disease in the brain; this was admitted by the majority of authorities. Jacksonian attacks of epilepsy were almost uniformly preceded by certain definite auras, and these auræ indicated the source of the irritation in the brain which resulted in the Jacksonian attack. The resemblance between the aura in Jacksonian attacks and in general epileptic seizures was very striking, and the fact that, in the majority of patients with epilepsy, the aura was uniform showed that the impulse always started from the same focus of irritation. His belief that epilepsy had an organic basis did not prevent him from treating this disease, but it did prevent him from taking a very hopeful view of the results of such treatment.

Optimism Concerning Epilepsy.—Dr. L. Pierce Clark said that the data on which the paper of the evening was founded had been accessible to him; indeed, some of it had been collated by himself. He agreed very heartily with the statements made by the author. He would place the rate of recovery at between 5 and 10 per cent. It should be remembered that a public place, such as the Craig Colony, did not usually receive a very hopeful class of patients, a fact which should be taken into consideration in the analysis of the results. His own private practice yielded fully 25 per cent. of cases of epilepsy in which the patients had gone two or three years without a seizure, although having them frequently before coming under his treatment. The aura was more elaborate and slower in its development in the more hopeful cases, a fact which he believed had an anatomical basis. It showed the unwillingness of the central nervous system to coöperate with a certain center which, as it were, was trying to establish an epileptic seizure. He believed with Dr. Starr that we were coming more and more to the view that epilepsy is an organic affection. Strangely enough, relatively few observers considered epilepsy as an organic affection, but he personally believed that there were definite demonstrable microscopical changes in the cortex which were induced by certain toxic and autotoxic agents of which we had almost no knowledge at the present time. The bad prognosis was largely due to the fact that the disease was associated with destructive changes in the cortex of the brain; nevertheless, he could not see why these processes should not be arrested or materially modified by treatment. He was decidedly optimistic regarding the curability of epilepsy after excluding the particularly gross organic cases, such as the palsies. This conclusion had been reached after eight or ten years of almost constant observation and study of this disease.

Dr. Frederick Peterson said he believed the attitude of the profession with regard to the prognosis of epilepsy should be about as follows: There was scarcely any cases, he thought, in which there was not a possibility of improvement. In all cases, good and bad, 6 per cent. at least could be cured. The organic cases were the most difficult of treatment, those cases due to injuries of the brain in infancy, occurring in connection with hemiplegia, and those occurring later in life from thrombosis, etc. The epilepsies coming on later in life were probably the most promising. If one could select a number of apparently the most favorable cases, about 20 per cent. of them could be cured. This statement seemed to be justified by the experience at Bielefeld, and at the Craig Colony, and the experience of well-known writers on this subject. This was the position which the physician should feel justified in assuming—indeed, was almost bound to assume, when explaining the situation to the patient or his relatives. It was impossible to fix any definite period of time which should be considered evidence of a cure. Formerly, two years was considered a sufficient time. His own belief was that a case could be called cured when this habit of explosion had been corrected and held in abeyance for years. This habit was something like the drink habit. We should look upon the cures of both classes of cases in the same light. The number of cures reported from the Craig Colony was small as compared with the number of patients admitted and cared for there, but it should be remembered that the cases received at that colony had so far been the accumulations of the almshouses for years and years. Probably fifteen or twenty years hence, when these bad cases were dead and the colony had come to be so well known that the cases would be admitted in the early stages of the disease, the percentage of cures would increase.

Dr. Ralph L. Parsons said that many years ago a large number of epileptics were under his care in the New York City Asylum for Insane, and in the Hospital for Epileptics and Paralytics. The character of the cases under his care at that time was such that one would be justified in holding the most pessimistic opinion regarding the cure of epilepsy; nevertheless the treatment did ameliorate their condition sufficiently to justify the hope that under better conditions the results would be more promising. He could not recall that a single one of the patients under his charge at that time recovered, and it could not be expected that they would do so. A few cases since that time had recovered under his care. One of these had gone thirty-five years without having had an epileptic seizure. According to his observations, epileptic convulsions taking place in the presence of other epileptics were

prejudicial to these other persons; hence he thought it was not possible to get the very best results in large public institutions.

Dr. JOSEPH COLLINS said it was most encouraging to learn that there was at least one asylum superintendent who knew something more than the superintendence of buildings, the laying out of gardens, and could do a certain amount of clerical work. The paper of the evening had contributed important facts to the science of medicine. He was disposed to believe that it was not at all extravagant to state that 10 per cent. of epileptics could be cured. He would like to go on record as subscribing verbatim to the statements made in the paper, with one exception, *i.e.* that the prognosis was better in epilepsy developing late in life, for, according to his experience, this form of epilepsy was due to arteriosclerosis and was commonly followed by general paresis. He maintained that epilepsy might, or might not, be an organic disease; the one who held that it was of organic origin was as much entitled to his opinion as was he who maintained that it was purely a functional disorder. He had it directly from the mouth of Jacksonian himself that the form known as Jacksonian epilepsy was not an organic disease. The speaker said he could not agree to the statement that had been made, that patients presenting stigmata of degeneration justified a worse prognosis; indeed, his opinion was just the opposite of this. He had no patience with those who insisted upon some definite period of immunity from seizures as a guarantee that a cure had been effected. In conclusion, he would say that he was not familiar with any nervous disease of similar severity which was entitled to a better prognosis from intelligent, assiduous, and proper treatment than was this disease, epilepsy.

Popular Prejudice against Colonies.—Dr. W. M. LESZYNSKY said that nothing had been said about the lack of willingness of many epileptics to sacrifice their personal liberty with the object of going to the Craig Colony, even though this was the very best thing for them. He had found in dispensary practice that even though it were possible to gain admission for patients to this colony, the majority of this class of persons were entirely unwilling to go there. They could not be blamed for this attitude, particularly where they only had three or four attacks a year and were able to continue at their work.

Organic and Incurable Not Synonymous.—Dr. B. SACHS said that epilepsy was almost as severe a scourge as was tuberculosis, because it not only affected a large number, but the affected persons commonly lived many years and became a heavy charge upon the community. It was a common experience to find that the parents of epileptics often showed evidence of having neglected their children because of the belief that epilepsy was incurable. This was one reason for taking a more optimistic view. For many years he had taken such a view himself, and had endeavored to exercise his personal influence toward spreading this gospel among the people. He could recall patients who had remained free from epileptic seizures for fifteen years; others who had been free from them for three, four, seven, and ten years. If a patient remained free from epileptic attacks for two or three years he should feel hopeful of a permanent cure, and should feel quite certain of it if the period was as long as seven years. He was sorry that nothing had been said in the paper regarding the treatment of these thirty-four cases which had resulted so satisfactorily. He was disposed to take the middle ground regarding the nature of epilepsy. Some years ago he had pointed out that a larges number of cases of epilepsy were due to distinctly organic causes, and that many cases usually considered to be ordinary epilepsies, were really associated with the early palsies. However, there still remained a very large number of cases which must be considered functional simply because we were ignorant of the underlying morbid condition. Some of the organic changes which had been detected might be secondary and not primary. Even if there were slight changes in the cortical cells, it did not follow that epilepsy was incurable, because he could not bring himself to make organic and incurable synonymous terms. There was one principle of treatment which was of the greatest importance, and that was individualization. Great pains should be taken to ascertain and remove the exciting cause. This exciting cause might be an intestinal intoxication or something else. Above all things, for the sake of the community, we should drop the notion that epilepsy is an incurable disease; he believed it to be curable, and the more so the more we endeavored to analyze this disease and treat it in accordance with the results of such analysis.

Dr. STRATLING closed the discussion. He said that he had not attempted to set any limit of time as indicative of a cure—certainly not seven years—but he had mentioned incidentally that one of the patients had now gone seven years without any seizure. More than 50 per per cent. of the cases received at the Craig Colony he had regarded as absolutely incurable at the time of their admission. This would leave six or seven hundred, of which number thirty-four were cured. It should be borne in mind that all of the cases were chronic ones. With regard to treatment, he would say that the day had gone by when one could say, "this patient has epilepsy; we must give him bromides." He had found it difficult to properly control the patient and systematize the treatment among the well-to-do, except when the patient had been removed from home. If the State of New York would undertake to give the Craig Colony a proper equipment, proper apparatus, drugs and especially competent physicians with sufficient remuneration to make them stay there, he would guarantee that the proportion of cures of epilepsy would be not less than 25 per cent. The State paid large sums of money for charity, and could afford only a small sum for the Craig Colony—at present, only $2.80 per week for each patient. The subject of prognosis was so broad that he did not feel that there was time this evening to take up also the question of treatment.

Stated Meeting, Held January 21, 1904.

ANDREW H. SMITH, M.D., PRESIDENT.

The Behavior of the Costal Arch in Diseases of the Abdominal Organs, and Its Importance as a Diagnostic Symptom.—Dr. ELLSWORTH ELIOT, Jr., presented a paper with this title. He said that in a normal state the costal arch participated in the respiratory movements of the chest and abdomen. The arc of excursion gradually diminished as the person grew older. In the healthy adult the completion of ossification in the contiguous ribs accounted for the fact that the movement of the costal arch was not so extensive as in children, although it was very much more extensive than in old persons. Asymmetry of the elastic recoil of the costal arch was observed chiefly in connection with contiguous neoplasms and cysts, and in inflammatory conditions after the subsidence of the acute stages. Any change in the passive movement of the arch could be detected naturally only by palpation, and in eliciting this sign not only should the resistance to the finger be determined, but also whether the resistance was participated in equally by the entire arch or chiefly by one of its segments. The examination should always be conducted with the patient in the dorsal position, and the abdominal muscles should be relaxed by flexion of the thighs, and having the patient breathe quietly with the mouth open. The extremities of the second, third, and fourth fingers of the hand should be placed upon the corresponding segments of the costal arch, and quick pressure should be made during expiration toward the vertebral column. Proceeding downward and backward from the sternum to the tenth rib, successive segments should be compared with one another. In case of bilateral costal resistance, pressure exerted simultaneously on the costal arches would decrease the distance between them to a very

much less extent than normal. The greater normal elasticity of the sternal extremity must not be forgotten, and also the desirability of comparing the abnormal with the normal side. Under normal conditions, the costal arch might be compressed in this manner a very appreciable distance. In children this distance was somewhat more than an inch, while in adults it varied between half and three-quarters of an inch, and in old people was considerably less than half an inch. In the presence of an acute or subacute inflammatory process the costal resistance was highly elastic, and its movement was quite limited. Asymmetry of costal resistance might be detected when there was no marked difference in the respiratory movement of the costal arches. Increase in costal resistance might, or might not, be associated with tenderness on pressure. The behavior of the costal arch in the presence of painful inflammatory conditions of the lower half of the abdominal cavity sometimes deviated from the normal. In these cases the respiration was largely thoracic, and there was a symmetrical decrease in the costal respiratory movement.

Dr. Eliot then demonstrated the method of examining the costal arch, and reported a number of operative cases to show the accuracy of this diagnostic sign in various pathological conditions in the abdomen. The speaker said that rigidity of the costal arch was present in a very large number of cases of abscess and inflammation of the gall-bladder. In neoplasm the symptom was of value only when the liver was increased in size. The sign was often of value in differentiating between acute appendicitis and cholecystitis. The presence of costal resistance almost always excluded appendicitis. In subacute cholecystitis a considerable degree of costal resistance was present. Only one opportunity had been afforded for observing the behavior of the costal arch in acute pancreatitis, but in this case the increase in resistance of this arch was very marked. In cases of pancreatic cyst the symptom occurred only when the cyst was so situated, or had reached such dimensions as to lie under the second costal arch. When the kidney was increased in size, or there was a paranephritic abscess, the symptom was of value. In all cases of enlargement of the kidney, whether inflammatory or neoplastic, the increase of resistance was invariably most pronounced in the lower segment of the arch. In several cases of calculi in the kidney no increase in the resistance of the costal arch had been noted. The following were some of the author's conclusions: (1) The symptom of costal resistance could always be elicited in an acute or subacute inflammatory process of the contiguous underlying organs. (2) In chronic inflammation of these organs it was present irregularly. (3) In neoplasms and cysts, increase of costal resistance could only be obtained when the tumor had reached a sufficient size to interfere mechanically with the motion of the arch. (4) The degree of resistance was in direct ratio to the intensity of the inflammatory process. (5) It was most marked in that segment of the costal arch most closely situated to the original point of infection, or, in the case of neoplasm, to that part of the arch which lay over the most prominent part of the tumor. (6) As a diagnostic symptom it was of the greatest value in pathological conditions of the upper half of the abdominal cavity. (7) The presence of asymmetry in the elastic recoil was very much less frequently observed than asymmetrical increase of costal resistance, the former being present only in cases of cysts, neoplasms, and inflammatory exudates in which the acute symptoms had subsided. (8) With the subsidence of the inflammatory process, whether by radical or palliative procedure, the costal resistance returned to its normal condition. (9) The presence of this symptom was very valuable, not only in facilitating accurate diagnosis, but also as a useful guide to that incision through which the inflammatory focus could be most rapidly exposed and satisfactorily treated.

Dr. Robert F. Weir said that the method proposed in this paper was not new, and had probably been more or less employed by most surgeons, and yet he was free to confess that he had not personally attached much importance hitherto to this mode of examination. The author had done a service in so carefully observing this diagnostic sign and presenting it in this interesting and accurate way to the profession. The value of the method had been abundantly demonstrated by the series of cases reported. It was true that many of those cases were associated with symptoms which general surgeons were accustomed to rely upon a good deal, such as rigidity of the abdominal muscles and the presence of certain characteristic points of pain. However, in a few of the cases reported these well-known signs were absent, and, hence, the great importance of the costal arch sign. The test was so easily applied that the general practitioner as well as the surgeon must feel indebted to Dr. Eliot.

Dr. A. Jacobi regretted that the reader of the paper had not stated the condition of the costal arch after recovery. It occurred to him that a number of conditions might impair the value of this diagnostic sign. For example, there were changes in the chest wall of long standing which might easily greatly modify the behavior of the costal arch. The rachitic rosary would be perceptible not only in childhood, but throughout later life. In these rachitic subjects the ribs would be found thicker, harder, and more resistant than normal. It had long ago been claimed that premature ossification of the upper ribs predisposed to tuberculosis; if such premature ossification took place in the lower ribs this would certainly modify the behavior of the costal arch and interfere with the diagnostic value of the sign under discussion. In tall men with long chests one frequently met with a certain amount of ptosis of the liver and spleen. With this was associated a certain degree of ptosis of the heart, a condition recently described by Dr. E. G. Janeway. It was conceivable that the immobility of the diaphragm associated with peritonitis might interfere with the proper interpretation of the behavior of the costal arch. In old cases of thickened pleura there must be abnormal rigidity of the costal arch. These facts suggested that the method might not always be easy of satisfactory application. In an ordinary ulcer of the stomach one would not expect any abnormal action of the costal arch; the reason the sign was of value in the case of perforating ulcer of the stomach reported in the paper was that this was associated with peritonitis.

Dr. A. Ernest Gallant said that he had noticed a rigidity of the costal arch in cases of jaundice and of hydronephrosis associated with movable kidney, but he had never before compared the two sides, and, hence, had not learned to appreciate the true value of this diagnostic method. There must be a considerable difference in the resistance of the chondral border in women and in men

Dr. Eliot closed the discussion. He said that his remarks were based upon the normal stage of the costal arch, and he had specifically stated in one or two instances that the arch had returned to its normal condition after recovery. He did not think the value of this diagnostic sign would be materially impaired by the pathological state of the costal arch resulting from rachitis; certainly it would not be if the rachitic changes were symmetrical.

To Distinguish Pseudolymphocytes from Lymphocytes.—According to H. C. Earl, the following points will assist in distinguishing pseudolymphocytes: (1) Neutrophile granules may be found in them; (2) their zone of protoplasm is generally wider than that of lymphocytes; (3) they are naturally more common in effusions of a polynuclear character; (4) when stained with methyl-green pyronin their protoplasm only takes on a light rose color, while that of lymphocytes stains a deep red.—The *Dublin Journal of Medical Science.*

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

(Continued from page 196.)

THIRD DAY—THURSDAY, JANUARY 28.

Old Time of Meeting Restored.—The action of the society, changing the time of the annual meeting to Tuesday noon and Thursday evening, inclusive, was reconsidered, and, after some discussion pro and con, it was finally voted to go back to the old order of things.

Officers Elected.—*President*, Dr. Hamilton D. Wey of Elmira; *Vice-President*, Dr. Joseph D. Bryant of New York; *Secretary*, Dr. Frederic C. Curtis of Albany; *Treasurer*, Dr. O. D. Ball of Albany.

A Case of Recurring Membranous Stomatitis Associated with Erythema Exudativum Multiforme (Hebra).—Dr. LOUIS E. BLAIR of Albany reported this case. A peculiar phase was the appearance of the skin affection at least one week after the mouth disease. It lasted for four weeks, but left coppery stains, which were visible for months. White, contracted scars could be seen a year later. There were several subsequent attacks. The membrane in the mouth was firmly adherent. The mucous membrane about the anus, glans penis, and urethra was covered with a membranous deposit. The eruption on the skin, when at its height, resembled a confluent variola.

The Hospital Car; Its Equipment, Use, and Importance.—Dr. W. W. SANFORD of New York read this paper. He described a modern hospital car. It was sixty feet long, finished in white within and without, and was practically dustproof. It was divided into two compartments, a small one for an accident ward, and a larger one for a hospital ward. Sliding doors were provided for the passage of stretcher carriages. The car was well lighted from above, both by day and by night. Experience, he said, had abundantly proved the value of these cars, and their more general adoption should be urged by the medical advisers of railroad companies.

Symposium on Nephritis.—The following papers were the only ones presented in this series:

Renal Decapsulation from the Pathologist's Point of View.—Dr. J. M. VANCOTT of Brooklyn sent a paper on this subject, which was read by his colleague, Dr. Murray. The author first described the renal circulation very minutely. He pointed out that three-fourths of the blood supply passed anteriorly, and that the supply was distinctly an end-artery system. From this consideration of the renal circulation it was concluded: (1) That the arteries were terminals having nowhere any direct communication with each other, the only possible communication being through the capillary system; (2) that all of the vessels varied systematically in diameter in certain locations, thus definitely affecting the blood-pressure in various parts of the organ; (3) that with the exception of a few of the interlobular arteries and a few arteries entering the cortex, the only communication was capillary. Therefore, by decapsulation the delicate parenchyma of the kidney was subjected to loss of nutrition and to alteration of pressure and reversal of the current in the vessels of widely varying diameter, conditions commonly found in connection with renal infarction. Litten's experiments had demonstrated that the collateral circulation was not sufficient to restore the equilibrium of the circulation in the kidney after decapsulation. The stripping of the capsule completely cut off what little peripheral circulation was derived from the capsular arteries. Summing up all the facts, the conclusion was reached that very little could be expected from the renal collateral circulation when the main supply of blood was compromised. It had been shown that regeneration of the parenchyma of the kidney did not occur, the repair always taking place in the usual way, *i.e.* by cicatrix. The author said that Dr. Edebohls's theory regarding renal decapsulation for the cure, or even the relief, of nephritis must fall to the ground. The fact seemed to have escaped notice that when the capsule was torn away the vessels that should renew the circulation were torn away also, so that nothing could be done in the way of restoring the circulation except by capillary anastomosis. It also seemed to be forgotten that there must be inevitably death of considerable areas of the cortical parenchyma, for the reason that all authorities agreed that renal epithelia die in two hours after being deprived of their blood supply, and it required at least four days for the production of new capillaries. The operation of Edebohls totally disregarded the fundamental principles held regarding chronic diffuse nephritis, for this disease was merely a local expression of a general condition. Where the kidney had been dislocated or pressed upon, it was easy to see how good might be accomplished by removing the abnormality, and so improving the circulation of the kidney. No amount of restoration of renal circulation could restore the integrity of the cortex. Drs. Vancott and Murray had made a series of laboratory experiments on cats, and, in general, they agreed with the experiments of Litten on the renal circulation. All of the new capsules showed a tendency to project new fibrous tissue into the cortex. Not the slightest evidence of regeneration of the cortex was found. These experiments showed that decapsulation worked only positive injury to the normal kidney, and was of no benefit to the large white kidney.

Surgical Treatment of Nephritis.—Dr. WILLIS G. MACDONALD of Albany made some remarks on this subject, in lieu of the paper on this topic that was to have been presented by Dr. Edebohls. Dr. Macdonald said that in those forms of nephritis dependent upon a general systemic condition, and associated with marked vascular changes and sterile or nontoxic urine, he did not believe any form of surgical intervention would be of avail. But in infectious nephritis, an inflammation of the kidney due to local bacterial infection by such germs as the gonococcus, streptococcus, and the staphylococcus, he expected aid from surgery. Again, in the so-called cases of surgical kidney in which there was suppression of urine within thirty-six hours after an operation on the genitourinary tract, ordinary medical treatment was usually powerless to avert the rapidly fatal termination. He had recently seen a case of this kind in which, after forty-eight hours' suppression of urine, incision of the capsule of the kidney resulted in a speedy relief of the urinary suppression.

General Treatment of Nephritis.—Dr. BEVERLEY ROBINSON of New York read this paper, referring only to acute and chronic diffuse nephritis. He said that a great many cases of acute nephritis were found to be grafted on a former process which had existed for some time, and had probably been caused, in the first instance, by harmful modes of life, or had developed in the course of some infectious disease. The first thing to do in all cases of acute nephritis was to put the patient to bed. He should be clothed in woolen and surrounded on all sides by blankets. Heat to the surface, continuous in character and more than agreeable, was imperatively demanded. The two cardinal principles to be kept in view were: (1) Physiological rest, so far as possible, to the diseased organ; (2) relief of function, especially through the supplementary action of skin and bowel. The first indication was supplied by going to bed, as already stated. The diet was next to be considered. During the great engorgement of the kidneys the food should be fluid, and given in small quantities, so as to least irritate the kidneys. The diet should be almost exclusively milk, and this should be insisted upon with certain sensible limitations. Milk did not agree with every person, however, when given undiluted and in the raw state. For many persons, one must use gruels, jellies, and, after a few days, amylaceous food. After a day or two, spring water should be given freely. To the water might be added a little weak tea. If the œdema or dyspnœa were threatening, or if the urine were scanty and concentrated, the bowel should be emptied rapidly

by enema and by salines. Then a hot wet pack should be given. Hot water baths were very troublesome, were no more efficacious, and were often dangerous if not given with extreme care. Hot-air baths were very useful in institution practice, but in private he greatly preferred the hot wet pack because of its simplicity. When there was pain over the loins, and especially if the urine were concentrated and contained much albumin and many casts, mustard poultices were useful by diminishing the congestion of the kidney. High rectal irrigations, by means of Kemp's tube, promoted diuresis. He was of the opinion that, in the adoption of this latter acquisition to our armamentarium, a means was at hand which, when suitably employed, was of the greatest value. Pilocarpin was a dangerous drug and should be avoided; he had known it to cause fatal bronchitis. If an attack of acute uræmia were impending, a few doses of nitroglycerin would often relieve the situation very rapidly. It was also well to add sweet spirits of nitre. This agent relaxed the arteries, acted as a diaphoretic, and was effective and innocent. It acted on the small vessels very much as did nitroglycerin and the nitrites. Abstraction of blood by wet-cupping or venesection was most valuable if the danger of uræmia were great, and it was often well to follow this by saline infusion. In a few instances it might be necessary to give chloroform by inhalation, or morphine hypodermically. He did not object so much to morphine in acute nephritis as in chronic nephritis, but he was still reluctant to give it except, perhaps, in convulsions of puerperal nephritis. In some of these cases repeated inhalations of oxygen were valuable in averting uræmia and in promoting recovery when uræmia was already fully developed. As the acute stage passed off, the fever would disappear and the blood would disappear from the urine. At this time, eggs, fresh fruit, bread, a little fish, puddings, and green vegetables might be added to the diet, and the patient be permitted to sit up a little. For the pronounced anæmia some good form of iron should be given; the best, in his opinion, was the old tincture of the chloride of iron alone or in the form of Basham's mixture. When possible, these patients should be removed to a warmer climate, if living in a cold and changeable one. The albuminuria might exist for a long time and prove very obstinate under treatment. Our aim should be to promote the general health in every way possible, and we should not forget to keep the bowels free and the skin active. Undue physical effort and indiscretions in diet must be guarded against. If the acute nephritis passed into the chronic form, nausea and repeated vomiting might require very careful treatment. After other means had been exhausted, he had occasionally found that repeated small doses of Kirchwasser (a dry alcohol containing hydrocyanic acid) beneficial. The diarrhœa of Bright's disease was sometimes controlled very satisfactorily by prolonged irrigation of the bowel. When the skin becomes very tense, several punctures or incisions should be made, under aseptic precautions, and the parts bandaged. Occasionally it was desirable to insert a small capillary tube into the skin and connect it with a small rubber tube in order to secure continual drainage into a vessel. When there was marked dyspnœa from accumulation of fluid in the abdominal cavity or in the pleural cavities, paracentesis of these cavities might be required. Cream of tartar drink was often very useful, unless the stomach did not tolerate it well. Digitalis, strophanthus, and strychnine often proved very beneficial.

In persons past middle life, digitalis could rarely be given with good effect unless its action on the peripheral vessels was counteracted by the addition of nitroglycerin. In the treatment of the fever it was important to avoid the use of chlorate of potash or of sodium salicylate, because of their well-known irritative action on the kidneys. It was wise in every case to watch the quantity of albumin and the number and nature of casts passed in the urine from day to day, and regulate the diet accordingly. In the infectious diseases we should be guarded about the prognosis on the occurrence of albumin and casts in the urine until satisfied that the infectious process had left behind it a damaged kidney. In all cases of prolonged albuminuria following acute nephritis, one should carefully guard against imprudence of diet, exposure to cold, and fatigue. If chronic nephritis persisted, one should be especially solicitous about the development of all subacute forms of nephritis. It was frequently difficult, or impossible, to treat the original cause of the chronic nephritis. If syphilis, malaria, or suppurative processes were present, we should not ignore the indications proceeding therefrom, but should remember that the medicinal treatment of these diseases sometimes caused increased irritation of the kidneys. It was a temptation to endeavor to combat an intestinal toxæmia, but in doing so we should be slow to make use of such drugs as the salicylates and phenol derivatives. In the chronic cases, too close confinement would result in diminished appetite and strength; hence, theory must be tempered by wisdom and practical experience. Among the remedies that had been vaunted for increasing the quantity of urine in chronic nephritis without increasing the albumin, must be mentioned iodide of potassium. Its use in large doses had been urged by Ringer, but the speaker said that he was not personally disposed to employ such large doses. Even in moderate ones, iodide was apt to derange the stomach and diminish the appetite. If headache, malaise, and disordered digestion were occasioned by a liberal diet, it should be abridged considerably, but if these did not occur, and the patient's general health and strength seemed satisfactory, he would persist in a fairly liberal diet, even though a considerable quantity of albumin was excreted. In general, sufferers from nephritis were better off without alcohol in any form, but there were exceptions even to this rule, he would not withhold alcohol if the person had been in the habit of taking it in moderate quantities for many years. It should be taken with the meals in small quantities, well diluted. When there was much exhaustion, small quantities of alcohol should be given for a time as both a food and a stimulant. There was much good authority in favor of the use of morphine in uræmia, but, personally, he had found it useful when the pupil was dilated, and harmful when the pupil was small. For sleeplessness he preferred the bromides to chloral. He had found saline irrigations of the bowel frequently as useful as intravenous injections of saline solution. In some of his worst cases of weak heart and general anascara he had obtained excellent results from Trousseau's Diuretic Wine, which is composed of digitalis, squills, juniper berries, acetate of potash and white wine. Certain experiments pointed to the value of theobromin as a diuretic.

Dr. Delancey Rochester of Buffalo said that he had yet to see the case of acute nephritis, with blood casts, and suppression of urine that had not been relieved by proper and energetic medical treatment. The vigorous use of cups, both wet and dry, together with leeching over the loin, and venesection were all indicated. When there had been suppression of urine for twenty-four hours, such measures would often cause a restoration of the excretion of urine. He believed the results from such medical treatment were just as good as from any form of surgical treatment.

He had been deeply interested in Dr. Robinson's presentation of the subject, but could not agree with him in confining the use of the hot-air bath to hospitals. With an "elbow" of a stove-pipe, an alcohol lamp, and a couple of barrel-hoops one could easily apply the hot-air bath in any private house in a most effective manner. For those persons who did not swea

readily, he would recommend the hypodermic injection of minute doses of pilocarpin, followed immediately by the hot-air bath. Where convulsions were present, he favored the use of a moderate dose of morphine, immediately followed by the hot-air bath. In following the course of a case of nephritis, it was fully as important to determine the total excretory power of the kidney, as indicated by the total quantity of urea and of urinary solids, as it was to note the presence of albumin and casts. The degree of anæmia present, and its character, as determined by an examination of the blood, constituted an important factor in the prognosis. When there was much œdema, it was not advisable to inject salt solution subcutaneously, but if the œdema were not marked the results were as good as from the intravenous injection of this solution. In subacute nephritis, good results were obtained by washing out the bowel carefully once or twice daily with saline solution, allowing a certain quantity to be retained. Experience had taught him that sometimes the presence of an excess of indican in the urine was the forerunner of an increase in the albuminuria, and that by prompt treatment it was possible in this way to avert attacks of uræmia.

Dr. S. B. WARD of Albany deprecated the common custom of physicians of telling their patients that they had Bright's disease simply because albumin and casts were found in the urine, for the laity were so terrified by this term that it was hard to counteract the first false impression. In cases of chronic nephritis he had found arsenic a valuable adjuvant to iron in the treatment of the associated anæmia.

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

LESSONS ON MASSAGE. By MARGARET D. PALMER Masseuse and Manager of the Massage Department of the London Hospital. 8mo, 261 pages. Illustrated. William Wood & Company. Price, $2.50 net.

TEXTBOOK OF LEGAL MEDICINE AND TOXICOLOGY. VOL. II. By FREDERICK PETERSON, M.D., and WALTER S. HAINES, M.D. 8mo, 825 pages. Illustrated. W. B. Saunders & Company. Price, cloth, $5.00; sheep or half morocco, $6.00 net.

THE TREATMENT OF FRACTURES. By CHAS. L. SCUDDER, M.D. Fourth edition. 8mo, 534 pages. Illustrated. W. B. Saunders & Co. Price, buckram, $5.00 net; sheep or half morocco, $6.00.

A MANUAL OF OPERATIVE SURGERY. By SIR FREDERICK TREVES, F.R.C.S. 8mo, 824 pages. Lea Bros. & Company. Price, $6.50 net.

NINETEENTH REPORT OF THE STATE BOARD OF HEALTH OF WISCONSIN, September 30, 1902. 8vo, 304 pages. Muslin.

THE PATHOGENIC MICROBES. By Dr. P. JOUSSET. 16mo, 192 pages. Muslin. Boericke & Tafel, Philadelphia. Price, $1.

THE BLUES (Splanchnic Neurasthenia): CAUSES AND CURE. By Dr. ALBERT ABRAMS. 8vo, 240 pages. Illustrated. Muslin. E. B. Treat & Company, New York. Price, $1.50.

ASTHMA IN RELATION TO THE NOSE. By ALEXANDER FRANCIS, M.B. 8vo, 136 pages. Muslin. Adlard & Son, London. Price, 5 shillings.

BACTERIOLOGY OF MILK. By Mr. HAROLD SWITHINBANK and Dr. GEORGE NEWMAN. 8vo, 605 pages. Illustrated. Muslin. E. P. Dutton & Company, New York. Price, $8.00.

THE PREVENTION OF CONSUMPTION. By Dr. ALFRED HILLIER. 12mo, 226 pages. Illustrated. Muslin. Longmans, Green & Co., New York.

FATIGUE. By A. Mosso. 12mo, 334 pages. Illustrated. Muslin. G. P. Putnam's Sons, New York. Price, $1.50.

Therapeutic Hints.

Clay Paste in the Treatment of Inflammations of the Skin.—Wet clay, in addition to other therapeutic actions, has the mechanical property of holding water and assisting osmosis. Those containing a large percentage of kaolin are preferred. The dressing should be kept constantly moist, which can be accomplished by covering the application with a wet towel a number of times a day. A good formula for the paste is as follows:

℞ Kaolin ..... 50 parts
Water ..... 25 parts
Petrolatum ..... 25 parts
Ichthyol ..... 4 parts

This will generally remain moist for forty-eight hours. In eczema rubrum this combination sometimes fails, when it is necessary to increase the quantity of kaolin and diminish the amount of petrolatum. Other substances may be incorporated with the paste to meet various different indications.—J. F. WALLIS in the *Therapeutic Gazette*.

To Check the Diarrhœa in Typhoid Fever.—

℞ Acidi carbolic .....
Ext. opii ..... āā gr. i
Bismuthi subnit ..... gr. xviii
M. et ft. pil. No. vi. S. 1 pill t. i. d.
—*The Medical Times and Hospital Gazette.*

Pain of Stomach Cancer.—This is due to the acids formed by gastric fermentation, the best treatment for which is a strong saturation powder:

℞ Lactose 1.0
Calcined magnesia 1.50
Bismuth subnitrate .....
Prepared chalk ..... āā .. 0.70
Codeine 0.01
Sodium bicarbonate 1.0

The lactose is to prevent the powder from caking. The codeine has a special sedative influence on the solar plexus. A. ROBIN.

Hemorrhage of Gastric Cancer as Shown by Black or Bloody Shreds.—

℞ Tannic acid 0.25–0.50
Opium 0.02
Calcined magnesia 0.10
—ALBERT ROBIN.

Malaria.—

℞ Tinct. iodi .....
Potassii iodidi ..... āā ℥i
Aquæ dest ..... ℥iii
M. Sig.: Tablespoonful at the beginning of the attack and repeated in twenty minutes if necessary.
—REGNAULT.

Neurasthenia.—

℞ Sodii glycerophosphatis ..... ℥ss
Calcii glycerophosphatis ..... ℥ii
Acidi phosphorici dil. ..... ℥vi
Aq. cinnamoni ..... q. s. ad ℥iv
M. et S.: Teaspoonful three times a day after meals.
—THOMPSON.

Flatulency is said to be relieved by one-grain doses of camphor given three times a day.

Agalactia.—

℞ Strychninæ sulphatis .....
Pilocarpinæ hydrochloratis ..... āā gr. i
Sacchari lactis ..... ℥iss.
Alcoholis ..... q.s.
Make 60 tablet triturates. Dose: One every four hours.
—*Philadelphia Medical Journal.*

Cardiac Hypertrophy.—

℞ Tinct. digitalis ..... ℥ii.
Tinct. belladonnæ ..... ℥i.
Tinct. cardamomi comp ..... ℥ii.
Elixir simplicis ..... ℥i.
M. et Sig.: A teaspoonful in water after meals.
—DA COSTA.

Angina Pectoris.—

℞ Sodii iodidi ..... gr. 80-160
Sodii arsenatis ..... gr. ¼
Aq. dest ..... q. s. ad. ℥v
M. Sig.: Two or three teaspoonfuls daily.
HUCHARD.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending January 30, 1904:

	Cases.	Deaths.
Measles	814	19
Diphtheria and croup	461	53
Scarlet fever	435	27
Smallpox	...	...
Varicella	156	...
Tuberculosis	316	149
Typhoid fever	24	7
Cerebrospinal meningitis	...	6

The Relation of Tuberculous Glands to Life Insurance.—The conclusions drawn by Daniel M. Eisendrath from a contribution to this subject are as follows: Tuberculous glands of the various regions are frequently followed by foci elsewhere, the lungs being most frequently involved (28 per cent.). Next in frequency are the bones and joints. Operative treatment is followed by the largest number of permanent recoveries (from 54 to 80 per cent.). Every insurance examiner should bear in mind the above figures and investigate carefully as to the possibility of a late infection following tuberculous adenitis in early life.—*The Medical Examiner and Practitioner.*

Cases Simulating Appendicitis.—H. A. Brennecke reports several cases of this nature which have come under his personal observation. One case was that of gangrenous pancreatitis. The patient was a man, forty-three years of age, strongly addicted to the use of whiskey. He was attacked with intense abdominal pain while drinking cold beer. On examination he was found to have diffuse pain and tenderness over the entire abdomen with obstinate constipation. An area of dulness extended from the region of the appendix toward that of the gall-bladder. The diagnosis was thought to lie between appendicitis and gall-bladder disease. A post-mortem examination revealed gangrenous pancreatitis. Another patient, a woman of forty-five years, weighing about 200 pounds, had a chill, severe pain in the abdomen, with symptoms of collapse. The temperature rose to 103°, and the pulse-rate varied between 140 and 150. The physicians consulted made a diagnosis of perforated appendix. The writer saw her a day or two later. The urine showed no sugar or albumin. There were about one or two tablespoonfuls of a whitish greasy substance floating on the bowel movements. Examination showed the bowel movement to be fat. The diagnosis of pancreatitis with general peritonitis was made. Unfortunately, a post-mortem examination was not allowed. The third patient was a young man of twenty-four years. He was taken with severe abdominal pains, chill and vomiting. The greatest tenderness was over McBurney's point. Hot packs and liquid diet were ordered, and the pain subsided. A little to the left of McBurney's point was a distinct mass about the size of a walnut. Operation was performed. The appendix was found normal, but immediately to the right of it was a mass. To the left were a number of enlarged glands. The mass contained cheesy pus. A number of macroscopical tubercles were seen on the peritoneal surface of the bowel. The pus was found to come from a caseating mesenteric gland. Other glands showed caseous areas. A number of ulcers were found on the mucous membrane of the bowel. The cause of death was probably a generalized miliary tuberculosis. A considerable number of cases of acute pancreatitis have been mistaken for fulminating appendicitis. The diagnosis of acute pancreatitis, in itself, according to the writer, offers great difficulties. In those cases seen by the writer, the most prominent symptoms have been sudden intense pain, tenderness over the entire abdomen, obstinate constipation, excessive tenderness over the epigastrium, and later icterus and fatty stools.—*Illinois Medical Journal.*

Ischæmic Paralysis.—Ischæmic paralysis was first described by Volkmann in 1875. The symptoms are paralysis and contracture of the forearm and fingers rapidly developing after injury, with an absence of pain. In several instances marked improvement has resulted from the application of operative measures, consisting of either simple division, or in the more elaborate lengthening of tendons by the Z-method. In either case passive movement is recommenced about a fortnight after the operation.—*Birmingham Medical Review.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended January 29, 1904:

SMALLPOX—UNITED STATES.

			CASES.	DEATHS.
California, Berkeley	Dec. 31–Jan. 7		1	..
Los Angeles	Dec. 26–Jan. 2		1	..
San Francisco	Jan. 10–17		2	..
Colorado, Colorado Springs	Jan. 8–16		1	..
Denver	Nov. 28–Dec. 26		9	..
Illinois, Cairo	Jan. 21		4	..
Chicago	Jan. 16–23		2	..
Danville	Jan. 16–23		4	..
Indiana, Evansville	Jan. 16–23		2	..
Louisiana, New Orleans	Jan. 9–16		4	3 Imported
Maine, Smithfield	Jan. 21		1	..
Stacyville	Jan. 21		11	..
Maryland, Baltimore	Jan. 16–23		1	..
Michigan, Detroit	Jan. 16–23		2	..
Grand Rapids	Jan. 16–23		1	..
Port Huron	To Jan. 23		3	..
Missouri, St. Louis	Jan. 9–23		21	..
New Hampshire, Manchester	Jan. 16–23		2	..
Nashua	Jan. 16–23		1	..
New Jersey, Plainfield	Jan. 16–23		1	Imported.
Trenton	Jan. 16–23		8	..
New York, Buffalo	Jan. 8–23		4	..
New York	Jan. 16–23		5	1
Ohio, Bucyrus	Jan. 8–23		22	..
Cincinnati	Jan. 15–22		5	1
Cleveland	Jan. 15–22		3	..
Dayton	Jan. 16–23		5	..
Pennsylvania, Allentown	Jan. 16–23		1	..
Johnstown	Jan. 16–23		1	1
Philadelphia	Jan. 16–23		106	From suburban district. 13
McKeesport	Jan. 16–23		5	..
Reading	Jan. 18–25		4	..
Titusville	Jan. 16–23		1	..
Williamsport	Jan. 16–23		4	..
South Carolina, Charleston	Jan. 16–23		3	..
Tennessee, Nashville	Jan. 16–23		3	..
Utah, Salt Lake City	Jan. 8–16		7	..
Wisconsin Milwaukee	Jan. 16–23		19	..

SMALLPOX—FOREIGN.

Austria-Hungary, Prague	Dec. 19–26		8	..
Brazil, Pernambuco	Dec. 1–15		..	15
Rio de Janeiro	Dec. 20–27		40	40
Canada, New Brunswick, New Castle	Jan. 21		1	Imported from Portland.
France, Paris	Jan. 2– 9		16	..
Great Britain, Birmingham	Jan. 2– 9		1	..
Glasgow	Jan. 8–15		44	3
Leith	Jan. 2– 9		1	..
Liverpool	Jan. 2– 9		1	..
New-Castle-on-Tyne	Jan. 2– 9		6	..
Nottingham	Dec. 26–Jan. 9		14	1
Sheffield	Dec. 26–Jan. 2		1	..
South Shields	Jan. 2– 9		1	..
Sunderland	Jan. 2– 9		7	1
India, Bombay	Jan. 15–29		..	5
Karachi	Dec. 20–27		2	1
Italy, Catania	Dec. 31–Jan. 7		..	1
Mexico, Mexico	Dec. 13–Jan. 10		..	4
Russia, St. Petersburg	Dec. 26–Jan. 8		31	..
Spain, Santander	Jan. 4–11		8	..
Turkey, Smyrna	Dec. 20–Jan. 3		..	11

YELLOW FEVER.

Brazil, Rio de Janeiro	Dec. 20–27		3	3
Jamaica, Kingston	Dec. 26–Jan. 9		2	2
Malta	Dec. 26–Jan. 2		4	1
Mexico, Merida	Jan. 3–16		1	1
Vera Cruz	Jan. 8–16		2	..
Venezuela, Maracaibo	Dec. 20–27		1	1

PLAGUE—UNITED STATES.

California, San Francisco	Jan. 10		..	1
San Francisco	Jan. 11		..	1
San Francisco	Jan. 13		..	1

PLAGUE—INSULAR.

Hawaii, Honolulu	Jan. 10		..	1

PLAGUE—FOREIGN.

Brazil, Pernambuco	Nov. 15–Dec. 15		..	9
Rio de Janeiro	Dec. 20–27		9	3
India, Bombay	Dec. 15–29		..	129
Karachi	Dec. 20–27		7	6
Mauritius	Dec. 24–31		53	29

CHOLERA.

Java, Batavia	Dec. 5–12		14	3
Turkey in Asia, Diarbekir	Dec. 15–20		53	28
Hitt	Dec. 13–15		8	4
Kerbela	Dec. 13–20		447	443

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Original Articles.

SOME PERSONAL OBSERVATIONS AND EXPERIENCE OF THE SCHOTT TREATMENT OF HEART DISEASES.

By WILLIAM W BALDWIN.
ROME, ITALY.

THE Schott treatment of heart diseases was such a radical and startling innovation upon earlier methods that even now, after a generation's experience, it has not been as universally accepted or employed as its merits deserve. It has, however, grown in estimation, year by year, and although it may not have superseded classic remedies, at least it must be recognized as a most valuable addition to our means of relief and cure in this class of diseases. Indeed, while, perhaps it is still too early to draw comparisons between this and other modern medical discoveries, nevertheless, it must be confessed that "The Schott Method" is one of our great improvements in the healing art.

This method has the great merit of simplicity; it is not difficult to learn, and I think it might be employed successfully by every enlightened general practitioner; above all, its efficacy can be scientifically demonstrated. Where its indications have been determined, by expert diagnosis, the method has no drawbacks, if skilfully administered. Even personal idiosyncracy can be overcome by exercise of wise ingenuity. Its curative effects are not only greater, but generally far more permanent than those of the older treatment by means of drugs and rest. In a certain proportion of those cases when other treatment has hopelessly failed, this method often restores compensation, and sometimes it renders drugs unnecessary, or makes their assistance more successful. In grave cases, in which both treatments are necessary, the Schott method invariably increases the beneficial effect of the other, and makes it possible to give considerably smaller doses of drugs.

What physician cannot recall with regret his helplessness in presence of some case of growing failure of cardiac compensation and of the futility of classic remedies, when at last he is confronted by that ominous downward drift into the vicious circle, where the symptoms are more painful than the original disease, and the one pushes on the other through insomnia, breathlessness, ascites, pain, and those innumerable tortures which lead to the fatal ending. It is true that in some cases balance of vital resistance is so compromised that recovery is no longer possible, whatever the treatment employed. Indeed "life itself is a mortal disease." I believe, however, notwithstanding the limitations which nature herself has set to our art, that many cases of heart disease formerly considered hopeless can now not only be relieved of all the more distressing immediate symptoms, but that the life may be prolonged and rendered both useful and satisfactory.

That saline baths with a certain percentage of carbonic-acid gas, slow and strengthen the heart's action had long been noted, but no general therapeutic value was suggested in connection with this fact until the Schott brothers demonstrated that carefully regulated baths and resistance exercises, followed sometimes by regulated mountain climbing, invariably produced a marked improvement in the condition of patients suffering from various chronic heart diseases, and that in certain cases permanent cures were obtained. They proved that these methods, by stimulating a weakened heart to a greater activity, produced a tonic effect. In most cases of heart disease, either relative or absolute, muscular insufficiency renders it impossible wholly to overcome even the normal blood-pressure so as to complete the office of forcing its contents to the limits of the organism on the one hand, and to assist the return current by its mechanical suction on the other. Thus the invariable indication is to augment the working power of the heart, through increase of its muscular substance.

Cardiac muscular hypertrophy, which was formerly regarded as a dangerous symptom of disease, we now hold, with few exceptions, to be that curative compensatory process, to the accomplishment of which, we should direct our treatment. On the other hand, muscular heart weakness, so called cardiac insufficiency, leads to dilatation, through accumulated blood remaining in one or both chambers after an insufficient contraction. This is the direct cause of what we call disturbances of compensation.

The immediate indication in cases of this kind is to stimulate the heart muscle to stronger, more efficient systolic contractions, so that the heart may be able to clear its cavities of superfluous blood, for dilatation, whether caused by valvular disease or insufficient contractible power, always proves blood stasis in the heart itself. The heart contracts rapidly but insufficiently, so that after each short systole a mass of blood remains behind, the heart not having strength to overcome aortic pressure.

The Schott brothers demonstrated that both saline baths and resistance exercises stimulate the heart muscles to more powerful contraction, so that, although the aortic as well as the general arterial tension may be at first increased, the heart by and by wins so much power that it is able not only to vercome the same, but also completely to empty its cavities. The heart being thus cleared of residual blood, is also relieved in diastole of that intramural pressure which had nagged it to more rapid but inefficient contraction; above all, the lengthened diastole gives the weak and overworked organ a much needed interval for repose and recuperation.

The myocardium as well as the other tissues of the body receiving an augmented supply of richer blood, those reparative processes are inaugurated which must be the chief aim of our treatment. Were not this the case, a time would come when that reserve of nerve force, which we invoke to remove peripheral resistance on the one hand and to stimulate the heart to more powerful contractions on the other, would be exhausted; thus a cure would be obviously impossible.

The immediate effects of the baths are not so brilliant as those following the resistance exercises, but, on the other hand, at least in the beginning, they last considerably longer. We constantly observe lessened congestion in the short circuit, and often in the whole venous system; the respiration becomes slower and more efficient; the hepatic congestion diminishes, as can be proved by percussion; cyanosis diminishes, and cold extremities glow with warmth. During and after both bath and resistance exercises the pulse slows and grows stronger. In general, its resistance soon decreases, proportionately to the tonic vasodilation induced, although the impulse of more powerful, though slower, cardiac contraction is augmented in a pulse of somewhat higher tension.

The sphygmographic curve shows greater primary rise and, on account of slower pulse, a correspondingly longer systole, and epecially diastole. Sometimes great irregularity of heart action disappears. Percussion shows notable decrease in the whole area of cardiac dulness. After the bath this is less pronounced than after resistance exercises, but continues longer. Auscultation shows a varied picture; feeble heart tones become easily distinguishable, a murmur caused by relative valvular insufficiency passes through reduplication into normal tone. In other cases the stronger muscular contraction first reveals an organic murmur. Patients improve remarkably in strength and general condition. Free diuresis is induced, especially after the bath, and the general tone is much improved. Instead of the contraindications, which often limit the employment of digitalis, we have invariably induced progressive tone and strength in the whole organism, by increasing the working power of the heart on the one hand, and removing peripheral resistance on the other.

As remarked, through this treatment, the cardiac muscle becomes stronger, through receiving better nourishment. The arteries being better filled, venous congestion is relieved and the heart itself, not only receives more blood, through the coronary arteries, but also oxygenated blood of richer quality. In this way the heart stands in more prosperous relation to the organism as a whole, as its necessary muscular hypertrophy is promoted.

It is manifestly impossible to give more than general rules, which must be judiciously adapted to each individual case, as in any other treatment. We should never for a moment forget the fact, that, although these remedies are powerful and permanent in their effects for good, when wisely and judiciously administered, nevertheless, when carelessness and imprudence mark their employment, grave, and even fatal, consequences might follow.

In every strange case when we are not acquainted with the particular limitations and idiosyncrasies, we should elect to be present at both bath and resistance exercises (in case of lady patients, one could attend in an adjoining room) to supervise their effects. It may also be wiser to limit the duration of the first bath to four or five minutes, or even less. The duration of every or every other subsequent bath can be increased one minute, or rarely two minutes. After the bath the patient should be well rubbed from head to foot with a large hot bath towel until the skin is in a glow and reaction is well established. After this, it is imperative to lie in bed, well covered, in a reasonably warm, well-ventilated room, for at least an hour. Under these circumstances, the patient usually sleeps more or less soundly, and awakens much refreshed. In private establishments, where artificial baths are given, rooms must be provided where patients can rest before returning home. In Bad Nauheim patients are recommended to use wheeled chairs going and returning from the establishment. Not only should great care be observed to avoid chills and colds, by means of proper wraps, but it is necessary, and in some cases imperative, to have a trained attendant to assist the patient dressing and undressing, to remain with him during the bath, etc.

It is also imperative, in view of possible contraindications, to make a most careful and thorough examination. One should never rest satisfied until he has obtained as exact a knowledge as possible of the condition of the blood-circulatory and nervous systems, together with both family and personal history and present general condition.

Contraindications to the baths are: (1) Advanced arteriosclerosis, especially if asymmetrical, and when there has been specific infection, or family history of apoplexy, and all cases of the kind in which the baths raise instead of lowering arterial tension.

2. Chronic Bright's disease, unless advanced, is not an absolute contraindication to this treatment, although great caution would be necessary to avoid acute renal congestion and even inflammation through excessive diuresis, which both baths and resistance exercises might cause if pushed too rapidly. Advanced cases of interstitial nephritis, with constant abnormally high arterial tension would forbid the treatment. In general, when the renal disease, whether interstitial or of the parenchymatous variety, is too much advanced and very much more serious than the heart trouble, this treatment should not be employed, but secondary congestion of the kidneys, with or without albuminuria, would not contraindicate it.

3. Aneurysm in one of the larger arterial trunks would certainly forbid it.

4. Cases of bronchial asthma and chronic bronchitis would call for great caution in avoiding chills and colds, and would also dictate a milder, slower course of treatment.

5. I have never employed this treatment in cases of heart disease, complicated by pulmonary tuberculosis, but Dr. Bezly Thorne has employed the baths under these circumstances with advantage, especially when there are clubbed fingers.

6. In very grave cases of organic heart disease, in which degeneration of the cardiac muscles is too far advanced and favorable reaction could not be expected, this treatment should be omitted, at least until other remedies have been tried without success.

7. In cases of great anæmia and emaciation, while the effervescent baths are not well borne, carefully regulated mild brine baths have a most excellent curative effect. The same rule would obtain in great heart weakness or exhaustion. In anæmic subjects with fatty hearts, great prudence should be exercised in the very gradual substitution of mild effervescence in the brine baths.

As a general rule, in all grave cases when the stronger, more stimulating effervescent baths cause palpitation, difficulty in breathing (asthmatic symptoms, etc.), weakening and irregularity of heart's action and pulse, cyanosis, and other unfavorable symptoms, we should return to the mild brine baths, at least for a time.

Occasionally we observe patients with very irritable hyperæmic skins, who cannot support the slightest effervescence without suffering loss of appetite, insomnia, migraine, etc. In these cases, of course, effervescent baths should be omitted.

There are five kinds of baths employed at Bad Nauheim:

1. Simple brine baths (without carbonic acid gas).

2. Thermal baths, containing from 500 to 600 c.c. of free carbonic acid gas per liter.

3. Thermal sprudel baths (thermal effervescent) coming from air-tight underground reservoirs, containing 1000 c.c. of free gas per liter. These baths were suggested by the brothers August and Theodore Schott in 1884, but were opened only last year.

4. Sprudel baths (effervescent baths) containing 1,100–1,200 c.c. per liter

5. Sprudel strom baths (flowing effervescent) containing 1200–1400 c.c. of free gas per liter.

Of these baths, 1, 2, 3, and 4 may be imitated in private practice, according to Schott's prescription, but the surging rush and escape of effervescent water direct from a geyser spring through the bath tub, having the effect of surf bathing, would not be easy to copy by means of any mechanical device, however ingenious. (Dr. Bezly Thorne claims to have succeeded in doing so satisfactorily). In general, the latter is too stimulating for the majority of heart cases, except in such vigorous patients as require some further push of reaction at the close of their course of treatment.

In locomotor ataxia and other forms of spinal sclerosis, in certain gouty and rheumatic deposits, and in cases of postinflammatory adhesions of various kinds, it must be admitted that this bath is of unique and extraordinary efficacy.

Whether the artificial Nauheim baths are altogether as efficacious as the far more complicated natural Nauheim baths, is a question upon which there is a variety of opinions. One of the leading physicians at Bad Nauheim claims that the artificial baths have little or no value. This statement is manifestly absurd, and can be disproved by experiment.

My own experience has been that the artificial Nauheim baths and resistance exercises, when combined with vigorous hygiene, diet, etc., have almost invariably given remarkably satisfactory results; nevertheless, when possible, I insist upon the necessity of an additional course of treatment during the warmer months at Bad Nauheim. In the graver cases of heart disease, I have observed that patients usually require further treatment by means of artificial baths during the early spring months, as this is the time when relapses are most liable to occur. In this way we may confidently hope to escape complications and prevent those deadly failures of compensation which might defeat further efforts in behalf of these serious cases.

I also believe that the far more complicated natural Nauheim baths are more efficacious than any imitations of the same, however ingenious. Entire change of air and environment, enforced absence from social dissipations, business cares, overwork and worries, together with differences of diet, etc., doubtless augment the effect of treatment at headquarters

Having decided that this method of treatment is likely to prove of value in a given case, one should never be tempted to begin the same unless the patient will obey directions implicitly. Such directions should be unmistakably clear and emphatic. The diet should be suited to each particular case, but experience has taught that coffee, strong tea, tobacco, spices, and highly-seasoned dishes, all effervescent waters, effervescent wines and beer (the resulting gastric distension pressing upward would embarrass the heart's action) should be forbidden. In general, when the heart's action is much compromised, more frequent meals of highly nourishing and even predigested foods are advisable. A daily complete evacuation of the lower bowel is most important, but, on the other hand, gastrointestinal catarrh, fermentation, putrefaction, and other digestive disturbances, should be corrected by appropriate diet and treatment. Such fertile sources of some of the very cardiac conditions which we are endeavoring to cure (autotoxæmia, lowered alkalinity of blood, etc.) should be corrected before any great hope can be entertained of successful heart treatment. Physical fatigue, all excitement, worry, and business cares, should, as far as possible, be avoided. These cautions may seem fussy and even puerile, but I have seen the very object of the treatment defeated by lack of attention to such detail. In a case in which the balance of vital resistance is often so compromised that our margin at best is perilously narrow, we cannot afford to squander any help, however small, in our endeavor to promote repair and cure.

The Artificial Baths.—To imitate the brine bath, we begin with a solution of 1 to 1½ per cent. of common salt, and 1 to 1½ per 1000 of chloride of calcium at a temperature of 33.5° C. (92° F.). In feeble anæmic subjects, who suffer from cold extremities and have very little reaction power, we may at first prescribe baths at a temperature of 35° C. (95° F.), but this is the limit at which we can hope for any tonic reaction. Warm (I do not mean hot) baths would rather cause lowering of blood-pressure, and at the same time depress the heart's action.

Obviously, the duration of the bath must depend, at first, upon the reactive power of each individual patient, but in general three to seven minutes would be the average limit of time.

Observing always the individual indications already mentioned, as a general rule the cooler baths have a far greater tonic effect. As the cure progresses, it is better to prescribe cooler and more concentrated baths, even if of shorter duration, for more sensitive delicate subjects. It is imperative the bath-room should be warmed in cold weather, and in any case it should never be cooler than 65° to 70° F. At first, baths should be given every other day, increasing usually one minute every or every other time, but later, two and even three baths may be given in succession. The bath may be also ½° C. cooler every or every other time. The strength of both solutions may now be gradually increased, either by addition or Nauheim salts, which can be obtained in the market, or by increasing gradually the chloride of sodium to 2 or 3 per cent. and the chloride of calcium to 2 or 3 per 1000. Owing to the great difficulty of procuring the Nauheim salt in Italy, where salt is a government monopoly, I now employ the latter method. I must frankly confess, however, that I have never observed such noteworthy difference in effect between the two as would warrant the additional expense of the Nauheim salt.

The Thermal Bath.—After a certain number of brine baths (5 to 10) we may begin the so-called thermal bath, which contains a certain percentage of carbonic-acid gas in solution. It may be prepared, according to Professor Schott's prescription, with crude hydrochloric acid and bicarbonate of soda. Latterly, I have employed cakes of bicarbonate of sodium, and cakes of crude sulphuric acid, mixed with sulphite of sodium. With these one can produce a vigorous effervescence lasting a full hour. Another method has been devised to imitate the effervescent bath by employing water charged under pressure with liquid carbonic-acid gas.

This bath may be given, at first, at a temperature of 32.5° C., but no longer than seven or eight minutes, increasing duration and diminishing temperature, as in the brine bath and effervescent bath.

The Thermal Effervescent Bath.—After a certain

number of the so-called thermal baths (fifteen to twenty) we may begin the so-called thermal effervescent bath. This is prepared by placing a certain number of the cakes above mentioned (alkaline upon acid) at the head, middle, and foot of the bath tub in the prepared brine water (this should contain 2½ to 3 per cent. common salt and 2½ to 3 per 1000 of chloride of calcium). The patient then enters the bath during the effervescence. To produce the effervescent bath, we increase the number of cakes.

Whether it is an advantage or not (which may be discussed later), one can produce almost any degree of effervescence in the artificial bath by increasing or decreasing the quantity of material for that purpose.

This bath may be given at first at a temperature of 32.5° to 31.5° C., but no longer than seven minutes. Even the cooler baths at end of course should rarely be cooler than 28° to 29° C. Eight to twelve of these baths may be prescribed.

One precaution is imperative, viz., to avoid inhalation of carbonic-acid gas by ventilating the bath-room and keeping the patient's head well above the water otherwise very unpleasant consequences might ensue. In thermal or effervescent baths full immersion causes great dispnœa at first; it is advisable that the chest remain free. The so-called English bath-tub with sloping end for the head is the best and safest. When this cannot be obtained, a cushioned board of appropriate shape may be employed.

The obvious question, how long a course of baths would be advisable in a given case, can be answered only in a general way, depending upon the condition of the nervous as well as circulatory system, and upon the discretion of the physician. Sometimes not more than fifteen to eighteen graduated baths can be given without risk of causing unfavorable reaction. Again, in robust subjects, thirty to thirty-five are not only well borne, but absolutely indicated in order to obtain maximum good results. When patients complain at any period of great nervous irritability, insomnia, debility, etc., which symptoms do not improve under appropriate treatment and interval of rest, then a change to more bracing air should be prescribed. It cannot, however, be too strenuously urged that patients with feeble, dilated hearts, with or without arterial or cardiac degenerative changes, should never be sent to even moderate heights, because such altitudes almost invariably cause dangerous increase of arterial tension. I cannot better emphasize this important fact than by quoting lines from a letter (a constant experience) just received from a patient:

"I think the place must have been too high (St. Beatenberg, 3770 feet), for I felt much worse each day and had much pain about the heart, down the left arm, and up the left side of my throat. I also began to get breathless again, my muscular strength seemed to give way and I had a good deal of indigestion. I then came down here (Meirengen, 1968 feet), where I certainly feel better." This patient had derived great benefit from the baths, and it seemed a pity to sacrifice so much upon the altar of altitude. In another case of double valvular lesion, the patient went to a height of over 5000 feet "in order to cure a bronchitis before coming to Bad Nauheim." This patient arrived with dangerous pulmonary congestion, at both bases, and other unfavorable symptoms as a consequence of that imprudence.

A well-known physician, who holds a government appointment in the tropics, came to Bad Nauheim to consult Professor Schott, in the summer of 1900, from an altitude of 4000 feet for his first series of baths. His heart was feeble and much dilated; there were degenerative myocarditis, stenosis of the aortic valvular orifice, albuminuria, due to secondary renal congestion, etc. The blood-pressure was extraordinarily high (220 to 230), measured by Gärtner's tonometer). The patient complained of intense headache and great dyspnœa. After appropriate treatment and a course of baths, the patient returned to his tropical post much improved, "remaining fairly well during a busy season's work." In the summer of 1901 he repeated the same imprudence, coming to Bad Nauheim from an altitude of over 5000 feet. He had a long and dangerous illness, nearly losing his life in consequence, and was unable to take the baths. Of extraordinary interest in connection with this case is the fact that when all the usual remedies had at last failed to relieve, and the patient was nearly moribund, Dr. Bezly Thorne suggested trial of the Schott resistance exercises, which he administered himself. The improvement from the first was amazing. Not only was the patient relieved of all the agonizing and dangerous immediate symptoms after a few days, but he made such satisfactory progress that, after a few weeks, he was able to travel.

Several unprejudiced heart experts, who observed the effect of this treatment, and had seen the case previously, were unanimous in the opinion that timely recourse to this method of treatment undoubtedly saved the patient's life. It was a great object lesson.

The Schott Resistance Exercises.: (1) With assistance; (2) Self-resistance.

I again venture to refer to Dr. Bezly Thorne's book for a graphic description of the Schott resistance exercises. It is advisable for every physician to learn and practise them so that he can authoritatively correct carelessness and rashness on the part of the attendant who administers them to the patient. The resistance should be such as the patient can readily support and overcome without strain or fatigue, and each movement should be carried out with clock-like regularity and smoothness. The slightest strain or jerk would defeat the very object of the exercises, viz., to stimulate the heart to slower, stronger contractions through reflex action. The patient meanwhile should not only breathe naturally during the whole series of resistance movements, but should also experience a sense of relief in breathing and a general feeling of well-being. There should, in some cases, at least, be as long an interval of rest (sitting) between each movement as it takes to complete the same. The patient's own statement regarding fatigue should be accepted, and a little care in watching nose and mouth will give warning of dispnœa, or even quickened respiration. This will not only teach caution as to speed and amount of resistance, but also warn us when to adjourn the exercises to another occasion. By and by, in certain cases, the whole series of exercises may be repeated at the same sitting, but under no circumstances should the same movement be given twice in succession. At first it may be necessary to give a part or all of the exercises in a sitting, or even in a reclining position. We should omit raising the arms above the shoulders and the trunk exercises, when the feeble heart is much dilated. If these precautions are observed, one rarely meets with contraindications to the exercises and rarely has the slightest difficulty in employing them. Indeed, in both baths and exercises, it is of the highest importance to have a just and clear notion of what can be accomplished, and to know, as far as possible, the why and wherefore. In this way contraindications

and limitations become so clear and positive that one is not likely to become discouraged, through perpetrating avoidable mistakes, nor led to condemn the method.

Many physicians and most laymen, are incredulous that these simple resisted movements should have any effect upon the heart, except perhaps to fatigue it, in feeble subjects. It is easy to demonstrate to physicians, however, that we are able to produce favorably tonic effects upon the cardiac and general muscular systems, and indirectly upon digestion, etc., by means of various carefully graduated resistance exercises in orderly series, whereby almost every voluntary muscle in the body is called into active contraction and relaxation.

Some of the great advantages of these exercises are: (1) That they can be given in bed or sitting, before the baths could be considered safe, thus serving as preliminary tonic treatment. (2) They can, and in my judgment should be, continued indefinitely. (3) They can be modified to suit almost any indication of general strength or debility. (4) Patients of even moderate strength can learn these self-resistance exercises and thus do without attendants. (5) They are admirable respiratory exercises; the patients learn to stand more erect after a time and to breathe more deeply, the chest measurements increase, the general muscular tone, digestion, etc., improve. (6) A constant tonic influence upon the heart muscle, maintained from day to day, must eventually prove of great therapeutic value. (7) Of course, it must be insisted that no heart case can do without a certain medical supervision.

Nevertheless, to obtain best results, a combination of baths and exercises is necessary. In general, it must be admitted that the baths take up the work where the exercises can go no further, and through opening up even closed peripheral circulatory channels, powerfully stimulating metabolism in general (their beneficial effects upon certain gouty and rheumatic conditions might be mentioned), inducing beneficial trophic changes, and in many other ways, continue to produce profounder and more permanent curative effects.

One should patiently, persistently, and methodically strive from day to day for future results, knowing well that no great good can be accomplished in haste.

To prescribe effervescent baths of longer duration (10 to 20 minutes) at first is a radical mistake which must be condemned. On the other hand, all dawdling, pottering, half-hearted employment of these methods of treatment, under guise of scientific advance, is vicious, if not contemptible. The necessity for great care and prudence cannot be over-emphasized, but, on the other hand, one should steadily and boldly, even if slowly, advance upon right lines. A wise general nourishes and saves his soldiers in every possible way, but pushes them rapidly and surely toward a vulnerable point of attack. Nothing can be worse than rashness, when circumstances dictate prudence, or halting timidity, when courage and boldness alone can win the day.

Case I.—Mitral stenosis, great dilatation of both right and left ventricles, congestion of both lung bases, œdema of legs and thighs, renal congestion, albuminuria, hyaline casts, hepatic congestion with slight icterus, anæmia (hæmoglobin 57 per cent., red blood corpuscles 3,400,000), moderate enlargement of spleen.

German shop girl, twenty-seven years of age, sent to me before she had any treatment at Nauheim, in December, 1896, by Professor Schott, for treatment in a warmer climate. She arrived nearly moribund, and was carried on a stretcher to bed in a boarding-house. She was dangerously ill several days, slept only in snatches; arms, feet, and lips, were cyanotic, she had extreme dyspnœa, was barely able to talk hoarsely and spasmodically, pulse feeble, thready, irregular, 120; arterial tension 80 mm. of mercury; I could not obtain a satisfactory sphygmographic tracing. The total quantity of urine in twenty-four hours was 720 grams; it contained bile salts and bile pigments, as well as albumin, hyaline casts; the patient had a dry skin, obstinate constipation, with canary yellow and very offensive fæces.

Dry heat (180° F.) was at once applied over the heart (Theodor Schott method), and cutaneous friction with hot cloths, stimulants, frequent feeding with concentrated predigested foods, heart tonics, etc., were ordered. The patient could not take digitalis over thirty-six hours without poisonous effects. Minute doses of calomel and bismuth were also given to disinfect the bowels, with satisfactory results. On the fourth day, the patient having rallied, resistance exercises were cautiously administered in reclining position, and continued daily with marked benefit until twelfth day, when the first bath was given of 1 per cent. of common salt and 1 per 1000 chloride of calcium at a temperature of 35° C., four minutes' duration. The patient was lifted in and out of the bath, and the reaction was most satisfactory. Pulse, before, 108; after, 96; one hour later, 88, fuller and stronger. Arterial tension 84 mm. before, 104 one hour after bath. The total circumference of cardiac dulness diminished one-half inch in every direction. Second bath was given after forty-eight hours' rest, at a temperature of 34.5° C., duration five minutes.

The combination of baths and exercises was continued seven weeks, when twenty-eight baths had been taken (20 thermal and 8 effervescent). The improvement in the patient's condition at this time was simply amazing; she had gained ten pounds in weight; could walk out, twice daily, considerable distances without breathlessness or fatigue, and even climb stairs without unpleasant symptoms. She slept the night through and awakened refreshed. The bowels were regular and stools normal. Appetite and digestion were excellent. Former vertigo had disappeared. Anæmia was much improved (hæmoglobin 84 per cent., red blood corpuscles 4,000,000). I could not discover any enlargement of spleen. Liver congestion had disappeared; apex beat was in line with the nipple; heart dimensions showed hypertrophy, but no marked dilatation; pulse 74, stronger, fuller; arterial tension 120 to 130 mm. of mercury; no pulmonary congestion whatsoever, and no discoverable signs of renal congestion; urine normal in quantity and quality, no œdema whatsoever; patient's complexion rosy and skin clear, eyes bright, and step elastic. Resistance exercises were continued another seven weeks, when patient learned self-resistance exercises. Owing to lack of funds, she was compelled to return to her own damp climate and take up her work again. She continued in good condition two years longer, with help of one course of baths at Bad Nauheim, since which time I have had no further news.

Case II.—Fatty degeneration of heart, œdema of both legs, constipation and flatulent indigestion, great dyspnœa, very irregular heart's action (pulse 90 to 120), anæmia (owing to her unexpected departure, I was unable to examine the blood); urine scanty, concentrated, loaded with urates, specific gravity 1032, but albumin, sugar, and renal débris were absent; the skin was dry. At this date (May, 1899) there was no pulmonary congestion, although

the patient said that "she was liable to attacks of bronchitis in bad weather." She had had obstinate insomnia for over two years.

American lady, fifty-four years of age, rather stout, had been failing in health some years, and latterly had been compelled to lead an invalid life. As I could see patient but once before her departure, I gave specific directions regarding diet and hygiene (forbade liquids with meals and limited daily consumption of hydrocarbons), prescribed for constipation, and advised cure under Professor Schott at Bad Nauheim. The patient took two courses of baths (24 baths each), with six weeks interval at a bracing mountain resort of moderate altitude (1800 feet). I examined this patient at Bad Nauheim, a few days before she finished her second course of baths, and discovered a great improvement in every respect. Pulse was stronger, regular, 76, heart sounds were distinct and well accentuated, and the apex beat was within the nipple line. No dilatation, œdema had entirely disappeared, no flatulency, no indigestion, urine abundant, specific gravity 1020. Patient had improved remarkably in appearance, skin was clear and rosy, eyes bright, figure more erect. Patient could walk easily without fatigue, had good appetite, and slept well. The patient returned to Rome and continued in good condition the whole season, meanwhile did not require medical attendance, although she continued resistance exercises, diet, and hygiene.

During the summer of 1900 she also took two courses of baths, with the same interval between, in a mountain resort, and returned to Rome in even better condition than the year before. She was very well during the winter, continuing resistance exercises, diet, and hygiene with massage part of the time. In April, after a period of great anxiety, with distress of mind lasting two months, the patient sent for me on account of palpitation and breathlessness. I found the pulse very rapid but not irregular (120), heart sounds distinct, clearly accentuated, apex beat within nipple line, easily discoverable upon both inspection and palpation, no œdema, slight dilatation of the right ventricle, rather severe flatulent indigestion. Patient had neglected diet and hygiene and resistance exercises for nearly two months on account of "worries." As the tachycardia was clearly of nervous and digestive origin, I ordered small doses of strophanthus; the patient resumed exercises, diet, etc. Owing to improvement, the drugs were omitted in ten days and patient continued to gain, until she took her usual summer courses of baths at Bad Nauheim (1900). I had occasion to examine her there in September, and found her condition most satisfactory in every respect.

This remarkable change from hopeless chronic invalidism to reasonable health, strength, and cheerful, useful life is more inspiring than much unfruitful theory. This case also illustrates the great importance of continuance in "physical righteousness." If such patients lapse into slothful unhygienic habits, one can predict a pretty certain relapse of former degenerative changes, sometimes of more intractable character.

Case III.—First saw this patient in November, 1896. The case was one of cardiac hypertrophy with considerable dilatation, great arterial tension (190 to 200 mm. mercury), gouty kidneys, rather advanced arterial fibrosclerosis, intense headache, agonizing dyspnœa, œdema of legs and thighs, beginning ascites, urine scanty, considerable albumin, both granular and hyaline casts, renal epithelium; pulse very irregular, heart's action irregular, tumultuous, and labored; liver enlarged.

The patient, a retired English army officer, fifty-nine years of age, had served many years in tropical countries, had had cholera in India, over twenty years before, also typhoid fever still earlier; several attacks of tropical dysentery at various times; once had jungle fever, contracted hunting tigers. Within the past five years he had had semi-annual attacks of acute gout in the right foot. The patient had large frame, powerful muscular system, had been noted for his powers of endurance; he had always been temperate in eating, and, although he had always taken whiskey with lunch and dinner and upon going to bed, had never consumed more than "six to eight ounces daily." When gout began, the whiskey was stopped, and since that time he had been a total abstainer. He dates present illness from a chill in the early summer. Since then has been growing gradually worse, and latterly has not been able to leave his room. As he had no appetite, suffered from nausea, and was very thirsty, he had been taking from three and a half to four liters of cold milk daily, and frequent sips of cold water. Upon accurately measuring total quantity of liquid consumed in twenty-four hours, it was found to be from 4000 to 4800 grams. At the same time he was passing from 860 to 1240 grams of urine with a comparatively dry skin. A simple arithmetical calculation will show where the superfluous liquid was being stored, without delaying to discuss Oertel's theory of what occurs in these cases.

He was ordered one liter of milk and 500 grams of distilled water, in divided portions daily, and frequent meals of predigested foods. His record of urine passed during the next eight days is as follows: First day, 1320 grams; second day, 1640 third day, 1830; fourth day, 2620; fifth day, 2300 sixth day, 1920 (then two days were very cold and stormy); seventh and eighth days, 3800 grams From this time until the œdema entirely disappeared and the hydrostatic balance was restored, as the patient was less thirsty, he was allowed 1300 to 150 grams of milk daily in addition to other food and bit of ices, but no more water than sufficient to balance the output.

Arterial tension had now decreased to 130 to 12 mm., and there was no further nausea or digestive disturbance. As the heart's action, however, still left much to be desired, moderate doses of digitalis with nitroglycerin were ordered, together with full doses of strychnine. Under this treatment the patient continued to improve slowly, in spite of inclement weather, until February 20. He then insisted upon taking artificial Nauheim baths, "as a friend had derived great benefit from them under similar circumstances;" as there was a reasonable prospect of his deriving benefit from this treatment I consented.

He took the first bath February 20 at a temperature of 35° C., duration four minutes, and expressed himself as feeling better after it. Pulse, before, 96 after, 90; one hour later, 90, still irregular, but rather stronger. Heart's area of dulness slightly decreased. Blood-pressure, before, 120 mm.; one hour later, 11 mm. (Sphymographic tracing of this and other cases will be given upon another occasion.)

February 2, took another bath at a temperature of 34.5° C., duration five minutes; result not noticeably different from that of the first bath. Patient was always enveloped in hot sheet and well rubbed after bath, then put to bed. The baths were continued cautiously (patient meanwhile did not leave the house) until the 18th.

Bath March 28 at a temperature of 31° C., duration twelve minutes. Patient at this time was cheerful and felt much better. There had been a slo

but undoubted improvement in his general condition. Area of cardiac dulness at least ½ inch less than at first; pulse 88, much less irregular and stronger. His appetite had improved, no indigestion, less dyspnœa, urine abundant, specific gravity 1016, albumin less, much less renal débris, no headache, no trace of œdema, excretion of urine increased.

It was decided to give the patient two more baths, and then begin the exercises. The attendant now made a dreadful and incomprehensible mistake, upon the first and only occasion when I was not present at the bath. I might say that in all cases I invariably prepare for each bath, the day before, plainly labeling package of salts, with description of contents, temperature and duration of respective bath, hour, and date. In this instance, orders had been given to delay the bath until my arrival, but, unfortunately, the patient would not wait, and the attendant prepared the bath. With incredible stupidity (I afterward discovered he was drunk), the man procured 3000 grams of chloride of calcium, and 300 gms. of chloride of sodium at the nearest pharmacy; although the appropriate package was in its usual place and properly labeled, the bath thermometor lying beside it. The attendant naturally enough, not finding this bath thermometer, took a self-registering instrument (F) from the wall. He "guessed that to reduce that scale to this, one would multiply by four" (132° F.). I arrived about fifteen minutes after the bath had been given (meantime messengers had been hunting for me). I found patient in deep coma, skin almost parboiled, radial and brachial arteries hard round wires, pulse hardly discoverable, temperature in rectum 101° F., heart's action tumultuous, irregular, and very feeble. There had been a copious involuntary evacuation of bowels, the face was purple, Cheyne-Stokes respiration, etc. Meanwhile I had given a hypodermic injection of nitroglycerin, which was repeated every fifteen minutes until reaction was obtained, ice cap to head, diffusible stimulants per rectum, sponging surface of body with tepid water, warm mustard foot-bath. Patient slowly rallied under this treatment, and at midnight following was conscious and had passed urine pretty freely, temperature in rectum normal, pulse 96, blood-pressure 180 mm., respiration 20 and regular, heart's action irregular but no longer tumultuous, much stronger, perspiring freely; skin pink color. Patient continued to improve, and on April 20 was apparently in as good condition as before the accident. In the latter part of April he contracted influenza, which was then epidemic, developed pneumonia, and died after a few days' illness.

I have reported this case at length for two reasons: (1) To demonstrate that, although the artificial Nauheim baths may sometimes be prescribed with benefit in this class of cases, nevertheless, extreme care and prudence are necessary. (2) Even grave accidents are not necessarily fatal, but one should always employ a trained nurse to assist in giving these baths, even when the physician elects to be present. (3) Failures are often more instructive than success.

25 Via Gregoriana.

Nasal Disease.—The indications for operative treatment depend on both the subjective and objective symptoms. A noticeable inadequacy of either nasal passage, the presence of excessive or retained secretion, or an abnormal redness of the mucous membrane at any point, are all evidences of abnormality, which, if coupled with inconvenience to the patient, invite corrective attention.—Edw. Pynchon.

CONTRIBUTION TO THE STUDY OF SPONDYLOZE RHIZOMÉLIQUE, WITH REPORT OF THREE CASES.*

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The original reports of Bechterew (1892), Strümpell and Marie (1898) concerning the disease, the chief feature of which is rigidity of the spine, showed at the time of their publication that there were two distinct forms: one, ankylosis of the cervical portion of the spine with meningomyelitis; the other, an ankylosis of the spine and of the large proximal joints of the extremities without cord involvement.

The etiological factors, as well as the clinical pictures, of the two types of the disease were then sharply defined. Traumatism with an hereditary predisposition, sudden onset, a limited kyphosis with ankylosis, which is not generalized and does not involve the limbs—briefly, a condition which is primarily and strictly localized to the upper portion of the spine, such is Bechterew's disease, to which Marie gave the name heredo-traumatic kyphosis.

The disease described by Strümpell as "chronische ankylosirende Entzündung der Wierbelsäule," and later by Marie as "Spondyloze rhizomélique," is a pathological condition which has apparently nothing to do with the first form. As the name implies (σπόνδυλος—vertebra, ῥίξα—roof, and μέλος—limb.) This affection is essentially a general disease involving, not only the entire spine, but also the limbs.

Bechterew, in his cases, found a degeneration of the roots and of the posterior columns in the cervicodorsal region of the cord with a thickening of the pia and atrophic changes of the spinal ganglia. He therefore concluded that the rigidity and kyphosis were due to an insidious and gradual degeneration of the roots and to a paretic state of the muscles of the spine, which developed secondarily to a chronic lesion of the meninges. In spondyloze rhizomélique of Strümpell-Marie's type no trace of an inflammation of the meninges was found, and consequently there is no question of an organic involvement of the nervous system. The post-mortem findings, as seen from the elaborate description given by Léri (*Revue de Médecine*, 1899, p. 597), consist of an ossification of the pericarticular ligaments of the spine and hypertrophy of the articular processes which come into immediate contact with each other after the last vestige of the cartilages has disappeared.

Two distinct types of spondylosis were therefore created. At first various writers followed Bechterew, Marie, and Strümpell and reported cases that came under their observation as belonging to either of these two types. Although in both affections a pathological condition, resembling to some extent the chronic deformant rheumatism, was found, nevertheless the latter disease was considered to be different from spondylosis.

Very soon, however, this view became untenable. Transitional forms between the two extreme types had been observed, also cases in which the small joints of the limbs took part in the process of ankylosis (Lichtheim, Jacoby, Beckman, and others), so that, at present, the old view counts very few partisans.

According to some, Bechterew's spondylosis, as well as Strümpell-Marie's type, including also the intermediary forms, are not autonomous affections or morbid entities, but, on the contrary, present a pathological unity and belong to the domain of

*Read before the Philadelphia Neurological Society.

deformant polyarthritis (Saenger, Oppenheim, Senator). Other writers do not accept the view that arthropathies of all possible varieties have only one etiological factor, they believe that the etiology is various; alongside of chronic rheumatism—heredity, physical, toxic (Hoffman, Léri), infectious (Marie, Raymond, Bäumler), and trophic elements may play an important rôle. We must recognize, however, that while there are really cases of rigidity of the spine in which a rheumatic history is evident, also cases in which chronic deformant polyarthritis is present, there are nevertheless cases in which the rheumatic etiological factor is totally absent. The tendency of some writers to consider the affection as a variety of arthritis deformans for the only reason that the spinal column is rigid, is in our opinion erroneous.

The pathological anatomy of the cases reported as belonging to Strümpell-Marie's type or to Bechterew's type is not at all convincing for considering the disease as one of rheumatic origin. Besides, the clinical picture, course, duration, and termination of the affection is by no means in every case identical with that of rheumatism, and this is particularly true with regard to Bechterew's disease.

Whether the disease is the expression of a general articular rheumatism or is an autonomous affection, as Bechterew, Strümpell, and Marie wanted, it is difficult to say, as the etiology of rheumatism itself is not at all known to us. If, therefore, the idea of uniting all forms of spondylosis in one cannot reasonably be accepted, the other tendency of describing and classifying all forms of spondylosis under only two types cannot be equally considered.

It is certain that there are cases which belong at the same time to Bechterew's type and to Strümpell-Marie's type. The reason of it lies probably in the fact that the morbid agent, whatever it may be, affects certain portions of the body and certain periarticular tissues more than others.

The first case I am about to report is one in which you will find on one hand meningomyelitic symptoms of Bechterew's disease and spondylosis of Marie's type, and, on the other hand, an involvement of the small joints of the hands and face, a fact not observed in either disease. The patient never had rheumatism. The second case is also lacking entirely in a rheumatic element. The third case, although with a history of rheumatism, shows nevertheless the onset of spinal rigidity immediately after an injury with a gradually progressing course.

Case I.—Mrs. L. S., aged fifty-four years, colored, was admitted to the Douglass Hospital on July 8, 1903, and gave the following history:

About a year ago she had an attack of vertigo with loss of consciousness, after which she was unable to walk and her vision and speech became markedly impaired. Since then she had several attacks of the same character, which occurred only after exertion. At the same period she noticed for the first time a rigidity of the spine which came on without pain. The rigidity gradually increased and invaded the joints of the extremities. Dr. Mossel, her attending physician, states that five years ago he noticed a gradually coming on ataxia in the lower extremities and about eighteen months ago the arms also became ataxic; she had great difficulty in carrying her hands to the mouth (there was evidently rigidity and limitation of movements of the joints of the arm). Within the last year she developed very frequent micturition (every ten minutes), with occasional incontinence and involuntary defecation.

Status præsens.—The general appearance of the patient is that of a much older person. The large as well as the small joints of the four limbs are ankylosed to some extent, but not enlarged. The spinal column is extremely rigid, so much so that the patient's attitude while standing, walking, or sitting is markedly straight and gives the impression of her wearing an orthopedic corset. When she attempts to sit down, the trunk does not bend but drops down as one mass. When she attempts to turn, she cannot do it easily, the whole trunk turns. Leaning forward or backward is absolutely impossible, lest she will fall. In walking, the body is erect and the knees do not flex; the steps are very small and the feet scrape the floor. Arms are in a semiflexed position, can be raised only to some extent and with difficulty. There is marked resistance to passive movements of individual joints of the upper extremities. The lower extremities are in a semiflexed position; patient experiences the greatest difficulty in crossing or in extending her legs. The right arm and leg were affected with a peculiar movement; patient would incessantly move her hand toward the mouth and the right leg across the left. However there were no clonic or tonic contractions. The head and neck are rigid, cannot be turned to either side or rotated, even passive movements of the head are met with considerable resistance. The face is immovable, mask-like, all the muscles of it are affected with the same rigidity; laughing, or even smiling, is impossible, neither can the patient frown or wrinkle her forehead. Mastication is markedly impaired, but there was no evident disturbance in the act of deglutition. The speech being normal, as far as the power of articulating is concerned, was nevertheless very indistinct, because of the patient's inability to separate the lips or to bring them in contact rapidly enough, also because of the rigidity of the auriculotemporal articulation and of the entire musculature of the face. Respiration was short and abrupt; there was very little expansion of the thorax. The considerable emaciation of the body showed distinctly the contour of the individual muscles. They resembled cords in a state of extreme tension. The latter was particularly noticeable on the neck and limbs. On passing the hand over her back one gets the impression of a hard and solid mass covered with skin and divided in two halves, between which is placed the inflexible spine. Briefly speaking, the patient resembled to a very great extent a manikin animated with some voluntary movements.

The examination of the nervous system gave the following result: Mental condition was good. Vertigo was frequent, especially on the least exertion. No headache. The eyes presented distinct Argyll-Robertson pupils, but no changes in the fundi. The gait was markedly ataxic and spastic. Romberg's sign present. Ataxia was also present in the upper extremities, which were also affected with a fine passive tremor. The latter increased to a great extent at each voluntary act. The deep reflexes in the upper as well as in the lower extremities were all exaggerated. Ankle-clonus was present only on the right side. Babinski only on the right. The reflexes of the face were also much exaggerated. The mechanical irritability was greatly exaggerated in all the muscles of the body. Reaction of degeneration was present in all the muscles of the extremities, in other muscles the electrical response was very pronounced to weak currents. In spite of their rigidity, the majority of the muscles were animated with fibrillary contractions, which were particularly marked in the arms. The muscular atrophy was not uniformly distributed and had all the appearance of Aran-Duchenne's type as far as the upper extremities are concerned. Sensory disturbances were not marked; only a diminution

of sensations could be elicited. On the other hand the patient presented a distinct girdle sensation, at times sharp, shooting pains in the arms and legs, but continuous drawing sensations in the legs. The sphincters of the bladder and rectum were greatly involved. Involuntary defecation and micturition, and particularly the frequent micturition, disturbed the patient to such an extent as to make her life intolerable.

The examination of the circulatory system revealed pronounced arteriosclerosis, accentuation of the second aortic sound, and a rough first sound at the apex. Urinary examination showed no pathological elements chemically and microscopically. Such was the patient's condition at the time of her admission to the hospital at the beginning of July. Nitroglycerin, iodides, minute doses of strychnine and digitalis, in addition to an appropriate diet, was the treatment patient had. The rigidity, ataxia, difficulty of mastication and of speech, general wasting and weakness continually increased, when, about the middle of August, through some imprudence in the diet, the patient was taken with a diarrhœa. Although the latter was immediately arrested, the patient grew weaker every day, and the rigidity of the muscles of the face increased to the extent that the patient ceased to speak and eat. The swallowing became difficult, the incontinence of urine and of fæces became extreme, two bedsores appeared in the middle of the sacrum. Soon the bedsores began to suppurate, the temperature which had been always normal rose to 101° and two days later the patient expired. An autopsy could not be obtained. To sum up the case presents an example of spondylosis which could not be placed among those of Bechterew's type. The only resemblance with the latter is found in the presence of cord symptoms.

FIG. 1.

However in Bechterew's disease the onset of the rigidity of the spine is preceded by root pains, while in our case the pain in the extremities appeared much later after the rigidity. Moreover in Bechterew's type the meningomyelitic symptoms are limited to the upper portion of the body, while in our case the nervous symptoms pointed to an involvement of the entire cord. The most important differential point lies in the localization of the rigidity: our case presented an involvement of all the intervertebral articulations and of almost all the joints of the body, while in Bechterew's type the cervicodorsal portion alone is invaded. Is our case a pure

FIG. 2.

example of Strümpell-Marie's spondylosis? The rigidity of the whole spine with involvement of the largest joints of the limbs makes the case as one of spondyloze rhizomélique. The involvement of the small joints of the extremities with those of the head, the clinical picture of ataxic paraplegia and marked involvement of the sphincters, plus Argyll-Robertson pupils, are symptoms not observed in Strümpell-Marie's type. Finally the amyotrophy with increased mechanical irritability, fibrillary contractions and reactions of degeneration are symptoms observed in spondyloze rhizomélique. Our case therefore can be recorded as one of spondylosis of a mixed variety, and illustrates once more the impossibility of recognizing only two extreme types of the affection. In view of the fact that there was no history of rheumatism previous to the onset of the spondylosis and of the cord symptoms, we have no sufficient ground to ascribe the disturbances to a rheumatic agent.

CASE II (Fig. 1) presents a great many spine and cord symptoms similar to the first case and there is no history or any evidence of rheumatism. The history is briefly as follows:

P. M. A., aged fifty-four, sustained fifteen years ago an injury by falling from a load of hay and striking his neck and head. Intense paid followed and was soon accompanied by muscular wasting and twitching. The disease progressed steadily and soon rigidity with marked limitation of movements developed in the cervicodorsal region of the spine in the large proximal joints. At present time he shows, in addition to the rigidity of the entire spine and a kyphosis of its cervico dorsal portion, all the typical symptoms of an amyotrophic lateral sclerosis plus involvement of the sphincters.

The history of trauma and the cord symptoms

would suggest here Bechterew's disease, but the involvement of the spine with the large proximal joints would place the case in Strümpell-Marie's type. This is therefore again a mixed type, in which there can be no question of a rheumatic agent or arthritis deformans as an etiological factor.

Case III (Figs. 2 and 3, from Dr. Dercum's service in Philadelphia Hospital).—S. F., aged forty-three, sustained an injury of the neck thirteen years ago. On the following day pain and stiffness appeared in the neck, which kept on increasing. At the end of three years the entire spine was rigid. At that time the stiffness also involved the hip-joints. During the first few years patient had several attacks of rheumatism in various articulations, but each attack lasted a short time. In the meantime the rigidity of the spine and hip-joints progressed. Examination showed prominence of the vertebræ from scapulæ to sacrum, head bent forward and downward, scoliosis, the joints of the hands

Fig. 3.

deformed and the large joints ankylosed, the muscular wasting is extreme and unequally distributed, fibrillary tremor, increased mechanical irritability and reactions of degeneration in the majority of the muscles. The tendon reflexes of the left upper extremity are increased, knee-jerks lost on the left and elicited with difficulty on the right, tendo Achilles reflex is lost. In this case therefore a history of rheumatism is present, but it is very peculiar to notice that the same rheumatism before the accident never affected the vertebræ. Immediately after the accident, during which he struck his neck, the rigidity of the spine commenced to involve also the large proximal joints. It is also interesting to note that while in the first two cases the reflexes were exaggerated, as is usually the case in spondylosis, here the reflexes are absent. This is again an example of an association of Bechterew's and Strümpell-Marie's types.

We are now in possession of facts showing that there are multiple conditions which are apt to produce limitation of movements and rigidity of the spinal column as well as of other articulations. Tabes, syringomyelia, spinal muscular atrophy, interstitial hypertrophic neuritis, diseases of the muscles, as myositis, hypertrophic cervical pachymeningitis, chronic deformant rheumatism with gout—are diseases which at a certain period of their development may give more or less the picture of both Bechterew's and Marie-Strümpell's types. The degree of resemblance to the latter will depend upon the intensity of the diseased process. Taking, therefore, into consideration the presence of a great many transitional forms and the fact that other conditions may give a rigidity of the spine with or without cord symptoms, it seems exceedingly doubtful if the disease under discussion be considered as a pathological entity. It seems more rational to reserve the term spondylosis only for the purpose of designating the symptom—rigidity of the spine—and the original names given by Bechterew, Strümpell, and Marie be abandoned. In conclusion I will say that the object of this report is to show that:

1. While Bechterew's, as well as Strümpell-Marie's, ideas cannot be accepted in the sense of the existence of two sharply defined clinical entities, the other view of considering all cases of spondylosis as an expression of rheumatism for the simple reason that the patient some time during life presented a history of rheumatism cannot be equally accepted. The onset, course, and termination are in some cases not those of rheumatism.

2. A great many cases recorded, if not all, present distinct symptoms of cord involvement showing that the etiological factor is of a more complicated order than one may suppose.

3. Between the types described by Bechterew, Strümpell, and Marie there are a great many intermediary forms.

4. Spondylosis is only a symptom of a more complicated disease, the etiological factor of which is not at all elucidated.

I wish to thank Dr. J. O. Arnold for the photographs.

THE ANTISEPTIC TREATMENT OF PNEUMONIA IN INFANTS AND CHILDREN.

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At a recent notable discussion on Pneumonia in Infants and Children that was held before the Pediatric section of the New York Academy of Medicine, the main drift of the discussion was toward the treatment of the disease. And yet it was the unanimous opinion of those who participated in that discussion, that the disease, especially the lobar form, was a self-limited one, and tended normally to recovery even under the most opposite conditions of treatment. Dr. Bovaird gave a most able review of the pathology of the two varieties of the disease and expressed the opinion that pneumonia should now be regarded as an infectious disease, produced by a specific organism, and manifested pathologically by a lesion located principally in the lungs. He also stated that tentative experiments had recently been made by good observers which seemed to show that both lobar pneumonia and bronchopneumonia, the latter of which had heretofore been regarded as only a sequela of a previous infectious disease, as measles, influenza and the like, were in fact due to the same specific bacteria, bronchopneumonia being caused perhaps by either an attenuated form of the specific coccus or by an association with other bacteria that influenced the coccus in producing the change of local pathological action. While the discussion did not take any new or decided line of departure, it seemed

to be generally admitted that the symptomatic or expectant line of treatment was, all things considered, the best. This idea was controlled by the statement that in uncomplicated cases of lobar pneumonia occurring in children under four years of age the percentage of mortality was almost *nil*.

It did not appear to occur to any of the speakers in the discussion that as the pathology and clinical history all pointed unmistakably to a disease of infectious origin the treatment in order to be rational should undoubtedly follow the same line of thought. This is the intention of this article, and while I have only a few cases to present to demonstrate its actual value in practice, the principle of the antiseptic therapeutics here advocated must appeal to the logical and rational sense.

In papers published by me on "Carbolic Acid as an Internal Remedy," in the MEDICAL RECORD, September 12, 1896; *Therapeutic Monthly*, May, 1901; and *Pediatrics*, September 15, 1902, I have fully described the therapeutic effects of the remedy and given my experience with it, based on its antiseptic properties. The method of administration is also there given, to which I would refer my readers.

I can here only reiterate my confidence in its virtues and recommend it as the type *par excellence* of its class of remedies. This confidence has been upheld in its further use in the treatment of pneumonia, both in the bronchopneumonia and lobar pneumonia form of the disease; the former should be a better test of its therapeutic value than the latter. From numerous cases I select the following:

March 18, 1898—Tessie G., three years of age, sick four days with a severe attack of influenza; when seen, temperature 104° F., consolidation signs plainly marked at the base of right lung, general symptoms those of profound illness. Treated with cold wet compresses to the chest, changed every two hours; internally one drachm of a 2 per cent. solution of carbolic acid every two hours. Creosote and eucalyptus evaporations in the sick room.

On March 21 consolidation signs had spread to the entire right lung. Crisis came on 23d. Very little food was given during the entire illness and plenty of water was allowed as a drink. In this case there is note of a crisis, but I have since found in many cases that while carbolic acid promotes sweating and thereby probably anticipates the crisis, the actual crisis is converted into a more gradual termination or lysis.

That the remedy is harmless when used in the doses and manner I have recommended in the papers referred to, there can be no doubt. In the discussion alluded to, the writer stated that the early detection of albumin in the urine was important, as it furnished a good guide as to a favorable or unfavorable prognosis, according to the amount of albumin found. The fact that albuminuria may occur in lobar pneumonia is not a contraindication to the use of carbolic acid internally. The smoky color of the urine after taking the acid is due to a change of form into substances known as the glycuronates of hydroquinone and pyrocatechin. In bronchopneumonia there is reason to believe that by causing a curative action it naturally averts the clinical history of the disease to result in cheesy degeneration and subsequent tuberculous infection.

Attention was directed, during the before-mentioned discussion, to the great importance of keeping the digestive functions in the best condition possible by avoiding over-taxing the stomach with too much food, as the digestive functions are weakened. Dr. Winters especially drew attention to the condition of abdominal tympany, which he stated was a bad prognostic sign toward the period of crisis, owing to the embarrassment of respiration induced. This observation has been frequently confirmed by myself and others. Carbolic acid appears to control undue fermentation of the gastricc ontents, and is thus indirectly an aid in maintaining a more normal condition of digestion. This is shown by the appearance of the tongue during the administration of the remedy, as it soon becomes clean and moist where it was previously thickly coated and pasty.

In the notes of the case reported above the use of cold wet compresses to the chest is mentioned. Hydrotherapy is about the only additional treatment I now use in lobar or bronchopneumonia. Where there is a predominance of nervous symptoms, as restlessness or delirium from high temperature, in lobar pneumonia I employ sponging of the limbs and trunk with warm water at a temperature of 98° F. In bronchopneumonia I like the cold wet compress for its stimulating effect.

Occasionally when the cough is painful and annoying, preventing sleep, I give five to ten drops of paregoric about night-time.

The treatment of pneumonia in adults, based upon the theory of attacking the specific germ, appears to be gaining in favor with the medical profession. Already many reports have been published of the use of salicylates and carbonate of creosote in pneumonia, and I have treated a few cases in adults successfully with carbolic acid in full doses, twelve grains every two hours. There certainly should be no valid reason why the same disease as it occurs in children in its various forms should not be treated on the same principle, notwithstanding the opinion that the mortality rate, especially in the lobar form, is of almost insignificant percentage.

As to the value of carbolic acid as an internal antiseptic, there can no longer be any reasonable doubt. It has already proved its powers as such in infectious diseases like influenza, scarlatina, tetanus, and lastly bubonic plague. The *Lancet* for September 12, 1903, contains an article by J. M. Atkinson in which he reports in full two severe cases of bubonic plague out of many others that were successfully treated with twelve-grain doses of carbolic acid given every two hours for sixty hours and subsequently six grains every four hours for fourteen days. Further comment is unnecessary.

144 WEST EIGHTY-FIFTH STREET.

HERNIA IN YOUNG CHILDREN.*

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YOUR president has honored me in asking that I speak to you on hernia as a contribution to the symposium on "The Abdominal Surgery of Young Children."

The ages under consideration are from birth to the fourteenth year. Dr. Coley[1] found that, at the Hospital for the Ruptured and Crippled, one-quarter of all the cases were in children under the fourteenth year. In my own clinic for the treatment of hernia, at the Post-Graduate Hospital, the cases have not been fully tabulated, but my associate, Dr. George E. Doty, informs me that in the last 2000 cases 985 have been children under fourteen years of age, very nearly 50 per cent. A percentage between these two figures would probably more correctly represent the true proportion.

We cannot discuss this subject intelligently until we have fixed in our minds an answer to the question, why young children have hernia, and I would

*Read before the Medical Society of the County of New York, December 28, 1903.

suggest as perhaps the most important predisposing cause, defective development.

The testicle, primarily formed just below the kidney, migrates to the scrotum, where it should be by the ninth month of intrauterine life. Preceding it in its descent, is a pouch of peritoneum, which afterward becomes obliterated at its upper part and separated from the peritoneal cavity. This tubular process is known as the tunica vaginalis. The descent of the ovary in the female is identical, except that it does not normally pass outside of the abdominal wall. The similarity goes farther, however, as the pouch of peritoneum does pass down through the wall, and if unobliterated, forms the canal of Nuck, rendering the female liable to the formation of hydrocele in the inguinal canal, or the occurrence of that type of hernia designated as "congenital."

For reasons that we cannot always discover, the descent of the testicle may be retarded, or stopped altogether, at almost any point in its transit, or where this organ reaches its normal abiding place in the scrotum, the pouch of peritoneum which lies in front of, and along the cord to the abdominal cavity, may not be obliterated. It is this lack of complete development that is placed first among the causes of hernia in young children, and it is this imperfection in infancy and early life which leads to the formation of what is termed congenital hernia.

The word congenital as here used does not necessarily imply that hernia existed at birth, and is quite misleading in that respect. It refers to a defect present at birth which leads to hernia later, and allows protrusion of some of the abdominal viscera into the cavity of the tunica vaginalis (or canal of Nuck) through its unobliterated neck. This form of hernia has been demonstrated at the operating table by your speaker, in a case occurring as late as the twentieth year of life, but it rarely occurs after five or six years of age. A very common time for this type of hernia to appear is shortly after the child begins to walk.

The second most common cause of hernia in early life is believed to be constipation, the delicate tissues of the infant being unable to withstand the tension to which they are subjected by the straining of the child. Gastrointestinal disturbances with extreme distention of the intestines by gas, are also liable to damage the abdominal wall.

Following these are the commonly recognized causes of hernia, such as whooping-cough, bronchitis, crying, and tight belly-bands.

The forms of hernia met with in young children are inguinal, umbilical, ventral, and femoral; their frequency being in the order named. Femoral hernia rarely occurs in children in early life. Macready[3] found five femoral hernias in children under five years of age in 21,000 cases.

The contents of hernia in early life differ very little from the adult. Intestine is by far the most commonly protruding viscera, but omentum may at times be found. The appendix has been found present in the scrotum in quite a large number of cases. In one of my patients, it was found in a congenital sac adherent to the testicle. It was about six inches long in an infant one year old, and tapered so gradually from the normal size of an appendix to the full size of the large bowel that it was difficult to tell just where the cæcum began. It was, of course, removed before the canal was closed, and the child made a prompt recovery.

The symptoms of hernia in early life correspond in their most important features with those seen in the adult under similar conditions. The visible tumor is usually the first indication. This may, in the infant, after having been seen once, disappear for days or weeks at a time, but more commonly will be seen whenever the child strains or cries, if at no other time. The popular belief that infants outgrow hernia probably has its origin in this temporary disappearance, and this mistake is sometimes shared by the medical attendant. Such error leads to neglect, fraught with danger, and results in perpetuating an otherwise easily curable defect. In some extremely rare instances, an infant's hernia may disappear and never return; but in the greater number of cases it will increase in volume and in danger, and the golden opportunity of obtaining a cure without resort to surgery, is lost.

Pain is not commonly associated with the formation of hernia, but it is probably more frequently so with infants than adults, and it is quite certain that it causes in them far more gastrointestinal disturbance. It is no uncommon experience to see disturbances of this character, which have resisted many forms of treatment, promptly disappear as soon as an existing hernia has been properly retained.

This leads to the question as to how early in life treatment should be begun? While, it does not come within the scope of this paper, it is felt that the opportunity should not be lost of impressing upon the medical practitioner the great importance of beginning treatment at the earliest possible moment after the discovery of the hernia. By "treatment" is meant the immediate application of a suitable truss, and if this is done, surgery will seldom be needed in early infancy.

In the case of the infant in arms, it is believed that those of largest experience are agreed that very little surgery is needed, except in those extremely rare cases of strangulated hernia that cannot be reduced by gentle manipulation. Strangulated hernia that cannot be reduced at once demands the immediate services of the surgeon as a life-saving measure. Owing to the elasticity of infantile tissue, it rarely happens, that by proper manipulation under an anæsthetic, the hernia cannot be reduced. In an experience extending over a long period of years, I have had many cases of strangulated hernia in infants, but not a single instance in which I have failed to reduce the hernia. In an operative experience of 1064 cases of hernia, only four times have I felt called upon to operate on infants of less than one year old. In all of these cases strangulation had been reduced; in one three times, in another twice, but its recurrence could not be prevented by truss treatment.

The valuable researches of Dr. Dowd[2] relating to strangulated hernia in children under one year of age, have brought to light a fairly large number of these cases operated upon successfully at a very early age. Dr. Lilienthal[4] has reported a case operated on on the eighth day of life, and Dr. Erdmann[5] one on the thirteenth day. One operator has done even better than this and operated two weeks before the termination of normal intrauterine life, the child having been born at the eighth month.

That strangulated hernia is not as dangerous to the infant as to the adult is shown in a striking manner by the recent report of Dr. William Thorburn.[6] In 110 cases he had a mortality of 24½ per cent., but the ten infants in this series all recovered. Dr. Estor,[7] who has made a study of 232 cases of strangulated hernia in infancy, considers the mortality in children under two years of age much less than in the adult. He found the appendix frequently involved, and considers that it should be removed when the condition of the patient will allow. The latter remark bears out my experience as I have found the appendix protruding in several cases.

The relative importance of symptoms of strangulation in infancy are concisely, and it is believed correctly, stated by Dr. Dowd in the following order: (1) Tumor, (2) vomiting, (3) constipation, (4) difficulty in urinating, (5) restlessness and apparent pain, and (6) constitutional depression.

The probable points of constriction in a strangulated hernia in infancy are in the main limited to two, and it is hard to say which should have first place. One is at the external abdominal ring, the constriction being by the fibrous tissue which abounds in that region. The other is in one of the white, fibrous bands or rings which are repeatedly found in these sacs. Very little has been written about these white bands, which are two to three times the thickness of the other parts of the sac, and very tough and inelastic. They may appear at any part of the sac, and while they are most common in childhood, may be met with in adults. Broca of Paris refers to these bands, and speaks of their probable origin in nature's attempts to obliterate the tunica vaginalis. This would be a very acceptable view had they not been found in sacs of the acquired type. I have found as many as four in a single sac. If omentum, or intestine, is driven through one of these rings with unusual force, strangulation is quite sure to result.

In operating for the relief of strangulated hernia in infancy or early life, it is of great importance that a closure of the parts should be so made as to effect a permanent cure. It is well to remember in these cases that recovery begins from the moment the constricting band is cut, and it seldom happens that the patient is in such extreme condition that the parts cannot be closed for a cure.

This leads us to the consideration of the last part of our subject—the surgical cure of hernia in young children—that is, children under fourteen years of age.

I find that my own prejudice against operating on quite young children for the cure of hernia is becoming less every year. This is due to the apparent perfect safety of the operation, and to its complete and permanent success.

One reason why the operation has been looked upon with disfavor in the very young, is owing to the difficulty of maintaining the parts in an aseptic condition during the process of healing. Personally, I have had no trouble in this regard since I adopted the uniform practice of sealing the wound with collodion, which forms a perfect protection. Nor have I found it necessary to put the infant in a plaster cast as advocated by several operators. When the wound is hermetically sealed, there is no objection to the frequent changing of the dressings should they become soiled. Usually there is not sufficient soiling to make this change necessary for the first four or five days.

Why not, then, operate upon all young children? The answer to this is, that 90 per cent. of children under three years of age can be cured by mechanical means, and proper care, and it is only right to give the parent the option as to how the child shall be treated. This, when the truth is stated to them, usually results in the avoidance of the operation. After the child passes its sixth or seventh year of age, the statement to the parent must be different, as we know that after that age the child is very rarely cured without an operation.

My own operative experience is that in 1064 cases 179 were children under fourteen years of age, and without a single recurrence or death resulting from the operation. There is, perhaps, nothing in surgery more satisfactory than the operative cure of these cases.

The method used cannot be entered into here farther than to state that it was essentially that of Bassini, using, however, kangaroo tendon as a suture material in place of silk. The greater part of these cases were up on the tenth day, and out of doors by the fourteenth. Primary union has been the rule, and deep-seated infection has not been seen in any case.

The indications for operating on hernia in early life may be tabulated as follows:

1. Strangulated hernia—immediate operation.
2. All cases not controlled by truss.
3. Occasional protrusion with threatened strangulation.
4. When truss-wearing causes pain.
5. On children that cannot be brought regularly for attention.
6. In all cases of femoral hernias.
7. On all children over seven years of age.

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56 WEST THIRTY-SIXTH STREET.

RADIOTHERAPY, WITH REPORT OF CASES.*

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THE advance of medicine in the last ten years has been like the advance of surgery under Listerism. Surgery had its innings first and now medicine is taking its turn. And so rapidly does one brilliant play in the field of medical discovery follow another that the spectators in the scientific as well as in the lay world, stand amazed. With bated breath we watch, feeling that even more brilliant things are about to be witnessed. It seems as though the guiding star of medicine had suddenly caught the eyes of all scientists, that the chemist as well as the bacteriologist and electrician were vying with each other in the tribute offered at the throne of Æsculapius. Certainly the recent discoveries of scientists working in other than medical fields bid fair to be of the utmost use in the treatment of certain diseases of man, even if they do not entirely displace old methods and establish a new system more radical and more potent. The discovery of the *x*-rays in 1895 by Prof. W. C. Röntgen of Wurtsburg, the discovery in 1899 of radium by Professor and Madame Pierre Curie of Paris, together with the discovery that the ultraviolet and some other rays have more or less curative power over certain diseases, has already resulted in a new system of treatment which we call radiotherapy. The term radiotherapy is no longer applied to the treatment of diseases by the *x*-rays alone. So we have placed in our hands a new weapon of yet unknown power with which to combat disease. Let us examine it and test it. No adequate idea of its power can be gained without using it and reporting correctly the results after its skilful application in many cases. For the next few years it will be well to keep a record of all cases, reporting all facts and all phenomena. Having begun the ray treatment before radium was discovered, and when the term radiotherapy was applied to the treatment of diseases by the *x*-rays only, my experience may possibly justify me in reporting the following cases:

CASE I.—Mr. S., sixty-six years old, native of New England, a maker of piano keys; consulted me February 10, 1901. He stated that he had suffered

*Read before the Middlesex East Division of the Massachusetts Medical Society.

greatly from eczema for more than seventeen years. The disease began in the scalp, to which place it was confined for some months, subsequently involving the lower limbs and back. The greatest annoyance from it was at night, the itching keeping him awake. The patient stated that he did not expect to be cured, having suffered so many years, and having been treated by many physicians, but would I please give him something to stop the burning and itching of his disease that he might sleep. He had been through the whole list of washes and ointments, with at best but temporary relief. Examination revealed a large patch of red, infiltrated, thickened eczema, the worse for scratching, below the right knee, another area on the inner aspect of the left thigh, one on the buttock, and one in the lumbar region of the back. There was no eczema of the scalp at this time. *X*-ray treatment was begun at once. An exposure of eight minutes was made, the tube distance being three inches for seven minutes and one inch for one minute.

On February 14 the patient returned and stated that the itching had been less since the first treatment. Another treatment of eight minutes with the tube one inch away was given. February 17 patient stated that the itching had stopped and that he felt only a slight burning sensation. On February 21 the fourth treatment was given. Marked improvement was noticed in the appearance of the disease and all itching and burning had stopped. At the end of fourteen treatments, given at intervals of three to four days, the patient was discharged cured. Patient was examined Friday, October 2, 1903, two years and six months from the time he was cured, and he stated that there had been no return of the disease. In place of the thickened, inflamed patches there was soft, normal skin. In this case a close exposure was given for about one minute of each treatment, the balance of the treatment being at a distance of three to four inches. No dermatitis was produced, and no new symptoms noted.

Case II.—Mr. H. C. B., sixty years of age, native of this country; lumber dealer, a strong man of good general health, consulted me November 15, 1902, for eczema of the hands. He stated that he had suffered a great deal with the disease of his hands for over two years. He had used various ointments and washes without much relief. An *x*-ray treatment was given of about eight minutes duration, the tube distance three inches. The second treatment was given November 17. No change observed at this time. November 20 the third treatment, November 22 the fourth. At this time improvement was noted. The patches were thinner, less inflamed, and the itching less. November 25 a three minutes' treatment was given at a distance of six inches, the fingers of both hands showing an *x*-ray dermatitis accompanied by considerable burning. The usual treatment for a burn was given, and the patient instructed to return at the end of a week. December 2 another treatment was given and marked improvement in the disease noted. The dermatitis had subsided. December 5 the seventh treatment was given, and on December 10 the eighth and last. On this date the patient was discharged cured. I examined this patient October 3, 1903, ten months after cure, and there had not been the slightest return of the disease. The hands were smooth and soft.

Case III.—Mr. B. H. R., fifty-one years old, keeper of a restaurant; general health good. This was a case of chronic eczema of the buttock, inner side of the thigh and perineum. The patient told me that he had suffered with the disease for twenty years, during which time he had used one nostrum after another. The itching was worse at night after he had retired and kept him awake a certain portion of each night. Began treatment with the *x*-ray May 17, and gave a daily treatment until an *x*-ray dermatitis was produced. Treated the dermatitis for a week then resumed the rays, giving in all eleven treatments, at the end of which time patient was discharged cured. Patient was seen October 3, 1903, six months after the last treatment, and there had been not the slightest return of the disease.

Case IV.—Capt. W., fifty-eight years old, lumber dealer. He served in the Navy during the Civil War, and was broken in health by a severe attack of yellow fever. He was not well for some years after this. General health good at this time. This patient came to me July 24 to be treated for severe fissure eczema of the hands, with which he has suffered for two years. There was much thickening and infiltration of the tissues, with cracks in the palms which were very sore and which frequently bled. His hands were so stiff he was unable to close his fingers, which were about half extended. Daily treatments were given with the *x*-ray until a slight dermatitis was produced, the tube distance being from one to two inches, and the treatment lasting from five to eight minutes each. After sixteen treatments the patient was discharged cured. During the course of this treatment the tactile sense in the fingers became much diminished and numbness was complained of. The new skin which formed was soft and smooth.

Case V.—Mrs. H., widow, a little over fifty years of age. Eczema of external ear and external auditory canal. Began treatment June 30, 1902. Was discharged cured after nine treatments. In the fall of 1902 there was a slight recurrence of the disease which appeared cured after four more applications of the rays. I saw this patient Monday, October 5, 1903, and there was a recurrence of the disease in a small area and mild form. This patient received in all thirteen treatments, not strong enough at any time to produce dermatitis. She was advised to return for further treatment, in which event the ray will be used until a slight dermatitis is observed.

Case VI.—Miss R., twenty years of age, student in a nurse's training school. Eczema of the external ear. Seven treatments with the *x*-ray. Discharged cured. No dermatitis was produced, yet the hair came out, leaving a bare scalp of an area of about one and a half by three inches above and behind each ear. A new growth of hair has since developed. This case was treated last July, and was of two years' standing. October 3, I was informed by the patient's sister that there was a slight recurrence of the disease.

Case VII.—Mrs. B., aged thirty years, married, no children, once pregnant and delivered of a still-born child at term. Psoriasis since she was twelve years of age. Since that time she has never been free from the disease except during the period of gestation when it entirely disappeared, recurring after childbirth. After nine treatments the disease disappeared from the outer aspects of the forearm and forehead, which were the parts involved.

Case VIII.—Mr. S., sixty two-years old. Epithelioma of the lower lip, first noticed one year ago. Patient was referred to me for treatment December 31, 1902, presenting a sloughing tumor of the lip, which had not been benefited by the paste treatment. He suffered great pain and was unable to sleep nights from that cause. After twenty-two treatments, during which the patient was three times slightly burned by the rays, the tumor had disappeared save for an indurated mass about the size of a kernel of corn that looked like scar tissue and which took the

place of the slough. This was removed with the knife. The patient's beard, from his lip to his chin, was removed by the *x*-ray, and at this writing, eight months since the patient was treated, it has not grown again. I saw the patient Monday, October 5. There were no signs of recurrence of the disease.

CASE IX.—Mrs. W., fifty-four years old, malignant disease of the stomach. This patient's grandfather on her mother's side died of cancer and her mother's sister died of the same disease. On her father's side an uncle and an aunt died of cancer. The disease developed very rapidly in the spring of 1903, and soon after I discovered the tumor the *x*-ray was applied. Daily treatment of from eight to twelve minutes was given with a coil at the patient's home. A very marked pigmentation of the epigastric region resulted, but no dermatitis was produced, although the treatment was the most vigorous of any I have ever given. The pain which the patient suffered before the ray treatment was begun, and which made necessary frequent doses of morphine, gradually disappeared until no morphine was required. The foul odor of the disease was also greatly lessened. No other benefit resulted. The patient sank rapidly and died late in May. The insusceptibility of some patients to *x*-ray dermatitis was well illustrated in this case. I have produced dermatitis in many cases with one-quarter as much exposure.

CASE X.—Mrs. K., aged sixty-five years. Epithelioma of left forearm. The patient's father had cancer of the lip. Mrs. K. stated that her tumor began to develop six months before she applied to me for treatment. It started from "a small pink spot" that had existed some months, at least, before it began to cause trouble by further development. *X*-ray treatment was begun the middle of September, and after sixteen treatments the patient was discharged cured October 19. After ten treatments the necrotic center of the tumor came away, leaving a red, granulating base, which healed rapidly.

CASE XI.—Miss M., fifty-four years old. Rodent ulcer of left cheek, extending up the side of the nose to the inner canthus of the eye and involving the inner half of the lower eyelid. Growth started from a little red spot that had existed on the cheek below the eye for some years. Period of present activity five months. Patient now under treatment. Twelve applications of the *x*-rays have been made. The appearance of the disease has entirely changed. A granulating center now presents itself; the swelling and induration of the surrounding tissues has been greatly reduced.

CASE XII.—Mr. T., seventy years of age. Beginning malignant disease of the right side of the nose near the eyelid. Patient was referred to me for *x*-ray treatment by a surgeon on the staff of a Boston hospital, at which hospital patient's left eye and part of the orbit was removed on account of malignant disease which began just below the eye and extended upward. Operation one year ago. Reappearance of disease on right side first noticed some three months ago. Began treatment in September. Patient discharged cured October 31.

Time forbids the detailed report of more cases. I have reported only those the course of which I have been able to follow from the time of treatment to the present date. They are a few of many which I have treated in the last three years, and are a fair sample of the general run of cases. Eczema, according to my experience, will melt away before the *x*-ray like snow before an April sun. Certain malignant diseases of the skin will yield to it in a large percentage of cases. The pain and odor of cancer are stopped in a large percentage of cases and relieved in some degree in nearly all. Some cases of phthisis have been reported cured by it. I have treated several cases in which the cough has been greatly benefited and improvement in all the symptoms noted—cases in which the disease has been rendered apparently non-progressive. I have had no cures thus far. In the field of ophthalmology the *x*-ray has taken a conspicuous place in some quarters. Trachoma seems to yield readily to it, many cases of granular lids have been cured, and in some instances ulcers of the cornea have been stimulated to rapid healing. Some other diseases appear to have been cured and still others benefited. The range of its usefulness, and its exact indication is yet to be determined. In my own practice the *x*-ray has proved to be the most powerful and useful in treating, first, eczema and psoriasis; second, superficial malignant diseases; third, pain of deep cancer. neuralgia, cough of phthisis, muscle pains, and ulcers. It seems to me that the *x*-ray has the right power but not enough of it. That is, if it had more of the same kind of power I think it would cure deep malignant disease. Radium appears to have a greater power of the same, or a very similar kind, and I believe it has a great future. It may yet supersede both the *x*-ray and the violet ray in the treatment of disease.

The *x*-rays, as well as the radium rays, are fatal to certain living organism. It causes irritation of the skin, and in large doses destruction and sloughing of the skin and deeper tissues. It is said to dilate the cutaneous blood-vessels, but it has seemed to me that in some cases the dilatation was preceded by a vasomotor spasm and blanching of the parts nearest the tube. It is said to produce a local increase in the number of leucocytes in the blood, and in cold-blooded animals to inhibit the heart. It will cure without producing necrosis—that is, it is not necessary to produce necrosis to cure—the cure is not the result of necrosis. No exposure strong enough to produce more than a slight dermatitis should ever be made, and rarely should a dermatitis be produced at all. If we go much beyond a dermatitis we not only impair the vitality of the tissues exposed but do a constitutional harm, besides making the parts more vulnerable to disease at some future time. It seems to me that the power of the *x*-ray to cure germ diseases depends upon the destruction, directly or indirectly, of certain living organisms or germs. Its power to relieve deep-seated pain, has been attributed to the superficial vasomotor dilatation which it causes. With this opinion I do not agree. I believe the pain is relieved by direct action on the nerve terminals and possibly the deeper nervous centers. I have stopped pain with the *x*-ray in cases in which superficial vasomotor dilatation produced by other means did not stop it. The various rays exert an influence upon vegetable life as well as upon animal life. Plants are stimulated and even destroyed by exposure to some of the rays.

The proper dose of the *x*-ray varies, like the dose of any remedy, within pretty wide limits. Its proper administration can only come through experience, and there are several important factors determining the length of time it is proper to expose a patient to its influence. In the first place we should bear in mind that there are certain forces excited by the rays that continue in operation a considerable length of time after the application of the rays has ceased. A burn may not show itself for days or even weeks after the parts have been exposed to the tube. A patch of eczema or an epithelioma will sometimes disappear after two or three treatments when, at the last treatment, no change was noticea-

ble in the superficial appearance of the disease. After a certain number of daily treatments have been given it is well to discontinue them for a week or ten days and note if progressive improvement does not take place. The treatment should not be carried too far lest a permanent impairment of the vitality of the tissues result, and a predisposition be established to the development of some of the very diseases we seek to cure with it. Atrophy and cancer have followed over-exposure to the rays, and ulcers of the most intractable type have been caused. I am satisfied that many unnecessary treatments are given, and that exposures are often improperly timed. In order to make a proper exposure it is necessary to know three things: First, the power of the machine that excites the tube; second, the power of the tube, and, third, the patient's susceptibility to the action of the rays. Tubes vary in penetration and power within pretty wide limits. A five minutes' exposure with a given tube may be equal to a ten minutes' exposure with another tube. So, without knowing the penetration of a tube, no exact directions can be given concerning the proper length of the exposure. The varying results from the use of the *x*-ray by different operators must be accounted for by the varying qualities of the tubes used and a difference in method of application. Some patients are more susceptible to the action of the rays than others. Fair, delicate, thin-skinned types require a smaller dose, as a rule, than stronger patients of the brunette type. We do not know the ultimate results of too prolonged treatment. It may be that, by impairment of the vitality of the tissues, it will favor the development, fifteen or twenty years later, of senile gangrene, some neurosis or other disease. This is true, also, of the violet ray and the radium ray. The action of the violet ray seems to be similar to that of the *x*-ray, and it appears to be useful in the same class of diseases. Some cases have been reported cured by it that the *x*-ray failed to cure. Some cases have been reported greatly benefited by the radium rays that did not respond to either the violet or the *x*-ray. Radium is said to produce three rays, one of which is far more penetrating than the *x*-ray, and one of which seems to be similar to or identical with it. The Crookes tube may be excited by a coil or static machine. In my office I use both. My static is a powerful ten-plate machine and I prefer it to the coil. It seems to me that the ray generated by it is more efficient and less liable to cause dermatitis. Some think that the coil is better for skiagraphy. A ten or twelve-plate static machine (I would not advise a smaller one) with a tube properly adjusted to it certainly does very satisfactory work, and is sufficient for all therapeutic purposes. The selection of a tube to fit the machine is an important matter. The vacuum must not be too high or too low, but carefully made to fit the particular machine to which it is to be connected. Bedside treatment must be given with a coil, and here it has a distinct advantage over the static machine. Another advantage is its lesser bulk and cost.

The Doctor and the Law.—In the writings of Hammurabi of Babylon, 2250 B.C., the following interesting laws are found: "If a physician operates on a man for a severe wound with a bronze lancet and saves the man's life, or if he opens an abscess (in the eye) of a man with a bronze lancet and saves that man's eye, he shall receive ten shekels of silver (as his fee). . . . If a physician operates on a man for a severe wound with a bronze lancet and causes the man's death, or opens an abscess (in the eye) of a man with a bronze lancet and destroys the man's eye, they shall cut off his fingers."

Diastolic Aortic Murmurs without Valvular Lesions.—G. A. Gibson believes with Babcock that there is a form of aortic insufficiency, which although not due to valvular defect, yet presents the same clinical features as the organic form, and is so frequently encountered that it may here be briefly dwelt upon. This is a relative incompetence of the semilunar valve, and its causes are found in conditions that predispose to stretching of the ventricular wall and of the basal ring of the aorta. The writer cites two cases in point. The first patient was a man aged thirty years. He was suffering from chronic nephritis. In the aortic area, a hard systolic murmur was heard, which was propagated into the carotids. The second sound was impure and was followed by a soft blowing diastolic murmur, best heard over the sternum, and hardly propagated at all. Autopsy revealed a dense band surrounding the aorta and pulmonary artery. This caused considerable displacement as well as constriction. The writer believes that the diastolic murmur was produced, not by stretching of the orifice (which was negatived by the result of the post-mortem examination), but by faulty adaptation of the aortic cusps. The systolic murmur was no doubt largely due to some dilatation of the vessel beyond the constriction. The second patient died of aneurysm of the aorta. About a year before his death a diastolic murmur developed over the upper part of the sternum. In neither case was there any permanent stretching of the orifice. The writer believes that the murmur was due to faulty adaptation of the different cusps of the aortic valve. It is impossible to conceive of temporary dilatation, and in default of any pathological proof of enlargement of the orifice, faulty application of the individual cusps to each other can alone be entertained as the cause of regurgitation.—*Edinburgh Medical Journal.*

Elephantiasis and Its Treatment.—William Elde reports this case. The condition which was considered elephantiasis had been noticed for fourteen or fifteen years. The patient had twice resided in Burmah. The last residence there had been seventeen or eighteen years ago. During her stay in India she had two attacks of "fever," and she suffered much from the bites of mosquitos. She did not notice the swelling in the limb till a few years after her return. During the early months and years of her illness she suffered much from feverish attacks, which at the time were believed to be influenza. These attacks occurred so often, however that they were a little puzzling. They recurred sometimes at intervals of a month, and again a few months would sometimes pass without an attack. The attacks were far more frequent in the summer than in the winter. In later years the attacks became less frequent, but the limbs had gradually become more swollen. The patient was very uncomfortable in a hot atmosphere. She has a very distinct dislike of fish. Treatment was begun in March and continued till June. The patient was put to bed and given a light ordinary or convalescent diet. She was daily massaged, special attention being paid to the swollen limb. At first massage was given for a short time. Later it was prolonged. The constant current was also applied daily to the swollen limb, the poles being applied over the most swollen parts. The limb was also put into an electric heat bath daily. General tonics were given internally, and medicinal treatment was varied as the patient's digestive symptoms required. After the massage was discontinued, an elastic stocking was ordered. The limb which diminished to about the size of the normal one, has remained in practically the same condition since. No filaria could be found in the blood, but there was an increase of lymphocytes and a percentage increase of polymorphonuclear eosinophiles. There was not much anæmia. The patient's digestive troubles were treated by washing out the stomach.—*Edinburgh Medical Journal.*

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THE TREATMENT OF TYPHOID FEVER.

In the treatment of typhoid fever, in which every general practitioner is interested, there is always something to be learned either by suggestions of new methods or by corroborations of old and generally accepted lines of procedure. From such points of view the subject is never an old one and its discussion is always fraught with practical benefits to patient and physician.

In an exhaustive symposium on enteric or typhoid fever in the January issue of the London *Practitioner* appear three chapters on the topic in question: One by Sir John W. Moore, M.D., physician to the Meath Hospital and County Dublin Infirmary, one by Dr. Herbert P. Hawkins, physician to St. Thomas Hospital, and one by Dr. Thomas McCrae, Associate on Medicine in the Johns Hopkins Hospital. These gentlemen, although following parallel lines, present respectively the British and American methods of dealing with the disease. As might be expected, there is a marked unanimity of opinion regarding the fundamental principles upon which the therapeutics of the malady should be based. This fact is comforting at the start, as much confusion as to general indications is thus avoided, giving corresponding force and directness to the conclusions arrived at.

When we admit that the foundation of all rational treatment of typhoid fever rests upon the fact that the pyrexia itself is not the main object for attack, but is, so to speak, a beneficial reaction against the fever poison, we can better understand the inutility of mere antipyretics to fulfil their supposed indications. We by the latter means reverse conditions by striving to screw down the safety valve rather than give it a proper vent for the force behind.

There being no typhoid serum to counteract purely toxic effects, reliance must be placed on mitigating the latter with the least possible danger of interfering with the conservative metabolic processes. Hence cold bathing is considered the most safe and certain means of controlling or reducing the high bodily temperature. Under certain circumstances, however, Sir John W. Moore admits that the ordinary coal-tar products so commonly used may be of incidental benefit when administered in small or moderate doses to meet special and minor indications. Thus "they assuage the toxæmic rheumatoid pains of the disease and so allay cerebral excitement and invite sleep, . . . but pushed so as to reduce temperature, they imperil life." Dr. Hawkins is substantially of the same view. "There may be cases and conditions in which an occasional dose of quinine, phenacetin, antipyrin, or salicylate of soda may be used. But the attempt to control pyrexia throughout a long illness has nothing to recommend it. Such a method is usually inefficient, and if it is to have a substantial effect it must be carried out on a scale that is not free from danger." Hence he agrees that to the proper end "there is nothing like cold water." The reason for the latter treatment is based on conditions that obtain in high fever: "The continuance of a body temperature averaging 103° F. for three, four, or more weeks is a definite tendency to death which can be greatly diminished. It is probable that much of the injurious effect, especially on nerve tissue and cardiac muscle, which was formerly regarded as due to pyrexia alone, should more correctly be ascribed to toxæmia. But we may safely believe that with a lower average daily temperature the greater will be the conservation of the tissue resistance to bacterial life and activity."

In the Johns Hopkins Hospital antipyretic drugs as such are never used. According to Dr. McCrae, "hydrotherapy enters into practically every method of treatment of typhoid." As to drugs, "Many of the patients get no medicine at all. None of the so-called intestinal antiseptics are given. If the heart becomes rapid, the pulse weak, and the first sound indefinite, strychnine is given in doses of $\frac{1}{60}$ to $\frac{1}{30}$ grain every four hours with excellent results. This usually is not given continuously for more than twenty-four hours. For the severe headache, small doses of bromide and codeia or of opium are sometimes given."

The routine administration of alcohol is objected to. The rate and strength of the pulse are the only guides for its use. Thus at the height of disease, when the heart is clearly failing and the nervous disturbances are profound, from three to ten ounces of whiskey or brandy may be given. It is specially indicated in old persons from the first.

The various forms of water treatment are thus advocated in their order of importance: (1) Immersion in cold baths (70°–50° F.). (2) Tepid sponging (3) The wet pack (60° F.).

McCrae, with Brand, advocates tubbing from the beginning as a standard treatment, giving as his reason that it lessens the likelihood of severe manifestations late in the attack. This, however, must be admitted as a negative proof of its value, as it is difficult to be sure of what may not happen. As the nervous symptoms are to a great extent an index of the degree of toxæmia, and as these phenomena become less pronounced with the bath system, he quite logically concludes that tubbing increases the elimination of toxins. Thus the main object of the baths is not to decrease temperature *per se*, as during the height of the attack they have no appreciable effect in such a direction. The immediate effects are on the circulatory and respiratory systems. The pulse becomes reduced and firmer, the breathing is stimulated, congestion dissipated, and existing bronchitis benefited. By its tonic effect on the skin there is less liability to bed-sores. The main purpose is, after all, the reduction of mortality, from five to seven patients being saved in every hundred suffering from pure toxæmia.

At the Johns Hopkins, patients are tubbed every three hours when the temperature is 102.5° F. and over. This temperature, it must be confessed,

would not be considered as sufficiently high by the ordinary practitioner to warrant such seemingly radical treatment, but in keeping with the indications of tubbing as previously given, the course is consistent enough. The first tub is usually given at 85° F. and succeeding ones 5° lower until the most suitable point is reached. The time occupied for each bath is usually from ten to fifteen minutes. Should the patient be delirious, the first bath can be given at 70°. During immersion the surface of the body is rubbed constantly. Shivering is a common but insignificant sign. Patients are removed immediately from the tub if there be great distress, unusual cyanosis, vomiting, hemorrhage, abdominal pain, or symptoms of collapse.

As to the general objections against immersion, Dr. McCrae urges that they are due to faulty methods; that every one superintending a clinic should experience an immersion himself—an excellent general principle that would eliminate any unnecessary harshness and ill-consideration in any other methods of treating disease.

It is generally agreed that typhoid-fever patients should be sparsely fed. The condition of the gastrointestinal mucosa gives ample reason for this. Milk is the article preferred. Albumen water can be used as an alternative, also buttermilk, boiled milk, koumys, or whey. As a rule an adult should take four ounces of milk every four hours. Ice cream may be taken at any time.

Beef tea, peptonoids, and similar preparations are never given in Johns Hopkins, but if a change of diet is required it is usually accomplished by cutting off the milk and giving only whey and albumen.

The value of simple diet is abundantly proved in the absence of gastrointestinal disturbances. The argument against too much meddling with constipation has a like basis. "If possible leave the bowels alone." "We prefer a state of constipation, which is the rule in a majority of our patients. If necessary, the bowels are moved every second day by a simple enema, preceded sometimes by a large injection of oil. No purgative is given by mouth during the attack." On the other hand, if diarrhœa appears it is merely a signal for the reduction of the diet. If not, bismuth or opium may be indicated. For tympanites, turpentine externally or internally is recommended.

"With the question of food," says Dr. McCrae, "goes an equally important one, viz., the amount of water." Certainly too much emphasis cannot be laid on this very essential requirement. To the old-fashioned practitioner who believed water to be absolutely harmful in fevers this sounds like the rankest heresy; but too much stress cannot be laid upon the need of a newer doctrine.

We cannot give a better practical turn to the general therapeutics of typhoid fever, or in fact any other form of fever, than to quote in full what Dr. McCrae says on this subject:

"The need of giving to patients large amounts of water is too often forgotten. Constant emphasis is laid on this, and a minimum of three litres of fluid (two and one-half quarts) *per diem* is the rule in this clinic. The endeavor is always made to give larger amounts. Many patients take six or seven litres a day (five to six quarts). The delirious patients are pressed to take it every hour at least. Those who are rational have a supply constantly at the bedside which they are encouraged to drink in addition to the regular feedings. To make sure that a typhoid-fever patient is getting enough water requires constant effort on the part of the physician and nurse. The amount of urine passed is a very valuable guide. We consider that too much importance cannot be given to this. Probably typhoid-fever patients suffer more from lack of water than from any other thing. 'More water' might well be the motto inscribed in all our typhoid-fever wards. Do not let us forget that our patients will do perfectly well on water alone for some days."

THE RELATIVE IMPORTANCE TO THE COMMUNITY OF PNEUMONIA AND TUBERCULOSIS.

Dr. ARNOLD C. KLEBS of Chicago read a paper on the above subject before the Chicago Medical Society. He drew attention to the fact that mortality statistics are by no means to be implicitly relied upon, and that, especially in this country, the prevalent classification of diseases is thoroughly unsatisfactory, and gives possibility for error. Figures quoted, however, by Dr. Klebs go to show that pneumonia is not so deadly a disease as is generally imagined, and that so far as prognosis is concerned, tuberculosis is far more dangerous to life and health than is pneumonia. With regard to the comparative infectiousness of the two complaints, the author said that "In the light of modern research there can be no doubt of their communicability under certain conditions. For tuberculosis at least this has been proved without a doubt. For pneumonia we have in this respect only indirect evidence, since its bacterial etiology is by no means yet clear. The observation of several pneumonia epidemics, the spread of the disease through a house, and other factors speak for its communicability. The whole course of the disease speaks for its infectious character, and still we are lacking definite information as to its mode of communication."

Dr. Klebs is strongly of the opinion that a wise and energetic action against the excessive use of alcohol will probably have a marked bearing on the mortality from pneumonia—much more so than general hygienic measures, which, so far as our present knowledge goes, have only an indirect influence on the mortality of the disease; and he further makes this important statement: "The very fact of a increasing mortality from pneumonia in late years when general hygienic conditions have steadily improved, would disprove the efficiency of such course of prophylaxis."

Dr. Klebs sums up as follows: (1) That the relative economic importance of pneumonia cannot be estimated by a mere comparison of total mortality figures for each disease. (2) That the apparently high mortality figure, and its increase of late, for pneumonia, is produced by the enormous death rate, and its increase attributed to this disease in early childhood. (3) That, therefore, the high mortality from pneumonia, and to a certain extent its increase, is due to a classification of different ill-defined pathologic conditions under one name while that from tuberculosis represents that of a well-defined morbid entity. (4) That for this reason and on account of the relative shortness of disability

sickness and frequent recovery in pneumonia, the great length of disabling sickness and infrequent recovery in tuberculosis, the relative importance of the two diseases is so vastly different, that a comparison on economic grounds reveals the overpowering danger from tuberculosis. (5) That the steady decrease of the tuberculosis death rate can be explained on the grounds of increasing improvement of hygienic conditions in late years and as the result of specific prophylactic measures. (6) That the increase of the pneumonia death-rate occurring in a time of improving hygienic and sanitary conditions and of a general application of antiseptic principles, shows its independence of these features. (7) That therefore, and in view of the still enormous mortality from tuberculosis, its demonstrated preventability and the possibility of its arrest only in its earliest stages, the institution of educational measures in regard to personal and public hygiene widely and specifically applied, for the prevention of this disease, seems to be distinctly indicated. (8) That since pneumonia is a multiple disease as pointed out by Wells, "the fundamental information on which prophylactic rules may be formulated is not yet at hand." The subject, in fact, needs further investigation from a bacteriologic and epidemiologic standpoint before "exaggerated and irrational notions in regard to its dangers and its avoidance" are communicated to the public by advisory official bodies.

There is little need of argument to show that tuberculosis is a far greater menace to the community than is pneumonia. The comments of Dr. Klebs on the comparative infectiousness of the two diseases are very much to the point. Pneumonia is doubtless communicable under certain conditions, but the evidence in support of its general infectiousness is inconclusive, and there should certainly be further investigations before a definite statement is made. Pneumonia is more common in this country than in Europe, one reason for this probably being that the houses and offices are heated at too high a temperature, rendering those who occupy them susceptible to cold. Another reason, at any rate, for the prevalence of pneumonia in New York, at least, is the changeableness of the weather, and perhaps to some extent during the past few weeks, the inadequate and eccentric manner in which the elevated and street cars have been heated. Pneumonia will attack those whose vital forces are at a low ebb; hence the large mortality from the disease among the old and very young, and among those who are addicted to the excessive use of alcohol.

Renal Opotherapy in Albuminuria.

Kidney affections are perhaps more discussed, and more methods of treating them are suggested and practised than is the case in any other disease. The Paris correspondent of the London *Lancet* sends a letter to its issue of January 2, in which he refers at some length to what he terms a sensational communication made by Professor Renaut of Lyons, at the meeting of the French Academy of Medicine held on December 22 last. The professor stated that investigations made by him afforded good grounds for thinking that many cases of albuminuria will in future be curable. "The following," says the *Lancet* correspondent, "are the conclusions which Professor Renaut has drawn from his researches. Extract of macerated kidney administered to patient's suffering from renal insufficiency is one of the most active and most efficacious methods of medication hitherto employed. It restores the function of a waterlogged kidney more than does any other known means. It acts both quickly and surely even in cases in which no preliminary depletion of the kidney, as by the application of leeches to the triangle of J. L. Petit, has been tried. The extract has a powerful diuretic action, and when employed for a reasonable space of time it brings up the urinary output to the normal and maintains it at that level. Further it has no harmful influence upon the affected kidney. Among other advantages of this method of treatment is that it rapidly reduces the output of albumin by the kidney, owing to its renewing the activity of the gland. It will even cause a disappearance of the albumin for a long period, and so there is every chance that, the tubules of the kidney being given functional rest, the renal epithelium will be renewed, at least in those cases in which such renewal is histologically possible. It is therefore, as Raphael Dubois discovered and demonstrated, at one stroke, an antitoxic method of the first class. The antitoxin consists of the 'preproducts' of the glandular secretion of the epithelial cells of the convoluted tubules, the important point ascertained by Dubois being that this antitoxim is not destroyed by the gastric juice. It is this fact which allows of the application of renal opotherapy. The kidney extract introduced into the organism per os exercises a real antitoxic effect."

The only injurious effects observed from this manner of treatment were that there were slight symptoms of poisoning, giving rise to certain skin eruptions, or after the extract had been administered for a few days, slight gastric disturbances occurred. This treatment should be begun at as early a stage of the disease as possible, and it should not be substituted for other therapeutic measures, but used as an adjunct to them.

Poisoners of the Sixteenth and Seventeenth Centuries.

Two works have been recently published in France relating to poisonings. "Poisons et Sortilèges," by Drs. Cabanès and L. Naas and "La Sorcelleric et la Science des Poisons au 20e Siècle." The New York *Evening Post*, January 9, has an article from its Paris correspondent in which these volumes are reviewed, and a sketch is given of the history of the science of poisoning and of poisoners. Poisoning as a science had its inception in Italy. The most famous of the Italian poisoners was René, the perfumer of Catherine de Médicis. René Bianco accompanied the Queen to France, when Catherine de Médicis married Henry II. Another Italian poisoner was a member of Catherine's suite. "The chapters written by Dr. Cabanès on the use of poisons in the sixteenth century," says the writer in the *Evening Post*, "are very interesting, and he is able to correct many historical errors. He gives many details regarding the poisons employed at that time. The famous surgeon Ambroise Paré writes with much caution on the subject: "If I had my will, no man would ever have written on the subject of poisons, so that we should have to defend ourselves only against beasts, which is easier than to defend ourselves against the wickedness of traitors and poisoners." . . . We possess many documents on the history of criminality in the seventeenth century. Trials were frequent in which sorcery was really a cover for poisoning, and not a few of the sorcerers tried were in reality mere

poisoners. In 1679 the King created the "Chambre ardente," which had at once to judge three hundred and thirty-seven people suspected of being poisoners, and many were condemned to suffer capital punishment. From that date we hear no more of sorcerers, and trials for sorcery became exceedingly rare. On the other hand, trials for poisoning became more common.

M. Masson writes of the medical account of Richlieu up to the time of his death, contained in a series of despatches from Louis XIII. It was feared that poison might be administered to Richlieu, but he eventually died from pleuropneumonia. Marie de Médicis, the mother of Louis XIII, is another subject studied from its medical aspects by Dr. Masson, and he concludes that, like three-quarters of her family, she died a violent death, presumably from the effects of poison.

Drs. Cabanès and Naas treat of the reign of Louis XIV. The attempts at different times to poison Mazarin, Foquet, Colbert, Louvois, and De Lionne are referred to; the mysterious death of madame; the death of Marie Louise of Spain; the criminal projects of Madame de Montespan; and of the famous poisoners, Voison and Brinvilliers, are likewise made the subject of comment, as are also the poisoning and suspected poisoning of various other persons of high degree.

In the times of which the authors speak, poisoning was not only a frequent and popular means of ridding oneself of one's enemies, but was also an art, to attain proficiency in which much study and ability was needed. The use of secret poisons was then known, the knowledge of which has been lost, or at any rate can be but a matter of supposition.

Medieval Hospitals.

The *Dublin Review*, in a recent issue, contains a fascinating account of hospitals in the Middle Ages by Elizabeth Spearman. The rise and development of these institutions is traced in an illustrative manner, and the architecture, methods of arrangement, management and care of patients is adequately sketched. "The name 'hospital'," itself remarks the writer, "in its special application coming to us from the Middle Ages, indicates the period in which these institutions took their rise. In the times of the Greek and Romans, or of any of the old eastern civilizations, there was no very great development of poor and sick relief. When, however, Constantine became ruler of the Roman Empire and Christians received official recognition, charitable foundations sprang up on every side, homes for the aged, orphan asylums, hostelries for pilgrims and wayfarers, and hospitals proper for the sick and infirm. It must be understood that all these arose as a result of ecclesiastical influence, and were established on a religious basis. The church in those days exerted a potent sway, and in many ways used her power mercifully and to the good of mankind. The feudal lords, strong-handed, but ignorant and superstitious, lived in wholesome dread of the harm which might happen to them in this world and in a future life if they neglected to obey the behests of their spiritual advisers. Thus they gave to charity with a lavish hand, impelled to do so rather by fear than by Christian love. There is little need to say that the science of medicine in those days was not very far advanced, and beyond bleeding and the administration of a few simple drugs, the relief of the patients stopped. Hospitals, as a rule, had no regular medical service until the sixteenth century. The mission of the medieval hospitals was to provide nursing, food, rest, and religious consolation. From the writings of the time the fact will be gathered that the best the age afforded was given to the sick. Miss Spearman points out that in judging of the adequacy of the care of patients in medieval hospitals, it must be borne in mind that the standard of comfort in all departments has risen immensely. The supply of food was to be unlimited as far as health permitted and the quality of the best. The following were the statutes as to the beds: The beds were to be of the best length and breadth for repose, and each should have its coverture and its sheets clean. In some hospitals little beds were provided for children born in the house, and not the least interesting feature of the medieval hospital was that in many of them children thus born were, in the case of their mother's death, kept in the house up to an age varying from seven to ten years. At the great hospital of St. Bartholomew, London, the former was the age prescribed. Referring to the architecture of these buildings the writer says: "Built for the most part when Romanesque was passing into Gothic, or when Gothic was at its best, the hospitals, as can be seen from those still in existence and from remains, were marked by great beauty and even by luxury of architecture."

Eadmar, monk of Canterbury, writing of the buildings of the hospital of St. Gregory in that city speaks of it as "*lapideam domum decentem et amplam construxit*," "A stone house seemly and commodious." The great dormitories and other rooms used by the patients and the religious were built with vaulted roofs and presented an ecclesiastical appearance, indeed the entire scheme of the buildings and management was evolved from the brains of priests and churchmen, and the medieval hospital was intended to serve the purpose of caring for a human being's spiritual as well as physical needs. The nursing seems to have been good and night nurses were supplied. The number of general hospitals in proportion to the population was very large, of the something like 16,000 hospitals existing in France 480 date from before the sixteenth century.

A very large number of institutions for treating the sick in the Middle Ages were what were known as lazar houses. Leprosy was then very prevalent in Europe and in Great Britain, and as its tuberculous form was deemed to be highly contagious, its victims were rigidly secluded.

"The status of the leprous," says Miss Spearman, "varied from hospital to hospital according to their endowment. In some they received all that was needful for their support; in others, a portion of the revenue was assigned to each, and if this did not suffice, it could be eked out by private resources, which took principally the form of begging, either at the gate of their hospital or of the town."

Insane hospitals were by no means common in the Middle Ages. Insanity then was a much rarer disease than it is at present, and, though in the early Christian period treatment of the insane made great progress—so much so that in the opinion of Miss Spearman it is doubtful whether its theory is surpassed in our own time—there was a falling off in the "Dark Ages."

There is some record of a certain number of early asylums. Of this nature was that founded in Constantinople in 321 and that at Jerusalem in 495, and it was with Paulus Aquieta, in the seventh century, that diagnosis and treatment reached their highest development.

Although medieval hospitals could not be compared, so far as scientific treatment was concerned,

with those of modern times, yet with regard to the care and comfort of the inmates it is to be doubted whether the sick in the Middle Ages who resorted to these institutions were not treated, on the whole, more humanely than in many of the up-to-date hospitals. As to leprosy, the fact is worthy of notice that segregation—which was strictly practised in medieval Europe—had the effect of driving the disease from that continent.

Fighting Tubbrculosis in Chicago.

The war against disease is being carried on steadily and with unabated zeal. Consumption is, on the whole, the malady with which the forces of sanitation and medicine are waging the most persistent fight. The reasons why this is so, are many. Tuberculosis is preëminently a disease of civilization, and flourishes most freely in large industrial centers. It is the most widely prevalent of all human affections, and the mortality from pulmonary tuberculosis is the most consistently large. It not only is the cause of an immense number of deaths, but it incapacitates its victims for a very long period.

Tuberculosis, under certain conditions, is also communicable, and, lastly, it is preventable, and even when acquired, if taken in time, is curable. No wonder, then, that a disease with the foregoing characteristics, should be fought strenuously.

In Great Britain the war against consumption has been conducted for a long time, with a fair measure of success. In France most vigorous efforts have been initiated to grapple successfully with the white plague, while in Germany the matter is being dealt with in the thorough manner with which the Teuton attacks such problems. The crusade against the malady in the United States has been somewhat intermittent; or to write with greater accuracy, in some parts of the country consumption has been combated judiciously and strenuously, but in other parts a lamentable apathy in regard to its ravages has been displayed. New York has well upheld her position as the most important city of the New World in this respect, and consumption is being battled with wherever met by means most suitable to the existing conditions. Chicago, too, is awaking to the perils of the situation, and has instituted measures to cope with the scourge. The committee on the prevention of tuberculosis of the visiting Nurse Association of Chicago has recently issued its preliminary report, together with a number of circulars bearing on the subject. The report points out that in Chicago no active work was done until 1903, when the committee referred to was formed. "Conditions existing in Chicago," the report goes on to say, "call emphatically for a united effort. There is a very limited number of hospitals which accept consumptives at all. The Visiting Nurse Association, which, through its staff of nurses, comes into constant contact with the consumptive poor, and the Bureau of Charities, whose work also is among this class, realized that only an organization with specially trained assistants could cope with the problem, and they resolved, therefore, to inaugurate a movement in Chicago similar to that in other cities." The committee have used every endeavor to ensure the success of the organization. Public-spirited citizens were invited to serve on the general committee, and responded to the appeal in the most gratifying manner. Two members of the committee, Drs. Hamilton and Klebs, have, during the past summer, visited Paris, New York, Boston, and Saranac, in which places movements against tuberculosis have been inaugurated, and investigated the various methods of the societies for the prevention of tuberculosis, sanatoria, dispensaries, health boards, etc. A popular propaganda has been undertaken, and the clinical and hygienic work has been carried out on a systematic plan. Literature and statistics on tuberculosis have been kept on file at the central office, while Dr. Klebs has loaned his library on tuberculosis to the office. The circulars published contain directions to district physicians, directions to nurses, general suggestions to nurses, and general directions as to keeping records. Thus it will be observed that Chicago, although somewhat late to recognize the necessity of fighting consumption, is determined to make up for lost time, and, with true Western energy, is straining every nerve to render the outcome of the fight successful.

News of the Week.

Surgeon N. Senn, Japanese Army.—A press despatch from San Francisco, dated February 5, states that Dr. N. Senn has arrived at that port from Tahiti, and is hurrying back to Chicago to arrange his private affairs and prepare himself for an expected call to Japan to assume charge of the Red Cross work with the Japanese army. He said: "If my services are needed I will quickly respond, and will probably take a corps of surgeons with me. The Red Cross Society of Japan, of which I have the honor to be a member, is composed of 8,000 members, and is the strongest organization of its kind in the world. It is absolutely ready for war, and its ambulances and field corps could be called to a battlefield on the very shortest notice."

An Epidemic of Appendicitis.—Dr. Sheldon of Madison, Wis., is reported in the *New York Times* as a propounder of the theory that appendicitis is a contagious disease of microbic origin. This hypothesis, he believes, offers the only explanation of the epidemic of the disease which he says now prevails in the country. He would doubtless hold as confirmatory of this theory the story of three sisters in Augusta, Ga., who were all operated on for appendicitis in one day. The three girls were students at an academy in Washington, Ga. One was attacked on Saturday, another on Sunday, and the third on Monday, and the three operations were performed on Tuesday. They were all brought to Augusta for the operations. The father of the girls was himself operated on for appendicitis a few months ago.

Lectures on Tuberculosis at the Henry Phipps Institute.—The next lecture in the international course on Tuberculosis, under the auspices of the Henry Phipps Institute, Philadelphia, will be given by Dr. Hermann M. Biggs of New York on Monday evening, February 15, the subject being "The Administrative Control of Tuberculosis." The profession in general is cordially invited to attend this lecture.

Anniversary Celebration of the Philadelphia Neurological Society.—On the evening of January 27 a dinner was given at the University Club to celebrate the twentieth anniversary of the foundation of this society. Toasts were responded to as follows: "The Dawn of American Neurology," by Dr. S. Weir Mitchell; "Neurology in New York," by Dr. E. C. Spitzka; "American Neurology of To-day," by Dr. George Lincoln Walton of Boston; "The Relation of Medicine to Neurology," by Dr. Wharton Sinkler, and "Neurology in Philadelphia," by Dr. Charles K. Mills.

The Obersteiner-Redlich Theory of Tabes Dorsalis.—In the article with this title in the Medical Record of January 30, Dr. Hassin writes, there was a transposition of prepositions in the fifth and sixth lines of the second paragraph on page 168. The line

should read: "to the spinal roots some pathological process extends from the pia mater," etc.

Examinations for Army Medical Service.—The examination of applicants for appointment as Assistant Surgeon in the United States Army will be resumed in Washington immediately after the close of the present session of the Army Medical School; it will embrace the full examination (as heretofore), at the conclusion of which those found qualified will be commissioned. Full information as to the requisite qualifications for appearance for examination, method of application, nature, and scope of examination, etc., may be obtained upon application to the Surgeon-General, U. S. Army, Washington, D. C. The examining board will probably reassemble about the middle of April next, and those desiring to present themselves before the board should make application at once. Applicants are restricted in age to thirty years, and one year's hospital experience or its equivalent in private practice is required.

Civil-service Examinations for the State and County Service.—The State Civil-service Commission announces general examinations to be held February 27, 1904, to fill the following positions among others: Apothecary in State hospitals and institutions; physical instructor in State institutions; physicians in State hospitals and institutions of both regular and homeœopathic schools; pupil nurse, Erie County Hospital. Applications for these examinations must be made on or before February 22. Full particulars of the examinations and blank applications may be obtained by addressing the Chief Examiner of the Commission at Albany.

Dr. Lindsley and the Mobile Quarantine Board.—Dr. J. B. Lindsley was arrested on January 27, on his arrival at Mobile from Havana. He is charged with criminal libel of members of the Quarantine Board of Mobile Bay. He had a controversy last summer with the board regarding quarantine restrictions against ships from Havana, claiming that, Havana being a clean port, the restrictions were unnecessary, and published in a New Orleans paper a severe arraignment of the board. This was his first visit to Mobile since the publication. Dr. Lindsley surrendered at the sheriff's office, and, after making a bond for his appearance at the next term of the City Court, was released. Dr. Lindsley said that he could substantiate the charges made against the local Quarantine Board by their own books, if given an opportunity.

The Milk Supply of Philadelphia was the subject of discussion before the Keystone Veterinary Medical Association held in Philadelphia on January 19. The discussion was opened with a paper entitled "The Milk Supply of Hospitals and Public Institutions," by Dr. Leonard Pearson, State Veterinarian. He pointed out that when the producer sold his milk directly to the consumer, each took an interest in the quality of the milk, and it was maintained at a high standard. With the growth of the business, and the advent of the middleman, the object on either side seemed to be to drive the best bargain, the quality of the milk becoming in a measure a subordinate matter. As a result, while the largest portion of the milk supplied to Philadelphia was good and wholesome, not a little was bad, even to the point of causing disease. Mr. Henry W. Jeffers, B.S., then read a paper entitled "The Production of Certified Milk." He described an ideal dairy, and the methods for securing healthy cows and keeping them in clean and healthy condition, the care of the surroundings, of the attendants, and the utensils, and the protection of the milk against contamination and deterioration. He pointed out the necessarily increased cost of certified milk, and the unwillingness of a large part of the community to pay more than the established price for the better product. Even the hospitals, as a rule, took no steps to protect themselves, the prime consideration being apparently to buy the cheapest milk. Through the initiative of Dr. Martin, Director of Public Health and Charities, arrangements had been entered into by means of which the milk supply for the Philadelphia Hospital was to be regularly tested and required to conform with certain reasonable standards. Mr. George Abbott next presented a communication entitled "The Dealer's Position with Reference to Certified Milk." He dwelt upon the slight encouragement given to the dealer in the preparation of certified milk, only a comparatively small amount being bought by the community, so that, as a rule, the dealer was unable to conduct this department of his business at a profit. Nevertheless, he expressed the belief that certified milk had come to stay. Dr. Samuel McC. Hamill read a paper entitled "The Milk Commission of the Philadelphia Pediatric Society," detailing the work of this body and its method of procedure. A number of dairies had expressed a willingness to adopt the standards of the Commission and, having complied with them, were dispensing certified milk. Dr. M. P. Ravenel, the bacteriologist of the Milk Commission, presented a communication entitled "The Work of the Bateriologist in the Improvement of the City Milk Supply." He described the sources of milk contamination, and the causes of deterioration, as well as the methods of examination for bacteria, and he showed how such systematic scrutiny served as a check upon the dairyman. The work was supplemented by bacteriological examinations of discharges from the throats and noses of those employed about the dairy who presented signs of illness, and likewise of diseased parts of cows supplying milk. Dr. Chas. A. Fife presented a communication entitled "The Work of the Chemist in the Improvement of the City Milk Supply." Dr. C. J. Marshall read a paper on "The Work of the Veterinarian in the Improvement of the City Milk-supply." He urged the necessity of instructing producers of milk in sanitary methods. Dr. A. C. Abbott, president of the Bureau of Health, spoke of "Market Milk from the Standpoint of the Consumer." He related instances of milk-contamination at the dairy and the spread of disease in the city through the sale of such milk.

Increased Appropriation Needed for the Cincinnati Hospital.—The Board of Medical Directors of the Cincinnati Hospital have asked for $50,000 additional appropriation to meet the increased expenses of the institution, which were higher this past year than ever before.

Quarantine Raised at Wells College.—The women students of Wells College at Aurora were allowed their liberty on February 6, for the first time in two weeks, having been under strict quarantine during this period to prevent the spread of smallpox. The young lady who had varioloid has entirely recovered and no new cases developed during the period of quarantine.

The Second Latin-American Congress of Medicine and Hygiene will be held in Buenos Ayres on April 3–10, 1904. In connection with the congress there will be an exposition of hygiene which will remain open through the month of May. The subjects announced for set discussion, in addition to a large number of individual papers on the program, are as follows: 1. Causes of Deaf-mutism in the Argentine Republic; 2. Prevention of Blindness; 3. Etiology of Goiter; 4. *X*-rays in Surgery; 5. Distocia in the

Argentine Republic; 6. Hematology in Surgery; 7. Strictures of the Urethra; 8. Surgical Interference in Exophthalmic Goiter; 9. Treatment of Cancer; 10. Treatment of Laryngeal Tuberculosis; 11. Treatment of Tuberculosis of the Eye; and 12. Biliary Lithiasis and Its Complications.

Antivivisectionists on a Hunt for Evidence.—The Humane Society of Cincinnati is trying to collect evidence enough for the arrest of some of the workers in the Cincinnati Hospital Laboratory. These physicians are trying a series of experiments on animals to determine the stages of development of hydrophobia.

The Medical Society of the Missouri Valley.—The next meeting of this society will be held at Lincoln, Neb., on March 24 and 25, 1904, under the presidency of Dr. A. D. Wilkinson of Lincoln. A symposium on pneumonia will be a feature of the program. Those desirous of presenting papers should send the titles to the secretary, Dr. Charles Wood Fassett, St. Joseph, Mo., not later than February 20. At this meeting the draft of a new constitution and by-laws will be submitted, and a proposition will be debated to make this society an auxiliary of the American Medical Association.

Alexian Brothers' Hospital, Chicago.—During 1903 this hospital cared for 3,062 patients; 1,932 were discharged cured; 488 discharged improved, and 91 discharged unimproved. The deaths of the year numbered 333. Of these, 126 were in a dying condition when admitted to the hospital.

Expectoration on the Sidewalks.—The members of the Chicago Progressive Health Club are urging the wide publicity of the anti-expectoration ordinance, aided by the press and printed cards. An anti-expectoration ordinance was passed by the City Council three years ago, but has never been enforced. Recently, however, Alderman Goldzier drafted a memorial for presentation to the City Council to the effect that the police and health departments shall be instructed to cause the arrest of persons who flagrantly and offensively violate the ordinance by spitting on sidewalks, etc.

Medical Licensure in Missouri.—The State Board of Health of Missouri, in December, examined forty-seven applicants to practise medicine. Of this number, twelve failed to make the required average (75 per cent.). During the year 1903 there were 138 applicants for certificates; 31 midwives were examined for certificates; 254 physicians were licensed to practise on diplomas, and 29 duplicate certificates were issued.

Polish Medical Congress.—The tenth quadrennial Congress of Polish Physicians and Scientists will be held at Lemberg, Austrian Poland, on July 20–24, 1904. Prof. E. Machek is chairman, and Prof. W. Sieradzki is secretary of the committee of arrangements. The representative of the committee for the United States is Dr. Francis E. Fronczak, 508 Fillmore Avenue, Buffalo, N. Y.

Columbus Epidemic Increasing.—The typhoid-fever epidemic in Columbus, Ohio, is spreading with alarming rapidity, the total has now reached 1,000 cases. On January 30 eighty-one new cases were reported. Deaths have been comparatively few, as the disease is in rather a light form.

Dr. Arthur B. Ancker has withdrawn his acceptance of the position of Superintendent of the Presbyterian Hospital, Chicago, and his resignation as Superintendent of the City Hospital, St. Paul, Minn.

Amusement Hall for the Insane.—A new amusement hall is projected for the inmates of the Longview Insane Asylum of Hamilton County, Ohio, as soon as the bond issue now in the hands of the Legislature is assured. At present the attic of one of the buildings is used for this purpose.

Christ's Hospital, Cincinnati, after being closed for seven months for improvements, will be open for public inspection this week. The formal opening will be held next month.

Ordinance Providing for Muzzling of Chicago Dogs.—At a meeting of the Chicago City Council, held January 18, an ordinance was passed providing that dogs must be muzzled all the year round unless led by a chain. The fine imposed for the violation of this ordinance is to be not less than $2 or more than $10.

Philadelphia Pediatric Society.—At a stated meeting, held January 12, Dr. D. L. Edsall related a case of endocarditis with valvular lesions and great enlargement of the heart, associated with physical signs of pneumonia involving the lung behind the heart, and the latter of which he was inclined to attribute to pressure upon the lung by the enlarged heart. That this explanation was correct seemed to be proved by the fact that the physical signs referable to the lungs disappeared when the patient was made to lie for a time on the right side of the body, and permanently with the recovery of the child. Dr. Edsall had observed a similar association in cases of pericarditis with effusion, although he had not previously been able to demonstrate the accuracy of the explanation to his satisfaction. Dr. S. McC. Hamill exhibited a girl of eleven years with signs suggesting aneurysm of the aortic arch. The child was undersized, with a high palatal arch, roughness of the skin, an undue development of hair on the body, evidently a mouth-breather, in some degree deficient mentally. She had never presented cyanosis, and there was no family history and no symptoms suggestive of syphilis. The urine was free from albumin and sugar, but there were spots of hemorrhage in the fundus of one eye. The area of cardiac dulness was much increased, and various systolic and diastolic murmurs were present over the heart. A systolic murmur was audible also to the left of the vertebral column at the level of the transverse process of the first cervical vertebra. The left pulse was smaller than the right, but instrumental measurement indicated higher arterial tension in the left than in the right upper extremity. Dr. Hamill exhibited also a child about four years old, with a tumor in the right flank, which developed shortly after a fall with injury to the region affected. The twenty-five cases observed at the Philadelphia Hospital. The condition of the blood with respect mass was irregularly nodular in shape, and presented from time to time variations in shape, without change in the quantity of urine discharged. The urine had been examined once, but no abnormality was found. There had been no jaundice. The condition was believed to be a cystic kidney, which had been displaced as a result of the fall, the flow of urine being obstructed from time to time, the subsidence of the enlargement coinciding with a release of the obstruction and the escape of the pent-up fluid. Dr. Hamill also reported a case of meningitis with exaggerated reflexes, in which a tap on the patellar tendon excited not only the knee-jerk, but also extension of the foot on the leg. The latter phenomenon was elicited also by tapping the knee to one side of the patellar tendon. Dr. J. H. McKee exhibited a case of enormous hydrocephalus in a child ten and a half months old, in whom the condition had been observed since the age of three months. Convulsions occurred repeatedly. There was nothing in the history suggestive of an etiological

factor. Lumbar puncture had been practised and a small amount of fluid removed, without affording any relief. The condition becoming desperate, the lateral ventricle of the brain was punctured through the anterior fontanelle, and a considerable amount of fluid evacuated. The convulsions ceased and the head diminished somewhat in size, the improvement having persisted for a period of more than six weeks. Dr. A. P. Francine read a paper entitled "Diastasis of the Recti Muscles in Rickets." He pointed out that this association is not generally recognized or commonly referred to in the textbooks. He had observed it in seven of ten cases in which he had looked for it. The phenomenon is difficult to elicit in young children, who cannot operate in the examination by efforts to elevate the head and shoulders while in the recumbent position. Separation of the upper half of the abdominal recti muscles is not rare in healthy children, but in rachitic children the separation involves the muscles throughout their entire extent. Dr. D. J. Milton Miller read the "Annual Address of the Retiring President," reviewing the work of the society for the year, and commending its members to continued effort in the development of the special department of medicine in which they are particularly interested.

Philadelphia County Medical Society.—At a stated meeting, held January 13, Dr. A. Helena Goodwin read a paper entitled "Bad Nauheim and the Schott Treatment." She described in an interesting manner the waters of Nauheim, the manner and the method of employing the baths and the selection of the cases for treatment, as well as the measures to be pursued in the after-treatment. The good effects of the baths are attributed to the temperature of the waters and to the contained carbonic dioxid and salts. Not a little credit is due also to the accompanying exercises. In sending patients to the resort physicians should be careful to see that they consult some trustworthy local physician, who will either carry out the treatment prescribed or will institute suitable treatment in his own discretion. Dr. John M. Swan read a paper entitled "The Blood in Patients Suffering from Pulmonary Tuberculosis," based upon studies in to the hæmoglobin-percentage and the number of erythrocytes and of leucocytes, as well as differential relations of the leucocytes, was not found distinctive in any of the three stages into which the disease was divided. There was, in general, a reduction in hæmoglobin and in erythrocytes, with at times an increase in leucocytes, affecting principally the polymorphonuclear leucocytes and occasionally also the eosinophiles. Dr. Barton Cooke Hirst read a paper entitled "The Plastic Surgery in the University Maternity for the Year 1903." He related that it is now the practice to repair lacerations of the perineum of the anterior and posterior walls of the vagina and of the cervix uteri as soon after parturition as possible, some times at once and always within the first week or thereabouts, thus sparing the patient the necessity of undergoing a subsequent operation and also the discomfort resulting from her disorder in the interval. The results have been eminently satisfactory, and Dr. Hirst has extended the practice to his private work as well. Dr. Wm. L. Rodman presented a communication entitled "The Operative Treatment of Malignant Disease (Mammary Glands, Rectum, Penis, and Lips)." He pointed out the absence of a capsule of the mammary gland and he dwelt upon the lymphatic circulation. He expressed the opinion that permanent recovery should follow in one-third of the cases of carcinoma of the breast operated on. The operation should always be a radical one, with removal of the pectoral muscles and of the contents of the axilla. Operations on the rectum are not promising, while those on the penis have yielded good results in Dr. Rodman's hands. Malignant disease of the lips is most amenable to surgical treatment. Dr. Alfred Stengel presented the report of the committee appointed to consider the question of the prevention of the communication of contagious diseases, particularly in private practice, and with special reference to scarlet fever. The committee recommended, among other things, cumpulsory vaccination and revaccination, notification of tuberculosis, the requirement that householders, in addition to physicians, shall notify the Bureau of Health of the existence of notifiable diseases.

The Late Dr. Frank W. Shaw.—At a special meeting of the Medical Board of the Norwegian Hospital, held January 11, 1904, the following resolutions were unanimously adopted respecting the death of the late member of the Board, Dr. Frank W. Shaw: "That we, the members of the staff, fully realize and feel that by his death the entire medical profession has sustained a grievous and lasting loss; that we tender our sincerest sympathy to his family in their bereavement; that a copy of these resolutions be sent to the family and to the medical journals of our city; and that these resolutions be spread in full upon the minutes of this board."

Obituary Notes.—Dr. Joseph G. Rooney of West Hoboken, N. J., died at St. Mary's Hospital on February 4, at the age of thirty-seven years. He was a graduate of the Medical Department of the New York University in the class of 1891. Dr. Rooney's death adds another name to the long list of martyrs to duty among medical men. During a fire in Hoboken on January 18 five firemen were injured and Dr. Rooney was called to minister to them. It was bitterly cold, but the physician, who was obliged to work with bare hands and rolled-up sleeves, refused to leave his patients until all their necessities had been attended to. In consequence of the exposure his hands were frostbitten and gangrene supervened, causing his death. A widow survives him.

Dr. John R. Hinkson died at his home in Blissville, Borough of Brooklyn, on February 5, of pneumonia. He was forty-eight years of age and a graduate of the Bellevue Hospital Medical College in the class of 1889. He had a large practice and was greatly beloved by the poor for his large-hearted generosity and devotion to all who needed his services.

Dr. Joseph B. Roe died at Woodbury, N. J., on February 5, at the age of sixty-eight years. He was graduated from Princeton University in the class of 1858, and from the Medical Department of the University of Pennsylvania in the class of 1861. He served for four years in the Medical Department of the United States army during the Civil War. He was at one time a member of the New Jersey Assembly, and from 1887 to 1890 a member of the State Senate. He also served two terms as postmaster at Woodbury.

Dr. H. B. Buehler died at Harrisburg, Pa., on February 1, at the age of sixty-five years. He was a surgeon in the United States Army during the Civil War.

Dr. W. S. Charlton died in Philadelphia on February 2, at the age of forty-six years. He was graduated from the Medical Department of the University of Pennsylvania, in the class of 1883.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

ROYAL SOCIETY—CANCER—HYPERTROPHIC PULMONARY OSTEOARTHROPATHY—OXFORD PROFESSORSHIPS—EDINBURGH STUDENTS' DOINGS—THE BALLACHULISH VICTORY—TEACHING OF HYGIENE AND TEMPERANCE—THE LATE DR. THIN.

LONDON, January 22, 1904.

At the Royal Society last evening an important research on cancer was communicated by Drs. Bashford and Murray which seems to confirm and extend the results presented to the society a month ago by Drs. Farmer, Moore, and Walker. These two groups of investigators have been working quite independently of each other, so that the coincidence of their results is of the greater value. The remarkable resemblance of the so-called cancer cells to those from which sexual cells are ultimately derived was emphasized by the first group of investigators by applying the word "gametoid" to active cancer cells, thus indicating their belief that although they do not become normal reproductive cells, they are of the same nature, and that nutritional or other derangement may account for the differences. The "cancer cells" originate from the cells at the advancing edge of the growth by a process of nuclear division identical with that through which sexual cells pass. A study of the changes that occur in certain abnormal vegetable structures originally led the authors to consider the significance of the obscure nuclear divisions of the cells in malignant tumors. The parasitic habit of these growths so often referred to and their clinical manifestations lend support to the views advanced by the two papers before the society. The second confirms the first and adds to it, while it corroborates various other observations. Thus it shows that cancer is widely distributed through the vertebrate animals. Further, the remarkable resemblance to sexual cells referred to above can be observed in the other vertebrates as well as in man. Drs. Bashford and Murray have, moreover, transplanted cancer from one animal to another of the same species. The independence of the cells of the neoplasm of the tissues they are invading is shown by microscopical examination. It would seem that the cancer problem is thus a cell problem, and its solution must be sought there.

It may be objected that somatic cells can hardly take on the characters of generative tissues. But such an occurrence is common enough in the vegetable kingdom. We have, however, in our anatomical studies been so accustomed to regard the somatic and generative cells as quite distinct that a contrary view arrests attention if not doubt. Cohnheim's theory of cancer accorded very well with the prevailing notion, but will have to undergo great changes or be rejected in consequence of the new researches. These investigations certainly point out the direction for further research, and there are many ardent workers prepared to follow. But with great promise of fruitful discoveries it is too soon to talk, as some are already doing, of the reduction of cancer to the position of a curable disease

At the Royal Medico-chirurgical Society Dr. Symes Thompson read a paper on Hypertrophic Pulmonary Osteoarthropathy founded on four cases with two necropsies: in one of these secondary carcinoma of the lung, in the other spinal caries, was revealed post mortem. Some account was given of twenty necropsies previously recorded and also of the clinical details of seventy-seven cases. The absence of softening or suppuration favored the view that toxins only rather than bacteria were present and the symmetry pointed to the same conclusion. The cause suggested by the author was retention in the blood of volatile toxins which normally would be got rid of by the lungs, the elimination being prevented by any pulmonary disease interfering with normal respiratory interchange.

The essential toxic foci might or might not be in the lungs; those associated with psoas abscess or even with diarrhœa were the chief. One of the author's cases favored this view. It was sacculated bronchiectasis and the employing of the cavities coincided with a subsidence of the joint attacks.

Dr. T. Williams said that though he had seen numerous cases of bronchiectasis, he had very seldom known the osteoarthritis to follow. It was difficult to see how the variations of the joint affection with the conditions of the discharge were produced.

Dr. Percy Kidd related four cases he had seen. In one there was tuberculosis of the sternum with only slight lung lesion. In another there was marked thickening round the joint, but no change within, confirmed after death. He agreed that the disease was probably due to a toxin. In early stages it closely resembled rheumatoid arthritis.

Dr. Rob. Maguire thought the theory of the lung being a sort of gland should not be forgotten. Acute attacks of dyspnœa without signs of lung disease might be due to altered function of this gland. He mentioned a case in which intravenous injections of formaldehyde reduced the temperature and swelling of the joints as well as the sputum—a result just the reverse of that in Dr. Thompson's cases, for in them the joints improved as the sputum increased. He thought the joint affection due to invasion of a microorganism.

Mr. Spencer thought the toxic theory insufficient and suggested that a chronic venous congestion of the bone-ends might play a part. The early stages closely resembled chronic septic states. He mentioned the joint troubles of "mother-of-pearl" workers (who were mostly young girls), which might depend on the inhalation of dust.

Dr. Newton Pitt said thickening of the bones, clubbed fingers, and joint troubles were all present in advanced cases, but in the early stages only one of these, perhaps, which added to the difficulties of diagnosis. He suggested that marrow changes should be sought for.

Dr. Russell Wells remarked that in the laboratory organisms grew best in certain media, so when they attacked the human body they might affect particular tissues. As the disease attacked cartilage and fibrous tissues in the lung, so it affected the joints in which these tissues were found.

Sir J. Bundon Sanderson has resigned the Regius Professorship of Medicine at the University of Oxford, and quite a dispute has arisen about the future of the chair. Shall it become a chair of Pathology, or shall it remain a clinical professorship? There is something to be said on each side, hence much difference of opinion. It is not easy for Oxford to become a clinical school and her graduates come to London for hospital work after passing in the scientific part of the curriculum. It seems there is a financial straitness which has led to the proposed change, otherwise pathology might be sufficiently endowed and the clinical professorship also maintained. Here is a chance for a millionaire.

I am informed that the students of the University of Edinburgh yesterday afternoon indulged in their usual boisterous and noisy demonstrations on the occasion of the Lord Rector's address. The Attorney-General, Sir Rob. Finlay, is their chosen Lord Rector, and Mr. Balfour presided in his capacity of Chancellor of the University. But the presence of the Premier had no restraining influence, and even when he called on the Dean of the Faculty of Divinity to open the proceedings with prayer, a decent hearing was not given. Sir R. Finlay raced through an address of which nothing could be heard, but it was reported to be on international arbitration. Really it is about time university students conducted themselves more like sensible young men.

The Ballachulish quarrymen have utterly defeated the directors who assumed to appoint the quarry doctor. You will remember I told you at the outset of this extraordinary dispute that the men determined to exercise their inherent right to choose the doctor. He was paid by their contributions, collected or deducted by the officials as a matter of convenience, but the company did not give a penny toward the fund. How the board could be so stupid as to defy the men in such an unjust quarrel is only accountable on the old explanation of a board's deficiency of body and soul. The quarrymen have stood to their guns on behalf of their doctor, who is now reinstated as their tried and trusted adviser. Happy doctor to have such confidence!

To-day the circulation is begun of a petition to the central Boards of Education, the object of which is to secure instruction in all primary schools in the rudiments of health and temperance. The promoters of the petition are hoping to have the general support of the medical profession, to obtain which a copy will be sent during the next few days to every practitioner.

Dr. George Thin, one of our leading dermatologists, died at Nice on the 27th ult. of heart disease. He had given up work for a year or more and had gone south for the winter. He was for some time in China, where he attained considerable experience in tropical diseases. His work on "Psilosis or Sprue" must be well known to you. He was a valuable adviser in difficult cases and will be greatly missed.

Popular Addresses on Tuberculosis.—Dr. B. F. Lyle, Superintendent of the Cincinnati Branch Hospital for Consumptives, delivered a popular lecture on "The Home Treatment of Consumption and Contagious Diseases." This is the second of a series of popular lectures given by representative men.

THE PSYCHICAL RELATION OF TUBERCULOSIS.

To the Editor of the Medical Record:

Sir: When one reads the letter of Dr. J. A. De Santos Saxe on the above subject, which appeared in your esteemed paper of January 23, the impression is conveyed that my article on "Phthisiophobia and a Plea for Justice to the Consumptive" (Medical Record, January 2, 1904) had no foundation, and that from Dr. Saxe's former contribution no possible deduction as to his furthering phthisiophobia could be made.

If, as Dr. Saxe modestly claims, his article "The Psychical Relation of Tuberculosis in Fact and Fiction" (*New York Medical Journal*, August 1 and 8, 1903) does not pretend to advance new or original views on the mental characteristics of the tuberculous patient, why, then, do we read under his sub-chapter, "The Relation of Tuberculosis to Crime," the following: "To me this account shows the germination of a homicidal tendency, which is the resultant of the psychical defects that I have outlined in my analysis of the average consumptive's mental peculiarities. Here, psychasthenia, the loss of self-control, and the rise of brute selfishness have com bined to distort the clearness of ethical perception."

It is true that Dr. Saxe does not draw this conclusion from his own cases, but from *one* case from Dr. Fanoni's practice. Now, in the "Standard Dictionary," the word "average," when applied to persons in this sense, is defined as *possessing general or typical characteristics*. Thus, according to Dr. Saxe's conclusions, the general and typical characteristics of a consumptive are psychasthenia, the loss of self-control, and the rise of brute selfishness, resulting in a distortion of the clearness of ethical perception.

There are at this moment at the very least 500,000 American citizens afflicted with tuberculosis of the pulmonary type. It would, indeed, be terrible to think that their average mental state should be such as Dr. Saxe describes. Yet, I ask, is it possible to give any other interpretation to Dr. Saxe's conclusions than the one cited? However, if anyone is not yet quite convinced to what conclusions Dr. Saxe's studies have led him, he himself will come to the rescue, for in the "Summary and Conclusions" of his article we can again read on page 265, a reiteration which reads as follows: "The fundamental factors in the psychical make-up of the typical consumptive are the loss of self-control, the rise of brute selfishness, the increase of susceptibility to suggestion, to emotion, and to nervous irritation, and the tendency to rapid nervous and psychical fatigue." I cannot understand how Dr. Saxe, in the face of these quotations from his article, can say, in the Medical Record of January 23, 1904, "Nowhere do I say that a greater tendency to crime has been noted among consumptives than among other individuals, nor that the *average* consumptive, as the result of the mental peculiarities of which I have spoken, exhibits a distorted ethical perception."

In my article in the Medical Record I quoted only the essentials from letters received appertaining to the subject under consideration; however, I can assure Dr. Saxe that his article had been read by nearly all the gentlemen before replying to my inquiries, and that they were fully familiar with the contents of his communication in the *New York Medical Journal*. Therefore, in his inference that the replies were only answers to my questions, he is seriously in error.

Dr. Saxe tries to make it appear that I selected him as the only living example of a physician furthering phthisiophobia; in this, however, he is mistaken. I know of others, but as I said in my article, thank God, they are rare; they exist and have existed. I advise Dr. Saxe, who is so fond of reading medical history, to look up the works of Montano and Morgagni. He will there learn that he had some very illustrious predecessors who, by their writings, fostered phthisiophobia and made the lot of the consumptive a hard one. Montano, who lived in the latter part of the sixteenth century, stated in his works that one could contract pulmonary tuberculosis by simply walking with naked feet over the expectoration of a patient. The great anatomist, Morgagni (1682-1771), absolutely refused to perform autopsies on individuals who had died of pulmonary consumption, because of an exaggerated fear of the contagiousness of the disease.

That there are modern medical writers who have the same tendency to burden the lives of the consumptives and their families by their writings and rulings, Dr. Saxe knows as well as I do. Only recently some medical papers announced that the complete isolation of all tuberculous patients in the city of Sydney, Australia, had been contemplated upon the advice of the medical council.

Concerning the results of such articles as Dr. Saxe's when, as it unfortunately frequently happens, they are reproduced in the lay press, let me give the following incident: Among the queries asked in an open letter on "The Mental Status of Phthisis," which appeared in the *Journal of the American Medical Association*, of August 29, 1903, we read the following: "Are persons, afflicted with pulmonary tuberculosis, more easily turned against their dearest friends by designing people than when in a normal state?" Let Dr. Saxe remember that this letter appeared after extracts of his article had made the round in medical and lay papers.

In closing, I would wish to give Dr. Saxe the advice never to draw general conclusions from one or even a dozen reported cases of pulmonary tuberculosis, but rather to study the cases himself, and after having seen a goodly number and observed them for a long time, then only, and not before, should he publish his conclusions.

There is, perhaps, no man in this country, nor abroad, who has seen more consumptives, observed them longer, and watched them more closely, than Dr. Edward L. Trudeau, the founder of the first sanatorium for consumptives in this country. Let me recall to Dr. Saxe Dr. Trudeau's expression of opinion of the moral, mental, and psychical state of the average consumptive: "I have never noticed any greater tendency to immorality or crime among consumptives than is to be found in the average of the human race, as far as it has come under my observation. On the contrary, I have seen all the finer traits of human nature developed to the fullest extent by the burdens which chronic and fatal illness, often slow in its progress, adds to the sum total of what men and women usually have to endure in life. I have seen certainly more patience, courage, self-denial, and unselfish devotion to others in consumptives than I have noticed in the majority of healthy human beings."

S. A. Knopf, M.D.

New York.

Progress of Medical Science.

Journal of the American Medical Association, Feb. 6, 1904.

Diabetes and Obscure Physiology.—C. Ramus believes that current teaching in regard to diabetes may be expressed in the following propositions: (1) That in normal blood dextrose undergoes chemical modification before absorption by the tissues. (2) That in normal blood alcohol develops from disintegration of dextrose. (3) That alcohol is present in minute quantities in the urine of total abstainers. (4) That in chemically pure solutions of dextrose and levulose treated with pancreatin, sugar is lost and alcohol (and carbonic acid?) developed, the change being more marked in the case of levulose. (5) That the agent responsible for the chemical reaction is an enzyme normally present in blood. (6) That this enzyme has its origin in the pancreas alone, for when that organ is removed dextrose remains unchanged. (7) That interference with or disturbance of this function of the pancreas initiates a group of phenomena known clinically as diabetes mellitus. From these premises he argues to the conclusion that alcohol is a valuable remedy in diabetes. Reasonable amounts of it will relieve the pancreas, liver, and kidneys for the time being by furnishing prepared nourishment and force to the starving tissues. Diabetic phenomena are an expression of an abnormal condition wherein the (hypothetical) alcoholic function of the pancreas is disturbed.

Medical News, February 6, 1904.

Some of the Physical Properties and Medical Uses of Radium Salts; with Report of Forty-two Cases Treated by Pure Radium Bromide.—Francis H. Williams states that radium has five properties that especially deserve notice, which obtain constantly without appreciable loss in weight: (1) It maintains a temperature above its surroundings under thermal insulation; a temperature of 1.5° C. has been observed. (2) It is luminescent. (3) It is a spontaneous source of electricity. (4) It gives out three kinds of rays, named by Rutherford, alpha, beta, and gamma. (5) It produces in surrounding objects what Mme. Curie has called "induced radioactivity," what Rutherford has termed "excited radioactivity," and Soddy now designates as "imparted radioactivity." With our present knowledge of the subject, this latter word seems the most appropriate. This imparted radioactivity is caused by what Rutherford has named "emanation." The emanation, which is thought to be a gas, imparts radioactivity to objects that have been in the neighborhood of radium salts for a sufficient period: that is to say, these objects, even after removal from the radium, give out rays for a certain length of time. On account of their inability to show sufficient differentiation between the tissues, the rays from radium, unlike the *x*-rays, cannot be used for diagnosis or prognosis, either by means of radiographs or of the fluorescent screen. Therefore for these purposes they cannot replace the *x*-rays. The use of radium salts for thera-

peutic purposes needs much the same kind of experience as is required for the successful therapeutic use of the *x*-rays. Already a number of cases of injury to persons working with radium have been reported. Radium should be kept in a metal box or capsule with a thin mica front or other suitable covering, so that the radiations may be cut off in all directions except that in which the practitioner desires the rays to proceed. To such a capsule the writer has attached a long, flexible handle, in order to hold the radium at a distance when applying it. This handle is a protection to the physician. When not in use, the capsule should be placed in a thick lead box or tube, so that the radiations may be absorbed. It should be remembered that an over-exposure may cause a burn, which may not become evident for some time. It should also be remembered that exposures differ for different diseases, even superficial ones. Consequently experience is necessary to judge of the proper length of exposure and of its frequency. In certain cases exposures must be longer and in other cases shorter, and the frequency of exposures must vary. In conclusion the writer says that his experience thus far teaches him that there is much similarity between the action of the radiations from radium and the *x*-rays; that if the results obtained by radium prove permanent, this new therapeutic agent will be largely used instead of the *x*-rays, but that the two will supplement each other. (1) Certain diseases promise to yield more readily to treatment by radium and others to the *x*-rays. (2) A disease that has attacked different parts of the body of a given patient may be better treated in certain regions by radium and in others by the *x*-rays. (3) It is quite possible that in some cases the two remedies used together on the same area and at the same sitting may accomplish better results than either alone.

Two Advantageous Procedures in Anæsthesia Work.—Victor C. Pedersen speaks of the first procedure as a new sequence in which the series is nitrous oxide, then nitrous oxide and ether combined, and finally ether alone. The purposes of the technique are to avoid any gas cyanosis, to induce ether narcosis very slowly without exciting any reflexes, such as coughing, and finally to obtain a full degree of ether narcosis with the utmost safety and convenience to the patient. There is, too, a great economy of gas. The writer prefers the Bennett apparatus. The gas-bag is filled to its half capacity for the average patient. With the valves of the gas-chamber open, the patient is requested to breathe. As soon as he understands what is required of him and the face-piece is seen to fit air-tight, the gas is turned on. After from two to four full respirations with the expiration-valve of the gas-chamber open, this is closed so that "rebreathing" is initiated. The patient now takes from two to four respirations in this manner. When he is generally sufficiently under gas—narcosis for the next step. This consists in very slowly turning on the ether—so deliberately that it takes from four to eight minutes to pass from "air" to full "ether." The ether in the ether-chamber is judiciously replenished, and if necessary likewise increased. If there is any delay in the appearance of the normal ether respiration, the nitrous oxide ether combination is continued until it develops. When all the symptoms of complete ether—anæsthesia are present, the gas-chamber and bag are removed, and the ether bag is attached to the ether-chamber, and the patient is ready for operation. The second procedure has reference to the position of the patient for operations upon the kidney, and is described by the writer as follows: After the patient is narcotized in the dorsal position, he is transferred to the operating table, turned up on his side, and the Edebohls' bag is placed in position. The shoulders are then raised from the table and rested upon a sand-bag reaching from shoulder to shoulder, oval in cross-section, about four inches in its longest diameter and reasonably soft. This brings the pressure of the chest upon the shoulders and upper sternum, and not as heretofore, upon the base of the neck. When the shoulders are thus elevated free of the table the heat may be moved in any direction whatever, and the jaw of the patient is absolutely under the control of the anæsthesist. The writer places other sand-bags under the Edebohls' bag, thus securing a proper flexion and torsion of the chest upon the abdomen. The writer adds that he cannot lay too much stress on the importance of securing freedom of the head and neck as a most important aid to the narcotizer in giving any anæsthetic as uneventfully as the idiocyncrasy of his patient will permit.

New York Medical Journal, February 6, 1904.

The Sanitary Needs of Panama.—M. L. Maduro, who has practised in Panama, discusses the sanitary conditions of the city and declares the following things necessary to make the city healthful: (1) The deduction of all the rookeries inhabited by the very poor and the transfer of the latter to decent dwellings. (2) The organization of an efficient street-cleaning department. (3) The opening up of all the narrow streets to the sunlight, paving of streets and filling up of all vaults and cisterns. (4) The establishment of a board of health with the usual function. (5) The enforcement of strict quarantine regulations.

Infantile Bronchitis.—E. M. Sill discusses the anatomical peculiarities of the infantile lung and describes the clinical course of the disease named. It is of great importance to stimulate cough so as to clear the air tubes. Otherwise the patient may drown in his own secretions. For this purpose nothing is better than syrup of ipecac and citrate of potash in the first stage, and in the second, ammonium muriate and terebene. The objects to be accomplished are to rid the lungs of the excessive secretions, prevent the bronchial tubes from being filled up by more secretion, and support the heart and respiration until the crisis is over. When the lungs are rapidly being filled with secretion, nothing is better, in a strong child, than an emetic; ipecac may be used in the form of the powder, five to ten grains, or a teaspoonful of the syrup of ipecac. Aconite may be used to control a strong and full pulse and digitalis to stimulate it if necessary.

American Medicine, February 6, 1904.

Some Observations on the Occurrence of Nephritis in Infancy.—Charles C. Biedert states that infantile nephritis may occur as a primary or as a secondary affection. The primary form is very rare in infants. The secondary form usually develops at the height of the febrile process, and its severity is generally proportionate to the intensity of the infection. The general symptoms are often not marked, so that unless the urine is examined the condition is overlooked. In Holt's analysis of four hundred and twenty-six cases of bronchopneumonia, occurring in children under three, there were only three cases of nephritis, and in all of them it was of the acute exudative variety. More attention has been paid to the occurrence of nephritis following gastroenteric diseases than of any other. Morse, in a series of seventy cases, found evidence of renal involvement in 15 per cent. The writer, in conclusion, emphasizes the following points: (1) The importance of examining the urine in all acute diseases of infancy, and especially in the bronchopneumonias. (2) The importance of marked anæmia as the most pronounced symptom of kidney involvement. (3) Œdema may or may not be present, but when it is present it constitutes a valuable sign, but there may be grave kidney involvement without œdema. (4) There is almost always a diminished secretion of urine, the mother almost always noting that the baby wets fewer napkins. (5) There are almost always grave nervous phenomena and convulsions, which in some cases are probably uræmic.

Myxœdema Complicated with Diabetes Mellitus Occurring in Two Children; Effect of Thyroid Extract upon Both Diseases.—Alfred Gordon presents in this paper two cases of myxœdema with genuine diabetes mellitus in brothers who are the offspring of neuropathic parents with degenerative tendencies. Thyroid extract in both patients showed a very favorable influence upon both morbid conditions, and even earlier on the diabetes than on the myxœdema. The cases present several unusual features: (1) The coincidence of myxœdema and a genuine diabetes mellitus (not a simple glycosuria); (2) the occurrence of diabetes in early childhood; (3) the occurrence of both diseases in two brothers, showing a degenerative hereditary tendency; the latter is corroborated by the interesting family history; (4) the remarkable effect of the thyroid extract upon the diabetes, explaining with a great degree of certainty the rôle of the thyroid gland in the as yet unknown pathologic metabolism, which is manifested in a group of symptoms called diabetes mellitus. So far none of the theories advanced suffices to explain all the phenomena of the malady. It seems highly probable that independently of the digestive functions there is a special internal secretion of the pancreas which is at fault. It is a well-established fact that diabetes has been seen in diseases of the thyroid gland. Whether the thyroid disorder is the direct cause of the diabetes or acts indirectly through the pancreas, similar to the effect of the adrenals, the writer believes it is difficult to say. Diabetes, especially in children, usually presents an unfavorable prognosis. The cases here reported, on the contrary, presented a very favorable course and were satisfactorily influenced by thyroid treatment. These patients were aged three and four and a half years, respectively. The writer asks if the history of these cases is not an indication that a diabetes dependent upon a deficient thyroid function is a form far less grave than the form of the disease which is caused directly by de-

struction of or a pathologic condition of the islands of Langerhans?

Morton's Painful Disease of the Toes.—Walter G. Stern believes that this disease is the property and privilege of the comparatively well-to-do and is quite frequent among them; while the poor, who do not usually indulge in narrow, thin-soled, uncomfortable shoes, are rarely afflicted. The writer says that the view which he believes to be universally admitted to-day, takes the stand that Morton's disease is purely a static condition of the transverse arch of the foot, quite analogous to flat-foot. The anatomic foundation for this disease is laid when the foot is subjected to a severe trauma, or when it is weakened from long illness, or when it is overburdened by rapid increase in body-weight, so that the ligaments cannot hold the anterior arch in its normal condition, but permit the heads of the bones to press against the sole. This condition need not always be painful. This disease is a clinical surgical entity. Careful questioning will nearly always elicit the history of a severe trauma shortly before the pain first came on. The symptoms are a sudden feeling of uncomfortableness in the ball of the foot, often accompanied by a snapping in the afflicted toe; then an intense, agonizing, burning, unendurable pain radiating from the fourth metatarsal head (it may be any other) through the thickness of the foot up upon the dorsum, followed often by faintness, cold sweats, and a total incapacity for the time of thinking of anything else. A pathognomonic feature of this disease is the insane desire to remove the shoe regardless of the surroundings. Examination rarely reveals any stigma of nervous degeneration. The feet are generally large and especially broad across the ball of the toes. The affliction may be hereditary Of all cases, 75 per cent. are among women, usually of middle life, but some cases have occurred in childhood. As to treatment, mechanical aid is used to reform the flattened anterior arch much as we do to correct the arch of flat-foot. The writer proposes in his future cases to fasten pads of soft rubber to a flat German silver insole to give a much-needed elasticity not found in Whitman's plates. Intractable cases can often be relieved only by means of incision.

The Lancet, January 23, 1904.

Facial Palsy as a Family Disease.—J. A. Arkwright records the history of five cases occurring in the same family, and he inclines to the truth of the view held by Neumann that although a cold draught may act as the exciting cause of a facial palsy, a very strong predisposition thereto may be inborn.

An Early Symptom of Acholia.—H. J. Van Praagh mentions as an early symptom of acholia a coldness and dryness of the extremities. In the case of a girl of between two and three years, he was able to ward off the attacks with their usual anorexia, wasting porridge-like gray stools composed chiefly of fatty matter, etc., by having the patient sleep between blankets with a hot-water bottle and having her legs well covered during the day. He suggests that changes in atmospheric conditions may act as exciting causes of acholia in children predisposed to temporary loss of hepatic function.

Two Cases of Osteitis Deformans in One Family.—The two patients of W. J. Kilner were brother and sister, both past middle life. The woman's case was a typical one in all its features, while the man's lacked one important symptom of the disease, namely, the enlargement of the cranial bones. The author believes this to be the first instance on record in which two members of the same family have been afflicted with this malady. The disease began in both insidiously and almost simultaneously. One patient had always lived well, while the other had been subjected to great privations, and the author states that neither mode of living nor climatic conditions have any influence in causing the disease. He is inclined to regard it as primarily due to some systemic dyscrasia, that is, it is a general disease with secondary bone changes.

A Case of Acute Traumatic Cholecystitis.—The history of the case reported by F. J. Smith and C. W. Mansell Moullin is that of a man aged fifty-nine years who fell on some ice, striking his right side. Some six days later he had pains in the side and abdominal swelling. Examination two days later showed marked tenderness over the gall-bladder. The temperature rose to between 99° and 101°. Abdominal exploration led to no definite diagnosis and a median incision was finally made. One small omental hemorrhage was discovered. The patient gradually sank and died thirty-six hours later. The autopsy revealed as the only pathological condition, the state of the gall-bladder. This was seen to be externally inflamed, of a brown color, and with patches of lymph scattered over it. It was moderately distended and the connective tissue round it was dark in color and evidently not healthy. On cutting it open the distension was found to be due to what was very evidently blood, though considerably altered by decomposition. The lining membrane was more or less necrotic and soaked in blood and discolored with the soaking. There were no gallstones and no appearance whatever even faintly suggestive of a growth.

The Lancet, January 30, 1904.

Notes on the Treatment of Tuberculous Meningitis.—J. Gilroy gives the notes of a case in which liquid extract of ergot, five minims being given with bromide and iodide of potash every two hours. The patient was a girl of four years. The scalp was shaved and ice at first applied; later on iodoform ointment was used. The diagnosis of tuberculous disease was strongly probable from the family history. Good results also followed in a case of Bell's mania occurring in a woman of fifty years.

The Value of Ichthyol in Tuberculous Glands.—W. Overend advocates the use of ichthyol. He notes, however, some difficulties in its internal administration. Even in solution with a large quantity of glycerin and peppermint the remedy is particularly nauseous; in the liquid form ichthyol can hardly be taken. Made into a jelly with gelatin it is not much better, and children, as a rule, will neither take pills nor capsules, but they will readily take tablets when made thin and rather smaller than the ordinary size. Tablets of ferrichthyol, each containing one and a half grains of ichthyol combined with iron, probably carbonate or reduced iron, may be given three times a day after meals. Good results with these combinations of the remedy are reported in several cases.

Note on the Probable Mode of Infection by the So-called Filaria Perstans, and on the Probability that This Organism Really Belongs to the Genus Tylenchus (Bastian).—This question is discussed by H. Charlton Bastian, who alludes to the reports of Christy that the distribution of the filaria perstans in East Equatorial Africa corresponds almost exactly with the area of "distribution of banana cultivation and clothed people." It has been shown that the parasites in question are to be found in banana roots, and Bastian calls attention to the fact that the nematoids which were found on the nodosities of certain cucumber plants in England belonged to the genus tylenchus, and he is inclined to believe that the cucumber and banana parasites are identical. The filaria perstans is probably taken in with the food, bores its way through the intestinal canal, and settles in the mesentery and adjacent parts there undergoing development. Thence the worm gets into the lymph stream and finally into the blood.

The Efficient Treatment of Cardiac Failure.—A. Morrison divides cardiac failure into acute and chronic, and makes an earnest plea for the abandonment of the pessimistic views so current in regard to cardiac therapeutics. Four factors are concerned in cardiac action: neural, muscular, hæmic and mechanical, and our selection of remedies must be based upon a realization of this fact and a proper selection of remedies in accordance therewith. The heart of angina pectoris is a flaccid diastolic heart; hence we should use rapidly acting remedies such as amyl nitrite and morphine and atropine, alone or combined with volatile anæsthetics. In muscular failure we should give digitalis or its synergists, combining them in severe cases with mercurials or powerful vasomotor agents such as the nitrites. In very bad cases venesection-drainage of anasarcous limbs, paracentesis of chest or abdomen are all indicated. In hæmic cases the trouble may be due to quality (opium) quantity (venesection) or distribution of the blood. Mechanical factors concern especially valvular action. Under this head the author discusses the usual indications and contraindications of the digitalis group.

British Medical Journal, January 23, 1904.

Etiology of Carcinoma.—Keith W. Monsarrat presents the following summary of researches: (1) From a considerable proportion (58.3 per cent) of specimens of carcinoma mammæ an organism presenting characteristic features was isolated. (2) This organism presents a life history in which two cycles were traced—the one a vegetative budding cycle, the other a sporulating cycle. (3) The organism when injected into animals is capable of infecting and inhabiting endothelial and epithelial cells. (4) The organism initiates in endothelium and epithelium a process of proliferation, as a result of which masses of new-formed tissue are built up which consist of a parenchyma and a stroma, and grow and extend actively from their centers of origin. (5) This new cell mass formation may be associated with growth of similar character in neighboring glands, and some evidence was also provided that visceral metastasis occurs. (6) Intracellular bodies are demonstrable in carcinomata mammæ, which present the same features as the intracellular parasites of the experimentally produced nodules. (7)

The evidence derived from these researches points to the conclusion that the organism described is an etiological factor in the morbid process known as carcinoma mammæ.

The Leishman-Donovan Body and Tropical Splenomegaly.—Patrick Manson and George C. Low think that it is possible that certain cases of tropical disease in which enlargement of the spleen is a prominent feature and which hitherto have not been adequately recognized or explained are due to the trypanosoma. They describe a case in which examination of the blood obtained by splenic puncture revealed Leishman-Donovan bodies in great profusion. Although these parasites were often seen superposed on or underlying a red corpuscle, the writers have not seen anything that would lead them to believe that these parasites were inside the corpuscle. Examinations were made in ordinary wet blood preparations, in hanging-drop preparations and in dried and stained films. The stains employed were the Leishman-Romanowsky carbol-fuchsin and carbol-thionin. The first stain gave by far the best results. It is evident, according to the writers, that the parasite must get out of the body somehow and that the blood is the most probable channel. On tapping the liver of this patient numerous single or double parasites, but no zoogloea masses were obtained. This seemed to point to the biliary ducts as the channel through which the parasites escaped. But repeated examinations of the fæces were negative. Centrifuged urine also yielded no parasites. The writers append to the history of the case a temperature chart and the results of three blood counts.

Human Trypanosomiasis on the Congo.—J. Everett Dutton, J. L. Todd, and Cuthbert Christy declare that the examination of trypanosomes seen in stained specimens of blood from cases of trypanosomiasis, from cases of sleeping sickness (typical or doubtful), in the specimens of cerebrospinal fluid of the latter cases, and in the blood of experimental animals, infected with either of three above-mentioned fluids, has led us to the following conclusions: (1) The trypanosomes seen in the blood of man, whether symptoms of sleeping sickness were present or not, have always been the same. The number of cases in which trypanosomes from the spinal fluid have been examined is at present too small to permit of a definite description of morphologic characteristics. The writers have seen forms in the cerebrospinal fluid similar to those described by Bruce and Castellani, and also longer forms similar to those seen in the finger blood of the same cases. (2) None of the human trypanosomes seen, whatever their source, have presented any morphologic appearance incompatible with trypanosoma gambiense. (3) The parasites seen in rats inoculated with the cerebrospinal fluid of cases admitted to the hospital for sleeping sickness are the same as those seen in rats inoculated with the blood of cases of either sleeping sickness or simple trypanosomiasis. (4) The organisms seen in the blood of rats inoculated with trypansomes from any of the three indicated sources have up to the present shown no differences from those observed in animals infected with trypanosoma gambiense.

Deutsche medizinische Wochenschrift, January 21, 1904.

The Effect of Mountain and Sea Air on Man.—Loewy says that although these two types of climate have much in common, yet they also require a certain amount of discrimination in their application as therapeutic measures. Both are useful when stimulation is required, but are to be used with caution when over-action already exists. The chief element of difference appears to be the increased production of red blood cells occurring in mountain air, but further studies are necessary to determine whether a similar effect may also be attributed to sea air. Mountain air owes its stimulating properties less to its attenuation than to the effect of the bright sunlight, the air currents and the temperature, while perhaps its electrical qualities also play a certain part. In company with several others the author studied his own metabolism while in the mountains and at the seashore, and found that in the latter region the metabolic activity was usually stimulated to various degrees, though some individuals were not affected. There is also a difference of susceptibility for sea or mountain air, some persons being stimulated by the one and not by the other.

A Case of Sepsis Due to the Staphylococcus.—Niedner reports this case, which is interesting from the closeness with which it resembled typhoid fever. The patient was a man of thirty-eight years, who fell from a ladder, and suffered excoriations and contusions of the gluteal region and elbow. He continued at work, but two weeks later was obliged to consult a physician for pain in the injured arm and thigh. Cupping was ordered, but instead of this the attendant massaged the parts, and in consequence the patient's condition rapidly became worse, so that ten days later the diagnosis of typhoid fever was made. The clinical course closely corresponded with that of this condition, though the bacteriological evidence was negative until a blood culture showing staphylococci was obtained. The patient finally died after a suppurative parotitis had developed. The autopsy showed large abscesses in the buttock and elbow, and the usual secondary lesions of sepsis, which were particularly marked in the intestine. The staphylococcus was found in pure culture. Evidently the fall had produced muscular extravasation, which became infected through the abrasions, and the massage caused dissemination of the organisms.

Berliner klinische Wochenschrift, January 18, 1904.

Experimental Observations on the Internal Administration of a Tuberculous Antitoxin.—Figari prepared a convenient and stable form of antitoxin by drying the blood of immunized calves and horses in the water bath, at a temperature not exceeding 55° C., and then finishing the process of desiccation with sulphuric acid *in vacuo*. The dried clot so obtained was powdered and given to guinea-pigs in doses of 3 gm. daily. After twenty-five days of treatment their serum showed on agglutination at 1 to 5 in twenty-four hours. After fifty-four days the reaction was produced at a concentration of 1 to 12 in twenty-four hours. After eighty-five days it agglutinated at 1 to 25 in twenty-four hours and at 1 to 10 in six hours. After eighty-five days the animals were given a fatal dose of tuberculin. Half of them lived for thirty-six hours, while control animals died in twelve to sixteen hours. The other half survived the injection. Marked improvement in the general condition and in the agglutinative power of the blood was produced in a consumptive patient who received 4 gm. daily of the powder for eighty days.

The Nature of Gout and Its Treatment.—Falkenstein, who is himself a sufferer from the disease, says that practical and theoretical considerations point to the stomach as the seat of the lesion originating the gouty diathesis, and that a deficiency in HCl formation underlies the whole trouble. The healthy individual through his active HCl secretion is able to handle even an excess of food and oxidize it to urea while the arthritic patient suffers from fermentation, deficient oxidation, and the formation of uric acid either through deficient splitting up of the molecules or through synthesis from the purin bodies. His plan of treatment is to give hydrochloric acid continuously in large amounts, and he has found, both with himself and patients, that this confers immunity from attacks. Ten to fifteen drops of concentrated hydrochloric acid are added to one or two large glasses of carbonated water at each meal, the total daily amount ranging from forty to sixty drops. All the concomitant symptoms, such as the headache, thirst, bad taste in the mouth, the decay of the teeth, the chronic bronchitis, insomnia, irritability, eczema, etc., subside under this treatment. Of other drugs the author warns especially against the use of alkalies, either during or between the attacks, and he also condemns colchicum, which impedes the elimination of the accumulated urates, so that though it gives temporary relief during one or two attacks, the seizures come on more frequently and with greater violence. The value of the alkalies lies solely in their power of combining with the organic acids of the stomach and in promoting diuresis. This object is just as well attained by the use of a carbonated water.

French and Italian Journals.

Contributions to the Study of Pneumococcic Peritonitis of Children.—Francisco Gaite says that clinical experience and reported cases show that (1) Pneumococcic peritonitis is more frequent in childhood. (2) The female sex is more predisposed to the disease. (3) There are various pathogenic varieties of the peritonitis. It can originate from the spread of pneumococci from the intestines, from the pleura, from the female genital tract and probably also from the blood. (4) In case of early intervention the prognosis for a localized infection is good. In case of diffused infection it is doubtful.—*Rivista di Clinica Pediatrica*, December, 1903.

Diaphragmatic Enterostomy.—A. Cossett describes a new operation for gastrectomy. The diaphragmatic opening is carried to the cardiac end of the stomach, allowing an easy suturing of the œsophagus to the intestine (in the cadaver). The operation is in two movements: First, abdominal, freeing the pylorus and the gastric attachments, making a gastroenterostomy; second, thoracic—the cardiac end is freed, the stomach is removed, and the operation ends in an anastomosis of the œsophagus and the lower end of the jejunum. Experimentally, three operations may be performed through the diaphragm: (1) Lateral anastomosis of the œsophagus and intestine, that

is, a trans-diaphragmatic enterostomy; (2) Anastomosis by grafting the œsophagus on the greater curvature; (3) total gastrectomy by the abdomino-thoracic route with an œsophago-enterostomy.—*Revue de Chirurgie*, December 1, 1903.

Sterility in the Female.—J. A. Doléres says that the prefers a bilateral cuneiform incision of the cervix. He makes a double angular incision about a centimeter and a half long on both sides of the cervix. The apex is cut deep and the base superficial; they are V-shaped openings toward the extremity of the cervix. This can be done without pain, and chloroform is not necessary. For hæmostasis a thermocautery is used, and ten days of iodoform gauze accomplishes the cure. The os remains open, and it is impossible for the lips to come in contact, and the procedure has given some brilliant successes. In default of this operation the author has recourse to the plastic operation of Simon—not Schroeder's—that is, a conical excision of the free border of the cervix, which leaves a free opening well lined within with mucous membrane and ciliated epithelium. This operation is contraindicated in the treatment of chronic cervicitis. The author prefers the double lateral cuneiform incision, or the plastic amputation of Simon, because he considers them superior to all other methods in the cure of sterility.—*La Gynécologie*, December, 1903.

The Association of Scarlet Fever and Typhoid Fever.—There is a special interest in the cases reported by V. le Goïe, because of the combination of these diseases rather than a simple association. The nature of the eruption was a little dubious at first and the cases were left under observation before isolating them, which is not done with the cases showing the usual scarlatina rash. The typhoid fever seems to have lessened the eruption in the beginning, but without destroying all its characteristics. It is difficult to determine the part played by each disease. Kelsch says that according to Taupin, typhoid fever lessens to an indefinite degree the characteristics of all the eruptive fevers with which it is in combination. The prodromæs are usually lacking, and the eruptions are pale and not abundant; but this is not always the case, for in some cases of typhoido-scarlatina the scarlatina has dominated the typhoidal process. The association of scarlet and typhoid fevers is usually admitted by the authors who have studied the question carefully.—*Revue de Médecine*, January, 1904.

A Case of Epilepsy Dependent on Unilateral Ocular Atrophy.—Ernesto Zoccali thinks that the functional and anatomical asymmetry which was present in the nervous system of the patient, resulting from the ocular atrophy, is the most important characteristic of epilepsy. The instability of the cerebral cells is also an important factor in epilepsy. It is well known that lesions of the visual apparatus provoke epilepsy very readily. Similar cases have been reported, notably the case of Colucci. All these facts combine to prove positively that the epilepsy in the case under consideration came from the atrophy of the eye. The reason that medical literature appears to take very little cognizance of similar cases is probably because the practising physician does not report all the cases which he observes and because his mind is taken up with the commoner causes of epilepsy as the neuropathic hereditary taint, intoxication, or any other commonly recognized cause, and he is too busy to look further for hidden things and his mind too preoccupied for him to notice this unsuspected cause. The author thinks that in this case the epilepsy unquestionably resulted from the atrophy or ablation of the eye.—*Giornale Internazionale delle Scienze Mediche*, January 15, 1904.

Fibromata of the Spermatic Cord.—A. Bruneau and H. Coudode Satriano hold that the diagnosis of this condition is very difficult. It is necessary to differentiate an affection of the cord from one of the neighboring structures, such as testicular tumor, hæmatocele, and hernia, and the nature of the tumor, whether benign or malignant, must be determined. When the fibroma has an inguinal origin and the tumor protrudes from the inguinal canal it cannot be differentiated from hernia. Only in the late stages of development would one suspect a benign tumor of the cord. The differential diagnosis from other benign tumors is still more difficult. Cysts are recognized by fluctuation and by exploratory puncture. Lipoma has a softer consistency and is generally lobulated. Differentiation from fibromyoma requires a microscopical examination, but as the treatment and course are identical, the postoperative differential diagnosis is sufficient. The prognosis is good because these tumors are bening and do not recur after operation. The treatment is operation to relieve pain and the functional disturbances, and also on account of possible later change to a malignant growth. Castration is necessary because the tumor is so intimately connected with the cord that it is impossible to separate it.—*Revue de Chirurgie*, January 10, 1904.

Hereditary Syphilis in the Second Generation.—Vincenzo Chirivino writes interestingly of two supposed hereditary syphilitics, grand children of syphilitics. The proofs offered are fairly conclusive, but these are not entirely unquestionable and there are a few doubtful points. The positive points, however, easily outweigh the doubtful ones, which are very few considering the difficulty of getting a full present and past history for three consecutive generations. The author reports two cases with almost unquestionably conclusive history of hereditary syphilis in the second generation, both showing characteristic syphilitic lesions. One case did not develop serious syphilitic lesions until she was five years old; but she had a papular eruption characteristic of syphilis in her mouth when only a month old. Neither of her parents showed any syphilitic signs, and the taint must have been dormant in them to reappear in the grandchild. Her father has a history clear of syphilitic taint, while her mother was the daughter of a woman who died of malignant syphilis. This shows the infection coming through the mother, as would have been expected The other case, a boy, showed characteristic syphilitic lesions at birth. His parents were both hereditary syphilitics.—*Giornale Internazionale delle Scienze Mediche*, January 15, 1904.

Myomectomy of the Gravid Uterus.—R. Condamire thinks that myomectomy is especially indicated in the gravid uterus when the symptoms are extremely painful and persistent and when the situation of the fibroma would prevent a normal delivery. The risk of abortion should be avoided by operating at the earliest possible moment and removing the threatening tumor, at the same time avoiding complications in the confinement. The operation is indicated when the presence of a fibroma has caused one or more abortions already. Without consideration of pregnancy the operation is indicated in a woman under thirty-eight or forty years of age, who wants to preserve the child-bearing function. The author thinks that myomectomy, which is an especially conservative operation, has lost ground; while of late years the technique of hysterectomy has evidently been improved. Also the question of the greater gravity of this operation started by the advocates of myomectomy has recoiled against them, and the general opinion is that a hysterectomy for fibroma is less dangerous than an enucleation from the operative point of view and also from that of recurrence. He does not think there is any occasion to compare myomectomy and hysterectomy in reference to a gravid uterus. Myomectomy is indicated under certain conditions, and when these do not exist, total removal should be chosen for a fibromatous uterus.—*Lyon Médical*, January 17, 1904.

Meningeal Complications in Pneumonia.—Merklen states that in the bronchopneumonia of infants, without any meningeal symptoms, there are changes in the cerebrospinal fluid resulting from meningitis or œdema, resulting from vasomotor disturbances of toxic origin. He reports a case in a man aged twenty, who showed on the fifth day of a pneumonia, meningeal symptoms, such as Kernig's sign, strabismus, trismus, etc., which lasted with brief intermission to the eighteenth day. The lumbar puncture, done on the sixth and twelfth days, showed no leucocytes or bacteria in the spinal fluid. Albumin was found in considerable quantity on the first puncture and only a trace the second time. The chlorides were diminished on both occasions. In this case the symptoms cannot be called hysterical. The patient had never had any nervous disturbances, nor did he show any physical abnormality, besides which his cerebrospinal fluid was affected to a slight degree. The fluid clearly showed the absence of suppurative meningitis. A group of cases exists in which there are meningeal symptoms, while on autopsy or lumbar puncture no suppuration of the meninges is found. But sometimes the fluid shows only the faintest trace of leucocytes or chemical change (as albumin), and often post-mortem œdema or congestion of the meninges is demonstrated.—*La Tribune Médicale*, No. 3, 1904.

Rational Treatment of Osteomalacia.—Albert Robin and Maurice Binet think that in their three cases they observed disturbances of nutrition shown in the respiratory and general chemical changes and in the composition of the blood. The disturbances of the respiratory exchange showed an increased formation of carbonic acid, and deficient absorption of oxygen by the tissues, to accomplish the oxydization of the nitrogenous substances. During digestion the production of carbonic acid is not increased and if the consumption of oxygen is increased, it is not due to oxidization of the carbon but of the nitrogenous substances which is very much increased. The digestion of the carbons is much retarded and that of the albuminous substances requires the absorption of an abnormally large quantity of oxgyen. Among the general chemica

changes the metabolism of the nitrogen is diminished, the change in the tissues rich in phosphorous as the nervous system are diminished, and the excretion of lime is very much increased. The blood shows these changes; lowered density, decreased hæmoglobin, inorganic salts, chlorine, and alkinity. The following therapeutic indications are present; increase the oxydization of the nitrogenous substances; increase the hæmoglobin, all alkalinity, and mineral salts of the blood; regulate the excretion of lime and manganese; increase the earthy deposits in the bones; and increase the phosphoric changes —*Archives Latines de Médecine et de Biologie*, December 20, 1903.

The American Journal of the Medical Sciences, Jan., 1904.

Acute Suppurative Thyroiditis.—Henry Roth states that this is a very rare condition, and is usually secondary to some infectious disease. The writer reports a case in which this affection was primary. The enlarged gland was incised, and a few drops of pus escaped. The gland showed areas of necrosis. The patient died the next day. The infection in this case was due to the streptococcus, but the source of the infection could not be determined. The right lobe was more involved than the left. Symptoms of sepsis were preëminent. The local signs might have been those of an ordinary phlegmon, but the constitutional symptoms were too severe. The primary suppurative thyroiditis, early incision, and drainage are imperative.

The Differential Diagnosis of Typhoid Fever in Its Earliest Stages.—William Colby Rucker presents the following conclusions: (1) There is no single symptom in which alone an early diagnosis of typhoid fever can be made. It is only by careful consideration of the symptom-complex that a clinical diagnosis can be arrived at. (2) The most trustworthy, as well as the earliest, sign of typhoid fever is the presence in the circulating blood of the bacillus of Eberth. (3) The demonstration of the bacillus of eberth in the blood is not beyond any fairly well-equipped laboratory. (4) The bacillus of Eberth is found in the fæces later than in the blood, but with comparative ease. The presence of the bacillus typhosus in the fæces is of great value as a corroborative sign. (5) The presence of the bacillus typhosus in the rose spots is a trustworthy sign, but has no advantages over the examination of the blood from other localities. (6) The serum reaction of Widal is seldom demonstrable during the earliest stages of typhoid fever. It is of value only in the higher dilutions.

Desquamation of the Skin in Typhoid Fever.—David Riesman concludes that the following varieties of desquamation in typhoid fever may be distinguished: (1) That confined to the roseolar spots. In some cases each spot has a tiny vesicle upon its summit, which quickly passes into a thin, scale-like crust. (2) That appearing as a sequel of sudamina. This is confined to the areas that have been the seat of the sudaminal eruption. The desquamation is usually furfuraceous, but is sometimes scaly. It occurs upon the trunk and the proximal parts of the limbs, and is never seen upon the distal parts of the extremities or upon the face. It appears in the bathed and in the unbathed. (3) In some instances there is in typhoid fever an extensive, almost universal, desquamation, either furfuraceous or lamellar, which seems to be independent of sudamina, and in all probability is a trophic change analogous to the shedding of the hair. It affects the trunk and the roots of the limbs, and, rarely, also the face and the distal parts of the extremities. Usually, but not always, the extent and the intensity of the desquamation bears a relation to the severity of the fever.

The Cardiosplanchnic Phenomena.—Albert Abrams enumerates three factors which enter into consideration in the mechanism of blood supply to the splanchnic vessels. Contraction of the abdominal muscles, respiration, and the regulating vasomotor action of the splanchnic vessels. If the lower sternal region is first percussed in the standing, and then again in the recumbent posture, there will be noted a decided alteration in the percussion tone: in the former attitude it is resonant or even hyperresonant, in the latter it is dull or flat. This is the cardiosplanchnic phenomenon. Its explanation is simple: In the erect posture the blood leaves the right heart, and tends to accumulate in the splanchnic area, whereas recumbency opposes this influence of gravity. The writer then gives various examples to show the value of the phenomenon in diagnosis and treatment. In the case of enlarged liver or spleen, percussion in different attitudes, repeated inspirations, and abdominal compression, will solve the question as to how much of the enlargement is due to hyperæmia, and how much to tissue hyperplasia. A crucial test is the application of a vacuum cup to the abdomen. The elicitation of this phenomenon would prove valuable in the differential diagnosis of a dilated heart from a pericardial exudate; in the latter affection it would not be elicited. The more perfect the splanchnic vasomotor mechanism, the less pronounced the phenomenon. As regards this phenomenon in relation to treatment, the writer suggests by its use several possibilities in the direction of reëstablishing the circulation and in relieving the heart when it is overtaxed.

On the Visceral Manifestations of the Erythema Group of Skin Diseases.—William Osler adds here, to those already published, a new set of eleven cases. There have been seven deaths in the writer's series of cases—24.1 per cent. The members of the erythema group have not all the same etiology, and the individual members have a very diverse etiology. There is no constancy of action of the same poison in different persons, or even in the same person at different times. This is notoriously the case with the animal and vegetable substances causing urticaria. The chronic forms of urticaria probably illustrate a morbid and persistent sensitiveness of the cutaneous vessels to poisons of either intestinal or tissue origin. The importance of the local status is shown in that remarkable form of urticaria which comes on after exposure to cold. So long as the face is at a temperature above 60° F. the patient is all right, but exposure at 40° F. is followed at once by an outbreak of urticaria. A peculiarity that may be transmitted through several generations, as in angioneurotic œdema, must either be a morbid susceptibility of tissue or an inherited peculiarity of metabolism or both combined. Certain types of exudative erythema behave like an acute febrile disease. In many of the fevers there may be symptomatic erythemas. The visceral lesions are most diverse in situations and form, and vary considerably with the character of the eruptions. Certain skin lesions are associated secondarily with diseases of the internal organs. The writer then discusses the various complications, cerebral, respiratory, cardiac, gastrointestinal, renal; arthritis, and hemorrhages from the mucous membranes. One of the most constant features in this whole group is the recurring attacks of colic, sometimes with vomiting, sometimes with diarhœa, occasionally with the passage of blood. In fourteen of the cases there was acute nephritis. Acute endocarditis seems a rare complication. As to treatment, the very chronic cases with recurring colic for years may resist all measures. Courses of gray powder with careful dieting may be helpful. In certain severe cases nothing seems to arrest the progress. The chief danger is from the kidneys. Protracted rest in bed and a milk diet are the best measures in such cases.

A New Treatment for Wry-neck.—Leonard K. Hirshberg declares that the pathology of torticollis rests entirely upon negation and probability. The probability is in most cases that the kinesthetic centers for the sternocleidomastoid, splenius, trapezius, scaleni, and deep cervical muscles are the points of origin for the various spasms. Another way to express our ignorance is to say that torticollis is due to irritation of the nuclei of the neurons. There are many combinations of the various muscles which are possible in this affection. Individuals with neuropathic relatives or ancestry are more subject to torticollis than the average person. Congenital and rheumatic wry-neck are not included in this paper. The treatment of the first patient reported is given as follows: The faradic current was used for five minutes daily over a period of four months. The positive electrode was placed over the wrist and a roller (negative) electrode was applied over the healthy sternocleidomastoid and upper fasciculus of the trapezius on the unaffected side. Liquor potassii arsenitis was given in doses of two drops three times a day for four months. Almost from the beginning there was marked improvement. At the end of the treatment the patient's head was perfectly erect, and a scarcely perceptible stiffness of the muscles remained. The cosmetic result was excellent, and although the arsenic has been stopped for some time, there had been no return of the clonic spasms. In another case treatment consisted of a rigid diet and the application of the faradic current for five minutes daily to the muscles of the well side. Improvement was steady. In the third case the treatment was the same as in the first, and at the end of three weeks the patient discharged himself as cured. —*Maryland Medical Journal.*

Book Reviews.

MANUAL OF MEDICINE. By THOMAS KIRKPATRICK MONRO, M.A., M.D., Fellow of, and Examiner to, the Faculty of Physicians and Surgeons, Glasgow; Physician to Glasgow Royal Infirmary, and Professor of Medicine in St. Mungo's College; formerly Examiner in the University of Glasgow,: and Pathologist to the Victoria Infirmary. Philadelphia and New York: W. B. Saunders & Company. London: Bailliere, Tindall & Cox, 1903.

THE author intends that this work shall supply the place of larger textbooks in medicine for use by students and junior practitioners. The book includes excellent chapters on nervous diseases and skin diseases, as well as the subjects ordinarily present in works on general medicine. The descriptive matter has been well arranged and the space is apportioned with reference to the importance of the different diseases. The language is intentionally as simple as possible, and often the difficult and unusual terms have a bracketed definition attached. The teaching is sound, but the morbid anatomy is rather too short, although it includes the main practical points, and the directions for treatment are direct and reliable.

PRÉCIS D'ELECTRICITÉ MÉDICALE. Par E. CASTEX-Agrégé des Facultés de Médecine. Paris: F. R. de Rudeval, 1903.

BETWEEN the unbound covers there are 672 pages of rather closely printed matter giving the details of technique, electrophysiology, electrodiagnosis, electrotherapy, radiology, and phototherapy, illustrated by 208 figures in the text. These pages are well worth preserving in a stout cover. The weakest parts of the work are those dealing with treatment by the newer light and ray methods. So little is said, in fact, on therapy in this connection that the chapter gives the impression of having been added almost as an afterthought. The chapter on radiology, aside from radiotherapy, has been well worked up in over 100 pages. There is much that must appear quite new to one not keeping up almost daily familiarity with advances in the electrical world. This is becoming rapidly almost as true in medicine as it has been in commercial fields. Amongst other novelties, considerable space has been devoted to high-frequency currents.

THE PRINCIPLES OF THE OPEN-AIR TREATMENT OF PHTHISIS AND OF SANATORIUM CONSTRUCTION. By ARTHUR RANSOME, M.D., F.R.C.P., etc., Consulting Physician to the Manchester Hospital for Consumptives. London: Smith, Elder & Co., 1903.

THE literature of every phase of the tuberculosis question has become voluminous beyond all bounds. So much has been written especially about the "open-air" treatment that it has been in danger of falling into a mere empiricism. This danger the author has recognized, and his manual is an effort to place this plan of treatment on a thoroughly scientific basis. He therefore discusses the principles of sanatorium and open-air cure, certain bodily conditions resisting phthisis, principles of sanatorium construction, and home treatment by pure air. Several architectural plans of construction are appended.

Under the first head are considered air, sunlight, feeding, rest, exercise, bathing, blood-making, comfort, warmth, amusements, clothing, education, discipline, disposal of excreta, and medical staff and attendants. This list conveys an idea of the thoroughness with which the subject is treated. Detailed information is given regarding the construction of sanatoria. We know of no better work for consultation by the managers and physicians of such institutions. In this portion he has had the assistance of a practical architect, Mr. G. A. Bligh Livesay.

GENERAL PATHOLOGY. By Dr. ERNST ZIEGLER. Translated from the Tenth Revised German Edition. Edited by ALDRED SCOTT WARTHIN, Ph.D., M.D. New York: William Wood & Company, 1903.

WHEN a book reaches its tenth edition the task of the reviewer is light. A great many changes have been made. In this work we find that, in spite of the criticism directed against the author's views on inflammation and tumors, he has not made any change. Ziegler does not adopt the theory of the parasitic nature of the true tumors, in spite of Czerny's support to the contrary view. Especial attention has beeen given to the revision of the chapters on Vegetable and Animal Parasites. These chapters have also been enriched with very instructive illustrations. The chapters dealing with the Pathogenic Bacteria are complete and beautifully illustrated. Special mention should be made of the chapter dealing with Nematogenous pigments. Another interesting chapter, and one in which Ziegler demonstrates his proficiency, is the chapter in which he describes the parasitic fission-fungi, and the diseases caused by them For one desiring complete data regarding general pathology, and for advanced students in pathology, this book will serve as a valuable guide. Its bacteriological illustrations cannot be excelled. The arrangement of the book and its bibliography form a very valuable means of seeing at a glance all literature bearing on the various chapters under discussion. The paper is excellent. The print is clear, and the book is beautifully bound.

SYLLABUS OF LECTURES ON PHYSIOLOGY. By WILLIAM H. BIGLER, A.M., M.D., Professor of Physiology and Pediatrics, Hahnemann Medical College, Philadelphia, Pa. Second Edition. Revised and enlarged. Philadelphia: Boericke & Tafel, 1903.

THE appearance of the second edition of this handbook offers sufficient proof of the usefulness of such a work. Although the author has not entirely rewritten this book, he has introduced many alterations, rearrangements and additions which enhance its usefulness. The section on development of the embryo, which appeared in the first edition, has been omitted from this edition, as it was not considered to come within the scope of the subject treated. The writer has used the book as the basis of his lectures for the past ten years, and has in this edition made use of all the suggestions which have occurred to him in this continuous use of the text during that time.

PORTFOLIO OF DERMOCHROMES. By Professor JACOBI of Freiburg im Breisgau. English Adaptation of Text by J. J. PRINGLE, M.B., F.R.C.P., Physician to the Department for Diseases of the Skin at the Middlesex Hospital, London. New York: Rebman Company, 1903.

THIS is the second volume, concluding the work, of Jacobi's "Dermochromes," the first volume of which was reviewed a few months ago in these columns. The work contains plates beautifully produced in natural tints by a new process, illustrating the common diseases of the skin, including the syphilides, which the general practitioner has frequent opportunities of observing in his practice. Each plate is accompanied by a page or more of explanatory text containing practical points in treatment. In the first volume most of the plates were taken from models in Neisser's clinic in Breslau, but for the illustrations of diseases treated of in this second volume, the author has made a wider selection, borrowing not only from Neisser's Clinic, but also from the Freiburg Clinic, Lesser's and Lassar's Clinics in Berlin, Neumann's and Kaposi's in Vienna, and the Hôpital Saint-Louis in Paris. Fourteen of the forty-four plates are given to a depiction of the various lesions of syphilis. Other interesting subjects of illustration in this volume are acne, drug eruptions, nævi, eczema, and scabies. The plates are of the same degree of excellence as those in the first volume, and we can only repeat, with added emphasis, what we said in speaking of the first part, that the work is admirably adapted to the use not only of the professional dermatologist, but also of the non-specialist or the student who has not the time or the opportunity to study the subject deeply, but who would yet wish to be able to treat, or at least to recognize, the more common dermatoses met with in daily practice.

OSSERVAZIONI SU 203 CASI DI CROUP CURATI ALL' OSPEDALE COTUGNO; E su 80 Intubazioni Eseguita dal Prof ALFONSO MONTEFUSCO. Docente d'Igiene nella R Università di Napoli. Napoli: Detken & Rocholl, 190

THIS review of one hundred and seventeen cases o pharyngeal diphtheria and two hundred and three cases o diphtheritic laryngitis does not afford much of interes except the value that always attaches to extensiv statistics of any disease. In the present instance th observations suffer somewhat through the fact that th diagnoses were not based on bacteriological examination Serum therapy, intubation, and trachectomy were em ployed in the customary manner and the total mortalit was 29.5 per cent.

ANATOMY APPLIED TO MEDICINE AND SURGERY. By I E. MUNDELL, B.A., M.D. Professor of Applie Anatomy, Faculty of Medicine, Queens Universit etc. Kingston: Printed at the British Whig.

IN spite of the large number of books, similar to this o in scope and general treatment, which have been appea ing during the last few years, the present volume w probably find many appreciative readers. Efforts inject a little life into the dry-as-dust-iness of anato have always been welcomed by students of all generation and the author has incorporated enough clinical materi into his rather sketchy sections on the anatomical regio of the body to make their perusal easy and profitabl The book can never hope to afford more than collater reading, however, owing to its incompleteness, and suffers through the absence of adequate illustrations a the presence of poor press work and innumerable m prints.

A Reference Handbook of the Medical Sciences, Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. New Edition, Completely Revised and Rewritten. Edited by Albert H. Buck, M.D. Volume VII. Illustrated by Chromolithographs and Six Hundred and Eighty-eight Half-Tone and Wood Engravings. New York: William Wood & Company, 1904.

The titles in this, the penultimate volume of the work, run from "Saccharin" to "Ulcer," and include some of the most important subjects in medicine. Among the more noteworthy articles are those on sarcoma, scarlet fever, sewerage and sewage disposal, the sexual organs, the skull, smallpox, the spinal cord and spinal-cord diseases, the spine, the spleen, the stomach and its diseases, the sympathetic nervous system, syphilis, the teeth, teratology, thymus and thyroid glands, the tongue, tracheotomy, transporting the disabled, tuberculosis, typhoid fever, typhus fever, and ulcers. The contributors number one hundred and twenty-five and they hail from all sections of the United States and Canada. The articles are evidently for the most part the outcome of study and careful preparation, and all the important ones bear internal evidence of original work and of being written from the author's own knowledge and experience, and not simple compilations. Thus one who consults the work has the feeling that he is taking counsel of a practical man, of one who knows whereof he speaks and can give reasons for the faith that is in him—and there are few articles which the reader can peruse which will not give him new facts or new ideas to add to his store of medical knowledge.

Textbook of Operative Surgery. By Dr. Theodore Kocher, Professor of Surgery and Director of the Surgical Clinic in the University of Bern. Authorized Translation from the Fourth German Edition by Harold J. Stiles, M.B., F.R.C.S.Edin., Surgeon to the Royal Edinburgh Hospital for Sick Children; late Asst. Surgeon, Edinburgh Royal Infirmary; Examiner in Anatomy, Royal College of Surgeons, Edinburgh. London: Adam and Charles Black, 1903.

It is quite out of place for any words of general praise to be bestowed upon this magnificent product from the pen of one of the world's greatest surgeons. The American spirit of cut first and diagnosis after, is, in this book of technique, distinctly wanting. Nevertheless, it may not be amiss to call attention to the very obvious neglect with which in certain cases American works have been treated. If lack of pathological austerity is an American fault, this failure of recognition is distinctly its Teutonic brother. On page 5 the author discusses medullary anæsthesia. He states that "Birr conceived the ingenious idea of rendering a large number of nerve trunks (even the spinal cord itself) insensitive by injecting the lumbar subarachnoid space." This is an error, for while in 1899 Birr and Tuffirr, independently, popularized the method by demonstrating its practical utility, Corning of New York "conceived the ingenious idea" above referred to, in 1885. To the chapter on the abdomen so much has been added that it has practically been rewritten. Detailed attention is given to the author's method of cure for inguinal hernia, for which he claims 100 per cent. of permanent cures!! Very decidedly, Kocher has the courage of his convictions. Any reader who can forgive this self-praise and who wishes to know the underlying pathology rather than the mere technique of operations will find the volume of great value.

Operationen am Ohr, Die Operationen bei Mittelohreiterungen und ihren intrakramillen Complicationen. Für Ärzte und Studierende. Von Dr. B. Heine. Berlin: S. Karger, 1904.

This monograph is an exposition of the present status of surgical otology. Part I discusses operations on the membrane, tympanic cavity and mastoid, and the opening of the labyrinth. Part II operations for extra- and subdural abscess, diseased condition of the cerebral blood-vessels, brain abscesses and meningitis, all with reference to their origin from aural lesions. It is well printed and the text is well paragraphed. Special commendation must be given to the half-tone plates, which are unusually clear and distinct. The sub-headings under the various chapters convey most forcibly an idea of the vast progress made in otological surgery within the last few years. Detailed information is given of the after-treatment of the various procedures described, a matter in which textbooks are often faulty, a too generous estimate being often made by authors of the reader's knowledge.

Das Röntgen-Verfahren, mit besonderer Berücksichtigung der militärischen Verhältnisse. Von Dr. Strehow, Generalarzt und Korpsarzt des X. Armeekorps. Berlin: August Hirschwald, 1903.

As its name implies, the scope of this work is mainly limited to the technique of production of the *x*-ray. Its main object is to show the usefulness of the ray in making diagnoses and the description of apparatus best adapted for military purposes. As such, it is an extremely valuable addition to *x*-ray literature, inasmuch as the thorough manner in which the different portable apparatus, especially designed for rough-and-ready usage in time of war is dealt with, is, perhaps, found in no other work of to-day. It is not of as much use to the general *x*-ray worker, who is, perhaps, equally interested in the ray as a therapeutic agent as an aid to surgical diagnosis. As an almost exhaustive treatise on the method of ray production, especially for military use, it will interest many.

Transactions of the Clinical Society of London. Volume the Thirty-sixth. London: Longmans, Green & Co., 1903.

The present volume comprises the proceedings of the society from October, 1902, to May, 1903. Forty-two papers are presented, and the list of essayists includes some of the best known English clinicians and surgeons. The interest of the communications is well up to that of previous issues, and the volume reflects the progress of the times in a most satisfactory manner.

The Hospital Formulary of the Department of Public Charities and the Department of Bellevue and Allied Hospitals of the City of New York. Sixth Revised Edition. W. E. Dreyfus, A.B., Ph.D., Editor, New York, 1903.

It is to be regretted that the edition of this revision of the Formulary of the Department of Charities has been limited to a number which makes it impossible to supply copies to physicians or pharmacists outside of the department, for it would prove a most serviceable guide to all interested in the preparation or administration of drugs. The revision has been most painstaking, and among the additions are many of the working formulæ of the General Drug Department, together with an index of diseases which should prove very helpful.

Beiträge zur Experimentellen Therapie. I. Aetiologie und aetiologische Therapie des Tetanus. Von E. V. Behring. II. Neue Mittheilungen über Rindertuberculosebekämpfung. Von Dr. med P. H. Römer. Mit 33 Tafeln. Berlin: August Hirschwald, 1904.

These two communications comprise technical and theoretical considerations on the action and production of tetanus antitoxin, and a product for the immunization of cattle against tuberculosis. They are, however, too complex for summarization in brief.

Nervous and Mental Diseases. By Archibald Church, M.D., Professor of Nervous and Mental Diseases and Medical Jurisprudence in the Northwestern University Medical School (the Chicago Medical College), Chicago; Late Professor of Neurology in the Chicago Policlinic; Neurologist to St. Luke's, Wesley, Mercy, and Chicago Hospitals; Consulting Neurologist to the Home for Destitute Crippled Children, Chicago; and Frederick Peterson, M.D., President of the State Commission in Lunacy, New York; Chief of Clinic, Department for Nervous and Mental Diseases, Columbia University; Instructor in Mental Diseases, Columbia University; Ex-President of the New York Neurological Society; General Consultant to the Craig Colony for Epileptics. Fourth Edition, Thoroughly Revised. Philadelphia, New York, London: W. B. Saunders & Company, 1903.

This book is not the joint creation of two authors working in collaboration, but is really two treatises bound in one volume. The treatise on nervous diseases is written by Dr. Church, that on mental diseases by Dr. Peterson. The work made its reputation in the first edition, and subsequent revisions have merely kept it abreast of the times without materially changing its character, except, of course, that deficiencies have been supplied and other necessary changes have been made, all naturally tending to improvement. In this new edition the principal additions are in relation to the healing of nerves, the diagnostic value of astereognosis and Kernig's sign, intermittent limping, herpes zoster—a disease claimed by the neurologist as in his domain rather than that of the dermatologist, and the healing of nerves. In the division treating of mental diseases the chief addition is a section prepared by Dr. Adolph Meyer, giving a critical review of the work of German investigators in psychiatry, the result of which has been to modify so strikingly the accepted views on this subject.

The book is handsomely gotten up and the illustrations are well executed and come out well on the glazed paper used. But by reason of this glazed paper the eyes of the reader are sacrificed to the beauty of the illustrations, and no one could use the work as a textbook, reading in it for long stretches of time, without seriously tiring the eyes. The book is also too big and too heavy to be of service for anything more than a work of reference. For this purpose it can be recommended.

Society Reports.

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, Held December 28, 1903.

WENDELL C. PHILLIPS, M.D., PRESIDENT.

Abdominal Surgery in Young Children.—This was the special topic for the evening.

Intussusception and Appendicitis.—Dr. JOHN F. ERDMANN presented this, the opening paper of the series. He said that he was becoming more and more convinced that operation should be promptly resorted to in intussusception instead of temporizing with air inflation, hydrostatic pressure, and similar measures. It should be noted that sudden abdominal pain was usually the first symptom. In the first hour or two the abdomen was relaxed and no tumor could be felt unless the intussusception was of considerable extent and was taking place rapidly. After a few hours abdominal distention and evidence of intestinal obstruction were present. In 60 per cent. of the twenty-six cases which he had seen, and upon twenty-three of which he had operated, there was no tumor palpable either through the abdomen or per rectum. When a tumor was present, it was not usually sausage-shaped, as stated in the books, but round and nodulated. The great danger of reduction by injections was that the greater part of the intussusception might be reduced with a temporary relief of all the symptoms, and still a portion remain unreduced. He would not feel satisfied that reduction had taken place, even though the symptoms were improved, unless the child soon had a movement of the bowel of a character indicating removal of the obstruction. Enemas prior to operation were useful because there could be no doubt that they caused partial reduction, and so facilitated the subsequent operative procedures. It was a significant fact that his greatest mortality rate had been in those cases in which the longest time had been required to effect reduction, and those cases in which the intussusception was of the longest duration. The incision for the operation was always made in the middle third of the rectus muscle, and should not ordinarily be more than two inches at the commencement of the operation. In the eleven cases operated upon since January, 1902, he had removed the appendix before closing the abdominal incision, and in all but one instance the appendix had constituted one part of the intussusception. When the intussusception could not be reduced or gangrene existed, resection and the establishment of an intestinal anastomosis were in order. The abdominal contents should always be examined for multiple intussusceptions. After reduction, the abdominal incision was sutured in the ordinary manner, and a tight abdominal dressing applied. Paregoric should be administered every three hours to control peristalsis, and bismuth should be given along with a fluid diet. There was usually a foul-smelling green diarrhœa after the operation, due to superficial necrosis of the mucous membrane.

Appendicitis.—The speaker referred only on this occasion to cases of appendicitis occurring in children not over ten years of age. Since January, 1902, he had seen 257 cases of appendicitis, and had operated on 201 of them. Of this number twenty-nine were in children under ten years. Twenty-two of these children were operated on, with two deaths. All of the cases were acute. Nine were operated upon in the primary attack. The appendix was removed in every instance. Fourteen cases were drained. In two cases a mass of pin-worms constituted the foreign body in the appendix. The cases not operated upon could not be traced, so that the termination was not known. The McBurney incision was used in sixteen cases. The stump was inverted four times after the method of Dawbarn, and in the others it was tied off and cauterized with pure carbolic acid. The diagnosis in such young children was difficult because one must rely upon subjective symptoms largely and the statements of the mother or attendant. One should, however, be able to exclude intussusception after a careful inquiry into the history. He had seen the abdomen opened, and had opened it himself for a supposed appendicitis when the true diagnosis proved to be pneumonia. Pain, as shown by crying, together with fever, restlessness, sleeplessness, and abdominal tenderness, were the chief symptoms to be relied upon at first for the diagnosis. Almost unconsciously these little patients would place the hand over the region of the appendix to guard against any manipulation of this region. The McBurney incision was used when no mass could be felt, while the Kammerer or the split-rectus incision should be employed when the mass was more to the median line or down in the region of the bladder. When free pus of the serous variety was present in the general peritoneal cavity, he sponged out the cavity as dry as possible. Several years ago he gave up the plan of irrigating the general peritoneal cavity. When drainage seemed requisite, he usually made use of a "cigarette" drain. A movement of the bowel should be secured in the first twenty-four hours ofter the operation. He usually gave $\frac{1}{10}$ grain calomel triturates as soon as the vomiting induced by the anæsthetic had ceased. Immediately after the operation an enema of a solution of sulphate of magnesium was administered. If no drainage were employed, the patient was allowed to sit up on the fourth day, and was out of bed on the seventh day.

Abdominal Incision for Tuberculous Peritonitis.—Dr. SAMUEL LLOYD read this paper. He said that he knew it to be a fact that a certain number of these cases recovered without operation, and that it was equally true that a certain number were not benefited by operation. One of the difficulties to be contended with by surgeons was the late period at which these cases were referred to them for operation. As a general rule, the onset of a tuberculous peritonitis was, or seemed to be, rapid, although it was probable that the tuberculous deposit was present a long time before the symptoms became sufficiently urgent to require surgical interference. Localized tuberculosis of the peritoneum was usually discovered accidentally in connection with the search for some other condition believed to be present. It was not always possible to differentiate between an appendicitis and a tuberculosis in or about the ileocæcal valve. He did not consider it worth while to operate upon any patient who had marked pulmonary tuberculosis or gave evidence of a general tuberculosis. On the other hand, in cases of acute miliary tuberculosis he thought great benefit might accrue from an abdominal incision and washing out of the whole abdominal cavity with a full-strength solution of hydrogen peroxide. It was remarkable how each tuberculous nodule would stand out prominently after this application. It had been his good fortune to reopen the abdomen in two cases subsequent to this operation for tuberculous peritonitis, and he had found absolutely no trace of the former peritonitis at the second operation. Fecal fistula was a common result after tuberculous peritonitis. In these cases of miliary tuberculosis he believed the operation should be done as soon as the diagnosis could be made. The onset was sudden, the progress rapid, and the accumulation of fluid so great as to give rise to great dyspnœa. With this there was rapid emaciation. By operation, the fluid was evacuated and an opportunity afforded for washing out the abdominal cavity with the solution of hydrogen peroxide. If the wound were left open, as he preferred in all cases, it prevented a second distention of the abdomen, and favored a marked improvement in the patient's general health. In the cases of chronic caseous or ulcerating tuberculosis the performance of the operation would depend largely upon the seat of the disease and its extent. If only a small number of isolated intestinal glands were involved it might be possible markedly to benefit, or even to cure, the patient. In the cases of chronic fibroid tuberculosis he did not believe surgical interference was advis-

able. Out of twenty-one cases of miliary tuberculosis of the peritoneum that he had been able to look up for this paper, seventeen were practically cured at the time of leaving the hospital. His own opinion was that the operation for tuberculous peritonitis afforded the patient an opportunity to gain in strength and nutrition which would not be possible under any medicinal treatment.

Pyloric Stenosis.—Dr. J. G. WILLIAM GREEFF read this paper. He said that he had come to the conclusion that the cases reported as congenital pyloric stenosis were really instances of an acquired stenosis. As yet nothing was definitely known as to the origin of this condition. Almost all authors were of the opinion that it was congenital, and Henschel believed that it could occur in a family showing an evident tendency to hypertrophies. A number of names had been reported which had recovered, and the symptoms presented in these cases were very much like those of chronic intestinal catarrh. Dr. Greeff reported a case that he had personally observed in which it had been possible for him to make the diagnosis *intra vitam*. When first seen, the child was three weeks old, was emaciated and vomited after almost every meal. The stomach was very much enlarged and the greater curvature was three finger-breadths below the umbilicus. The stomach was washed out daily, and the diet suitably regulated. Under the internal administration of nitrate of silver the quantity of mucus diminished but the vomiting persisted. The vomiting continued even after a wet-nurse had been secured This vomiting usually occurred immediately after feeding and in great gushes. It began two weeks after birth. The child steadily lost weight, until, at its death, it weighed six pounds. It was because of the poor general condition that the speaker had not favored operation, although he had made the diagnosis of pyloric stenosis quite early. The operation was finally done by Dr. W. T. Bull with the sanction of Dr. Holt, who concurred in the diagnosis. The operation revealed a thickened mass, 2.5 cm. long and 1.5 cm. in diameter at the site of the pylorus, the boundaries of the tumor being well defined. A posterior gastroenterostomy was done, but the child died twelve hours later from shock. At the autopsy the intestine throughout was found very small. The stomach measured in its greatest diameter, between the cardiac extremity and the pylorus, 12 cm., and between the smaller and large curvature, 7 cm. Microscopically, the mucous membrane showed signs of catarrhal inflammation. The stomach wall throughout was hypertrophied. This was very marked at the pylorus, and a very small probe could hardly be passed through the pylorus. This thickening of the pylorus was plainly due to a muscular hypertrophy. The microscopical examination confirmed these findings. The fibrous tissue surrounding the glands was hypertrophied. The muscular and connective tissue layers were in a condition of pronounced hypertrophy and hyperplasia. The speaker said that the mild cases of this disorder would recover without operation under appropriate treatment. If such treatment failed, it was well, after careful observation for a period of two or three weeks, to consider the advisability of an operation. He did not personally think operation should be advised unless this was done very early indeed, yet it was just at this time that very few felt like taking the responsibility of deciding the question of diagnosis and operation. Through chemical influences it was possible for increased working of the pylorus to take place, thus leading to consecutive hypertrophy and stenosis.

Hernia.—Dr. WILLIAM DE GARMO read this paper. (See page 251).

Dr. A. JACOBI opened the general discussion. He said that appendicitis was a very frequent disease in children and infants, and there were anatomical reasons for this. The appendix of the new-born was one-tenth the length of the colon, while that of the adult was one-twentieth the length of the colon. The appendix continued to grow up to the thirteenth year, both in length and width. After this time it began to atrophy, and about the fifteenth year might even be smaller than at birth. The appendix in the young was very wide, so that it was easy for an accumulation of fæces to take place. The muscular layer was very well developed in some children, and, hence, in them, after a severe colic, the fecal accumulation would be expelled. Not so, however, in children of lax fiber and weak muscular tissue, and, consequently, this class of children were apt to come into the hands of the surgeon.

He saw no reason why some cases of pyloric stenosis might not have an anatomical basis, even though the great majority were functional. Complete obstruction was either the result of inflammation or an arrest of development. The normal diameter of the pylorus was 6 mm. at birth, and it increased one-quarter of a millimeter with each month. There was certainly a congenital hypertrophy of the circular layers of the pylorus, as had been reported many years ago by Hirschsprung of Copenhagen. Dilatation of the stomach might be followed by that of the œsophagus, yet dilatation of the stomach was not so frequently seen as might be expected because of the early onset of vomiting. Death followed frequently within a few weeks or months. A congenital spasm certainly existed, a spasm which was comparable with rectal tenesmus or vaginismus. The few cases that he had seen that had terminated favorably were those in which there had been persistent vomiting and hyperacidity. The latter could be controlled by the administration of alkalies and washing out of the stomach. Henry Ashby's conclusions, both from a large personal experience and from a study of the literature were, that the ordinary form of congenital stenosis of the pylorus was associated with a hypertrophic condition of the pyloric sphincter; that the essential feature was a spasm of the sphincter; that there was usually a secondary hypertrophy of the walls of the pyloric orifice of the stomach; that the mild cases might recover under dietetic treatment; that serious cases required some operation, preferably dilatation of the pylorus. When these children could not retain food they must be fed by the rectum, not only being given food, but large quantities of water.

Dr. WALTER LESTER CARR, referring to the operative treatment of tuberculous peritonitis, said that opinion was by no means settled as to the value of the operative treatment of this condition. No doubt, where there was marked ascites the operation would give prompt relief. Some authors had reported very much better results from medical treatment. We should take the position that we were dealing with an infection, and that if the systemic infection were not too great it might be allowable to operate; in any case he believed that an exploratory laparotomy was unobjectionable.

Dr. MARK I. KNAPP said that the cause of the pyloric stenosis was invariably mechanical, but it had not been shown that the condition was present at birth, although it was known to exist a few weeks after birth. The growing child would respond very easily to stimulation, and in this instance the stimulation was largely chemical, although to some extent mechanical. The same cause which gave rise to peristalsis produced the hypertrophy and stenosis, the difference being that in the case of intestinal peristalsis there was a canal of large lumen, whereas in the case of the pylorus of the infant the canal was very small and easily obliterated.

Dr. Jacobi called attention to the fact that the stomach of the new-born infant was very little more than a dilated œsophagus. The two curvatures were not so developed as in the adult, and the stomach was a mere pouch hanging nearly vertically.

Iodides per Rectum.—For patients in whom the internal administration of iodides produces gastric disorders, v. Zeissl advises its administration per rectum. He uses sodium or lithium iodide ℥ss to water ℥i with 5 minims of laudanum injected through a Nelaton catheter.—*Die ärztliche Praxis.*

THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL MEDICINE.

Stated Meeting, Held December 15, 1903.

LEWIS A. CONNER, M.D., IN THE CHAIR.

Malignant Endocarditis of the Tricuspid Valve with Perforation of the Interventricular Septum.—Dr. LEWIS A. CONNER presented this specimen. The patient was a male, twenty-four years old, born in Hungary, and was admitted to the hospital October 30, and died November 20, 1903. He gave no history except illness for two days with fever and chills. His temperature was very high, and septic in character. The leucocytic count was 19,200. No physical signs were found. Five days later a faint systolic sound was noted, and a systolic murmur over the lower half of the precordium. The murmur grew louder and harsher. Its maximum intensity was midway between nipple and the sternum. There were no signs of pulmonary emboli. Two blood cultures gave pure growth of a diplococcus resembling the gonococcus. A bacteriological examination of smears taken from the urethra was negative. The patient had a persistently high temperature, and high leucocytosis, became rapidly anæmic, and died three weeks after admission.

At the autopsy the heart was found to be moderately enlarged, weight about fourteen ounces, with muscle yellow, soft, and friable. The pulmonic and mitral valves were normal. A large and ragged thrombus was found on the tricuspid valve with ulceration and extension through septum at the base of the aortic cusp. The aortic cusps were involved. The lungs were congested, and œdematous, but no infarcts were found. In the spleen there was found one small infarct. There was a parenchymatous nephritis. He called attention to the following features: (1) Absence of signs of tricuspid obstruction. (2) Absence of pulmonic infarctions. (3) The obscure etiology.

Melanosarcoma of the Liver.—Dr. LEWIS A. CONNER presented this specimen, which was removed from a patient fifty-four years old, a waiter by occupation, who died November 20, 1903. He had been a hard drinker. He had jaundice twenty years ago which lasted two weeks; otherwise he claimed that he had always been well. Symptoms of his present trouble began six weeks before admission, when he had severe pain in the epigastrium. He lost flesh. Two days prior to admission he began to vomit. The pain, vomiting, and emaciation continued until he died of exhaustion one week after admission.

At the autopsy the liver was found to be hard and nodular, the mass filling almost the entire abdomen. It weighed ten pounds and eleven ounces, was greenish-black in color, with many small yellowish-to-white nodules. Upon section there were myriads of small nodules, yellowish-white, or black. The right suprarenal showed a black nodule the size of a pea. Miliary metastases were found in the right auricle and mucous membrane of the stomach, in the bladder, in the pleura, pericardium, and peritoneum. A careful search of the skin and mucous membranes failed to reveal scars, nævi, or primary growth. He called attention to the following features: (1) Size of the liver. (2) Many miliary metastases. (3) Difficulty of detecting the primary growth.

Fatal Hæmatemesis from Perforation of the Œsophagus by a Latent Thoracic Aneurysm.—Dr. LEWIS A. CONNER presented this specimen, which was removed from a patient who died December 2, 1903. The patient had been well until two or three days prior to admission, when he developed a slight cough, and pain in the left side of the chest. There was no dysphagia. He began to vomit large quantities of blood, but the vomiting ceased after admission only to begin again twelve hours later, just before his death. Examination of patient's chest was negative. When he died he evidently was exsanguinated.

At the autopsy no marks of cutaneous syphilis were found. The stomach was found to be distended with 1300 c.c. of blood. The heart was moderately hypertrophied and weighed twelve ounces. The aorta was very much dilated and sclerotic. An elongated sacular aneurysm of the descending arch of the aorta was found which extended from the beginning to just above the diaphragm. It had perforated the œsophagus, causing a fatal result from hemorrhage.

Dr. MORRIS MANGES reported a primary case of melanosarcoma of the liver that he saw twelve years ago, the history of which was somewhat similar to the one related by Dr. Conner. The rapidity of its course was a very striking feature. The patient was a woman, twenty-six years old, and her liver, within four weeks, increased from a moderate enlargement to one entirely filling the abdomen. This took place in the shortest time he had ever noted; it was impossible to make a diagnosis until one week prior to her death. At autopsy the liver looked entirely different from the one presented; it was melanotic, but more microscopical, than macroscopical. There were secondary cutaneous manifestations, yet the liver itself was not pigmented and yet the microscope showed an enormous invasion. No primary focus could be found, and it was assumed that it was a primary melanosarcoma of the liver.

He recalled one or two cases of mycotic aneurysm of the femoral artery resulting from malignant endocarditis. In one of these he recalled a very peculiar effect. The aneurysm was very small, mycotic in origin (it was the fourth he had seen that involved the lower extremity, and there was much doubt regarding the diagnosis on account of the latency of the phenomena. The aneurysm was found to be very small and out of all proportion to the amount of erosion. He thought there must have been other factors in play than the mere mechanical pressure.

Dr. E. E. SMITH had seen a case similar to the last one reported in which he had examined the blood and stomach contents. The blood showed nothing unusual. After the test-meal the stomach contents showed an increased acidity. The patient gave a history of great pain which had existed for several weeks. The patient was very anæmic and a probable diagnosis of gastric ulcer was made. Soon after entering the hospital there was noticed a thrill over the region of the seat of pain and vomiting of blood. The patient came to operation but nothing was revealed. Soon afterward the patient died and the autopsy revealed a thoracic aneurysm that had eaten into the œsophagus close to the opening into the stomach.

Dr. CONNER asked Dr. Hodenpyl regarding the origin of these sarcomas, if they did not arise from the pigment cells. In the case related he said it was difficult to see how it could have arisen in the liver.

Dr. HODENPYL replied that he had seen cases of melanotic sarcoma of the liver but that they were always secondary manifestations. All those that he had seen originated in the pigment cells of the skin or subcutaneous connective tissue.

Dr. PEABODY asked if there were found petechial hemorrhages in the skin.

Dr. CONNER answered no. He said that although the tricuspid lesion was present the lungs were free from emboli. Before death there had been one or two hemorrhagic areas over the elbow, but these were not in any way the result of irritation or emboli.

Dr. MANGES said that Ziegler spoke of the possibility of primary melanosarcoma of the liver.

The Clinical Value of the Average Analysis of Gastric Contents.—Dr. CHARLES SUMNER FISCHER read this paper. He said that he had been led to a consideration of this subject by a passage in Hemmeter's book in which he states the following: "It would be a valuable contribution

by various gastroenterologists of the United States if they collected and reported the frequency of hyperacidity and other gastric diseases occurring in their localities so as to throw light on the influence of race, climate, geographical distribution, etc.," and again, by a statement of Riegel, "that the determination of the frequency of hyperchlorhydria by statistics will remain impossible so long as every dyspeptic is not examined by lavage and that hyperchlorhydria is found more frequently in private practice than in hospital because the symptoms of this condition are generally not severe enough to send the patients to these institutions." He said that so long as various observers in different parts of the country did not employ the same methods and base their conclusions upon uniformly imposed conditions so long would it be impossible to estimate correctly the actually prevailing conditions and frequency of chronic gastric diseases. He chose the acid secretion of the stomach as a subject for discussion because it was the function about which the most was known and which gave the greatest aid in diagnosis. In the determination of hydrochloric acid the greatest errors of judgment were made. He said the whole question resolved itself into this: Can we get a better knowledge of the gastric acid secretion by employing carbohydrates or proteids as exemplified in the ordinary test-breakfast of Ewalt-Boas or the more complicated meat containing meal of Riegel, or had we better use both of these meals; or would it not be better to discard both of these meals as placing the organ under natural conditions and examine the stomach under the circumstances in which it finds itself and containing the food to which the individual had been accustomed or which has led to his discomfiture?

He reviewed briefly the separate lines of experiments which had been pursued for years and which had a direct bearing upon the question, classifying them as diagnostic, dietetic, and the purely physiological. The first two were closely allied and had for their object the study of the extreme development of the acid secretion of the stomach, and the results that had been obtained in each case were directly interchangeable. The value for diagnostic purposes of the ordinary trial breakfast of Ewald-Boas or the proteid meal of Riegel he said had been variously estimated by different writers. The objections to the test breakfasts were its simple, non-stimulating character, that it was nauseous and did not appeal to the special senses and did not give an adequate idea of the secreting possibilities of the stomach. On the other hand its uniform character seemed to be the quality which appealed most to those who preferred it. The chief objections to the meat-containing meal seemed to be its non-conformity of character and the greater difficulty in manipulating it. Leaving aside the consideration of uniformity or manipulation, the whole subject seemed to resolve itself into a discussion of the stimulating properties of carbohydrates and proteids to gastric secretion. The object of a large part of experimentation had been for dietetic treatment of hyperchlorhydria; but the results obtained could be applied with equal advantages to the question of diagnosis. He said that the controversy in regard to the proper dietetic treatment of hyperchlorhydria began in 1891, and he briefly reviewed various phases of the struggle.

He said that in every case of chronic gastric disease involving abnormal acid secretion, the object of the chemical analysis of the gastric contents was to develop, if possible, the average capability of the stomach to secrete acid and any vagaries of the same which might exist. It was necessary to place the stomach under conditions such as had existed during the period of illness. He asked if that could be done by giving simple tea, without milk or sugar. A partial solution of this problem was found in the results obtained by Pawlow by physiological experiments on the influence of real and fictitious feeding, and the principle impression conveyed by these experiments were that, so far as diagnosis was concerned, any test for the development of the gastric acid secretion was to give satisfactory data for judging the average functional capability of the stomach should appeal not only to the appetite, inducing special senses of sight, taste, and smell, but should also be a direct stimulant to the secretory centers in the stomach walls, for Pawlow demonstrated that the acid secretion during the first half hour of digestion was due to the first, and that the real chemical stimulation began later. In the words of Troller, the test must be a physiological stimulant, and a physical-chemical stimulant. He said that if we accepted the results obtained by clinicians and physiologists, the ordinary trial breakfast did not fulfil the requirements of a physiological test for the acid secretions, and it failed in the following: It failed to excite the appetite, and hence the vagus stimulation in those cases in which it was taken with repugnance; it failed to be a physical-chemical stimulant in that it did not act as an energetic stimulant to the secretory centers located in the stomach walls; lastly, it failed in that it placed the individual in a false condition of life for examination. Therefore it was not surprising that this meal should give a variety of results in clinical work, 50 per cent. of which were erroneous, at least upon the first examination. In taking the statistics from hundreds of cases of gastric analyses in women, three-quarters to one hour after a trial breakfast, he found that 60 per cent. were hypochlorhydric, 30 per cent. normal, and the remainder hyperchlorhydric. In these cases, upon the third examination, he found that 57 per cent. had remained stationary, wereas 43 per cent. had changed as follows: Of the subacid cases, 22 per cent. became normal, and 2 per cent. were even hyperacid; of the normal cases, 14 per cent. became subacid, and of the hyperacid cases, 2 per cent became normal. Among men the changes were not so marked. Taken collectively, among men and women, it was found that 60 per cent. remained stationary, and 40 per cent. changed upon the third examination. He stated that long ago he came to the conclusion that first examinations should be excluded in all cases as being entirely unreliable; there were too many disturbing factors which were likely to influence gastric secretion, such as misunderstanding on the part of the patient as to the time and the food, and most of all, such factors which related to the emotions, such as anxiety, uncertainty, and fear. Upon second examinations these were largely removed. The variations could not be attributed to nervous influences, for neuroses were excluded from the list. There remained but one conclusion, that the ordinary trial breakfast did not fill all the requirements of a reliable test for the gastric secretions. This, he said, was not surprising when one recalled the experiments of Pawlow. In order to obviate the objections to the test breakfast, some authors advised administering proteid in some form; this, he said, would act either as an energetic stimulant to the acid secretion in cases in which subacid conditions were due to continuous overstimulation, or it would act as a neutralizing agent when hyperacidity was the result of gastric irritability of an intermittent nature. In order to obtain uniform results as nearly as possible according to the ideas of Bushman, and in order that the results might be traced directly to the influence of the proteid, and in order to demonstrate more closely the difference between a proteid and carbohydrate diet for purposes of diagnosis, he said he had discarded the ordinary meal as proposed by Riegel, and simply employed the ordinary test breakfast of Boas, plus the addition of one-quarter of a pound of lean, finely chopped beef, prepared by boiling, and slightly seasoning to make it more palatable. In the examination of hundreds of cases he had found the results were more constant; of the cases examined, 40 per cent. were subacid, 46 per cent. were normal, and 14 per cent. were hyperchlorhydric upon the second examination. Upon further examination it was found that 35 per cent. remained subacid, 54 per cent. remained normal,

and 11 per cent. remained hyperchlorhydric. Comparing this with the results obtained by the trial breakfast, the number of subacidities were reduced 23 per cent., the normal acidities increased 15 per cent., and the hyperacid cases increased 9 per cent. He then gave a few examples to demonstrate the necessity for some analytical reasoning for the proper judgment of any case of chronic gastric disease. The mere presence of so much acid in the stomach at a given time would be of small value for this purpose, and he said the older practitioners were justified to a certain extent when they looked with distrust upon gastric analyses in general. Unless the average capability of the stomach to secrete and work was developed by the examination, he believed it would be far better to depend for diagnosis and treatment upon clinical experience and a good history. It was impossible to do this by giving one meal; hence it was impossible to discard either carbohydrates or proteids among people who had been accustomed to a mixed diet, especially if one intended to bring the diagnostic method into line with the physiological observations of Pawlow. Sometimes it would happen that one was unable to obtain results which would throw light upon the real nature of the disease, and the reason for this might be that the examination was carried out under conditions unnatural to the organ; to give bread and tea, or plain unseasoned meat, was unnatural. He said that many patients who appeared for treatment were in an almost starved condition, and it was not reasonable to expect a starved organism to produce results of digestion indicative of its capability. If more scientific and simpler methods have not yielded satisfactory results, he then examined them some hours after they had enjoyed a satisfactory meal. In this way obscure cases were often suddenly rendered clear. He said this was best seen in the rarer forms of chronic gastric conditions, such as those occurring periodically and affecting the secretory or the motor functions. If they are suffering, he said, it was so much the better, for then one could more likely get at the cause of the suffering.

Dr. GEORGE L. PEABODY said that it was especially important to consider the results of gastric analyses as only a part of the means of making a diagnosis. He did not think it was fair to attempt to make a diagnosis of gastric carcinoma, for instance, in the absence of physical signs, solely upon gastric analyses, although one must admit such to be a very important factor in diagnosis. Because there was a persistent absence of free hydrochloric acid, and the presence of lactic acid, where there were no marked loss of weight and absolutely no cachexia, he said that few would be willing to say that was sufficient to base a diagnosis of gastric carcinoma, whereas the existence of facts derived from repeated gastric analysis would naturally lead one to think that its existence was only probable. The New York Hospital had provided him with histories of a few cases occurring there, of which the following was a brief summary.:

CASE I.—This was a woman, twenty-seven years old. Repeated analysis of the stomach contents showed the absence of free hydrochloric acid and a trace of lactic acid. She had vomited blood several times, and had passed some per rectum. She had lost fifty or sixty pounds, but was not cachetic in appearance. He said all must admit that her age was against the existence of gastric carcinoma, but that the analysis of the stomach contents rather pointed to it. An operation was deemed advisable, and there was found a tight pylorus and a gastric ulcer. A pyloroplastic operation was done with a marked improvement in the condition of the woman.

CASE II.—This was a woman, thirty-three years old. After the administration of the test breakfast, in one hour the stomach was always found to be empty. When examination of the contents in less than one hour there was found a complete absence of free hydrochloric acid, and a trace of lactic acid. In this case there was no suspicion of gastric carcinoma. This patient was now receiving hydrochloric acid with her meals. During the past ten days she had gained four and a half pounds in weight. She suffered from gaseous distension. In the urine occasionally casts were found and a trace of albumin. There was a high arterial tension.

CASE III.—This patient was a man, thirty-one years old. The gastric contents showed no free hydrochloric acid and no lactic acid. He had had symptoms for one year past, and during the last six months constant gastric symptoms. He lost some weight. There was no cachexia, no tumor, nor any appearances of gastric carcinoma, from which he suffered.

CASE IV.—This patient was a woman, sixty years old, who appeared as though suffering from a chronic gastritis. Her teeth were defective, and this was probably the cause of the irritation from which she suffered. Hyperchlorhydria was always present. Improvement occurred when the diet was regulated. He said a person, sixty years old, with persistent pain, loss of weight, persistent gastric symptoms, etc., would be considered a sufferer from gastric carcinoma.

He said that frequently one was confronted with the difficulty in making a diagnosis between hyperchlorhydria and gastric ulcer. As already stated, there was no other way of making a diagnosis except as a result of treatment. He referred to one case in which a diagnosis of gastric ulcer was made. Free hydrochloric acid increased in two examinations. There was free and copious vomiting of blood. The patient was transferred to the surgical ward, operated on, but no gastric ulcer was found. In talking with surgeons and asking them whether they considered visual exclusion as satisfactory evidence of the absence of gastric ulcer, he found that they considered it positive evidence of its absence. Dr. Peabody begged leave to differ with them. He believed that it required a more thorough examination of the gastric mucous membrane than was consistent with life. In the case referred to above none was found.

CASE V.—This patient was a woman twenty-six years old, who began to have pain in the stomach eight years ago. She had an attack of pain followed by vomiting of blood, nearly one pint, about five years ago; these attacks of vomiting and pain continued up to the present time, usually greater after meals. Physical examination was negative. There was an increase in free hydrochloric acid. An operation was performed and no gastric ulcer found. He thought that vomiting of blood, with pain persistent in character and localized, justified the clinical diagnosis of gastric ulcer when there was an excess of free hydrochloric acid present.

Dr. Peabody had a man under observation who was about fifty years old and who had had persistent gastric symptoms, pain, vomiting, great distress, emaciation, these symptoms lasting for more than one year. Recently a gastroenterostomy was performed upon him for a tight pylorus which was very much thickened. He had a dilated stomach. No gastric carcinoma was found. The effect of the operation was most satisfactory, the patient gaining in weight constantly. He referred to one other case of a woman who came under his observation two years ago. She was admitted to New York Hospital with a diagnosis of gastric carcinoma. She lost forty pounds in weight during the year previous. A gastroenterostomy was performed for carcinoma of the pylorus. For two years she led a life of comfort and regained the forty pounds lost. He said she was now in the hospital with periodic attacks of pain which had no relation to her former trouble. This pain lasted eight or ten days and her temperature rose from normal to 103° to 104°; as the pain subsided the temperature returned to the normal. No tumor could be felt. He interpreted her condition now as one of local peritonitis. He believed the carcinoma was recurring and, as it grew, caused attacks of peritonitis with adhesions from time to time.

He said he laid great weight upon gastric analyses in

did not think it wise to give too much weight to them. He believed there was a tendency at the present time, especially for young practitioners, to lay too much weight upon exact methods of diagnosis to the exclusion of all other methods. Some men would not make a diagnosis of typhoid fever unless the Widal reaction was present, or of tuberculosis unless the tubercle bacilli were demonstrated. The same held true regarding gastric analyses. This examination he believed to be a factor of great importance, but it was not fair to exclude all other methods. Only two weeks ago he had a case in which there was evidently pyelitis of the left side. The urine showed the presence of tubercle bacilli, according to the pathologist's report. The pelvic organs were not involved. Under rest the patient got entirely well and all symptoms subsided. In this case there was probably a mistake in the pathologist's report.

Dr. GEO. ROE LOCKWOOD believed that the discrepancies regarding the frequency of hyperacidities were the result of different methods employed by various observers, and also depended much upon the personal equation of the observer and what he considered to be hyperacidity. In New York the normal acidity of from 50 per cent. to 60 per cent. was considered to be a fair average after the Ewald test breakfast. He believed it to be as difficult to make a diagnosis of gastric disorder without an examination of the gastric contents as it was to diagnose a cardiac disorder without listening to the heart. He said he would not treat a case of gastric disorder to-day without being given the privilege of making a test breakfast, and during the years he had had only one who refused to consent to it. He emphasized the importance of ocular inspection of the test breakfast; he relied much upon the eye for a diagnosis with congo-paper; he thought well of the Ewald breakfast on account of its simplicity. Gastric analysis of itself was of little value and should be combined with a physical examination of the patient to detect something of a pathological import, such as the enteroptolic habit as an index to the neurasthenic state, etc.

Dr. WILLIAM ARMSTRONG said he was not so much in favor of the test breakfast as was Dr. Lockwood, and that if we were limited to three or four examinations we could gain more from the Riegel test than from the test breakfast.

Therapeutic Hints.

Induction of Anæsthesia in Prostatic and Renal Surgery.—Mark, reasoning from the evidence adduced for and against the method of subarachnoid injections of cocaine, believes that the following conclusions are justified: (1) That the method is as safe as, if not safer than, general anæsthesia. (2) That we may safely employ up to ⅓ of a grain of cocaine without fear of toxic effects. (3) That shock, when present, is decidedly less than that of general anæsthesia. (4) That it is attended with no danger of annoying sequelæ and symptoms. (5) That on account of the variability in the length of its analgetic action it is contraindicated in prolonged operative procedures.—*Medical and Surgical Monitor.*

The Surgical Treatment of Early Diagnosed Cancer of the Uterus.—J. E. Janvrin concludes that in about one-third of all cases of uterine cancer, involvement of the regional glands in the pelvis takes place. This involvement rarely occurs in the incipient stage, and abdominal radical operation with the removal of the pelvic glands lessens the high percentage of recurrences.—*American Gynecology.*

Medicinal Treatment of Gallstones.—H. Richardson says that glycocholate of sodium will dissolve gallstones in the bladder, and even when cholecystitis is present glycocholate of sodium is indicated not only as a prophylactic but as a solvent for stones already present, and that in those cases only in which there is occlusion of the gall-duct is surgical interference permissible.—*Therapeutic Gazette.*

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

DISEASES OF THE EYE. By Dr. L. WEBSTER FOX. 8vo, 584 pages. Illustrated. Muslin. D. Appleton & Company, New York.

RABIES. By Dr. DAVID SIME. 8vo, 290 pages, muslin. Cambridge University Press, Cambridge, England.

JAHRESBERICHT ÜBER DIE VERWALTUNG DES MEDIZINALWESENS, DIE KRANKENANSTALTEN, UND DIE ÖFFENTLICHEN GESUNDHEITSVERHÄLTNISSE DER STADT FRANKFURT A. M. XLVI. Jahrgang, 1902. 8vo, 267 pages. Mahlau & Waldschmidt.

A HANDBOOK ON THE PREVENTION OF TUBERCULOSIS, First Annual Report of the Committee on the Prevention of Tuberculosis. 8vo, 388 pages. Illustrated. Charity Organization Society, New York.

A MANUAL OF MEDICINE. By Dr. W. A. ALLCHIN. Illustrated, 8vo, 687 pages, Muslin. The Macmillan Company, New York. Price, $2.00.

A SHORT PRACTICE OF GYNÆCOLOGY. By Dr. HENRY JELLETT. Illustrated. 8vo, 406 pages, muslin. J. & A. Churchill, London.

THIRTY-FOURTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MASSACHUSETTS. 8vo, 623 pages, muslin. Wright & Potter Printing Co., Boston.

TECHNIK UND DIAGNOSTIK AM SEKTIONSTISCH. VON Dr. RICHARD GRAUPNER und Dr. FELIX ZIMMERMANN. VOLS. I and II. 4to. Muslin, illustrated with 126 colored plates and 25 cuts. Forster & Borries.

TUBERKULOSE-ARBEITEN AUS DEM KAISERLICHEN GESUNDHEITSAMTE. I Heft, mit 5 Tafeln. 158 pages. Julius Springer, Berlin.

MANUEL PRATIQUE D'HYGIÈNE. Par le DOCTEUR GUIRAUD. Troisiémè Édition. 1068 pages. Illustrated. G. Steinheil, Paris.

TECHNIQUE DU MASSAGE. Par PROFESSEUR J. ZABLUDOWSKI. 146 pages avec un atlas de 80 figures. G. Steinheil, Paris.

PROSTATIC HYPERTROPHY FROM EVERY SURGICAL STANDPOINT. By Dr. GEORGE M. PHILLIPS. 12mo, 176 pages. Illustrated. Lewis Mathews & Co., St. Louis. Mo. Price, $1.75.

Goundou: Its Relation to Yaws.—A. Nell has met with several cases, and concludes from his observations and inquiries as follows: Yaws bears a causal relation to goundou. In goundou there are symmetrical osteomata on the nasal processes of the superior maxillary bones; they are always congenital, either apparent at birth or to be detected on close examination as faint bosses or ridges; general enlargement in size is always concomitant with body growth, and stops with full adult life. An "acute enlargement" follows or accompanies an attack of yaws; hence some congenital cases are not noticeable if no acute enlargement had occurred, and adults with slight ridges or bosses should be questioned regarding goundou or yaws in the family.—*Journal of Tropical Medicine.*

Treatment of Angina Pectoris.—William H. Waugh treats this disorder by giving glonoin, $\frac{1}{250}$ of a grain every minute until the face flushes. This effect is deepened and prolonged by giving atropine, $\frac{1}{250}$ of a grain, every ten minutes until the mouth begins to dry. There will be no further attack as long as this effect endures, and the effect may be definitely prolonged by repeating the atropine whenever the dryness of the mouth subsides. On the theory that spasm betokens weakness, strychnine, $\frac{1}{180}$ of a grain, every fifteen to thirty minutes, may be administered until the pulse regains its normal tonicity. In the absence of the remedies advised, anything that will bring the tears to the eyes will break the attack. Alcohol in any shape, volatile oils, ammonia, camphor, pepper, ginger, or any other spice or ether given hot and in concentration will answer. In the interval the mental and physical welfare should be attended to.—*Therapeutic Gazette.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending February 6, 1904:

	Cases.	Deaths.
Measles	852	18
Diphtheria and croup	475	62
Scarlet fever	413	24
Smallpox	5	...
Varicella	108	..
Tuberculosis	347	175
Typhoid fever	24	13
Cerebrospinal meningitis	...	6

Remote Sequelæ of Adenoids.—C. D. Conkey writes that, broadly speaking, adenoids pass away before the child passes into young manhood or womanhood, but that from 5 to 15 per cent. retain their relative size well up into middle life. In regard to the sequelæ, the author recapitulates as follows: Nature often fails to bring relief to the organs of the body influenced by the presence of adenoids, by the shrinking process which take place about the age of puberty. The facial bones are arrested in their development, giving a characteristic appearance to the facial expression which is far from beautiful. The nasal cavities are narrowed by long years of non-use, and are frequently distorted by the development of a high palatal arch encroaching upon their caliber. The habit of mouth-breathing is acquired especially at night, which acts deleteriously upon the ears and upon the respiratory organs. Chronic postnasal catarrh is a frequent accompaniment of adenoids and persists after their disappearance.—*Wisconsin Medical Journal.*

Immunity and Treatment.—Albert S. Grünbaum first briefly outlines some of the phenomena and theoretical foundations of immunity. He then considers a few of the practical applications. The method of immunization, prophylactic inoculation, is well known as applied to smallpox. The reaction produced is generally considered to be a modified form of cowpox, itself a modification of smallpox. The writer thinks a better explanation is given by the hypothesis that vaccine contains the toxini of variola in a toxon condition. It thus immunizes without producing the toxic effects of variola in a similar way to that in which the diptheria toxin leads to immunity. A certain interval elapses before protection is established, and as a result vaccination is ineffectual against smallpox, if done later than four days after infection. The writer believes that the tuberculin cure has been unfairly discredited, and the sanatorium treatment of phthisis unduly extolled. The two together form the ideal treatment. The protection conferred by an attack of the disease or by a process of active immunization (vaccination) is always superior in permanency, and usually in amount, to that attained by the injection of an antitoxic or bactericidal serum obtained from an immunized animal. Organotherapy as a mode of treatment is yet in its infancy, but at least one success has been achieved in the treatment of myxœdema. The popular notion of greater liability to infection during hunger is very probably correct; some receptors are then unoccupied. Susceptibility may be increased by a diminution in the amount of complement. At present we know of no other means of increasing the complement than by inducing a good state of nutrition. The importance of this fact cannot be overrated. Under some circumstances a stimulation to the production of special mediators to anticipate disease may be indicated. As time goes on it will no doubt be possible to extend such prophylactic treatment to the few other diseases which, like smallpox in the past and tubercle in the present, are the chief abbreviators of human life.—*The Practitioner.*

Pathology of Latent Malarial Infection as Observed at Autopsy.—Charles F. Craig confines the term "latent malarial infection" to those cases in which no symptoms are present and no parasites are found on repeated examination of the blood, such cases only being discovered at autopsy. Such cases are rare outside the tropics and the more malarial regions of our own country. Three cases of benign tertian infections and four of estivo-autumnal infections of the tertian type were observed by the author, in which autopsies were performed, most of which had been in the hospital for several weeks. Repeated blood examinations and careful clinical observation had failed to show signs of the disease. The chief point of value ascertained in these cases was that the malarial parasites, either tertian or estivo-autumnal, may be present in the body, may undergo their normal life cycle, without producing symptoms, and that they are practically localized in the spleen. It is probably true that the infected red corpuscles and, to even a smaller degree, the melaniferous leucocytes are not actually confined to the spleen, but are in circulation in the blood in such small numbers as to be practically beyond discovery.—*Journal of the Association of Military Surgeons.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service during the week ended February 6, 1904:

SMALLPOX—UNITED STATES.		CASES	DEATHS
District of Columbia, Washington	Jan. 23–30	1	..
Florida, Jacksonville	Jan. 23–30	4	..
Indiana, Evansville	Jan. 23–30	2	..
Iowa, Des Moines	Dec. 23–29	1	..
Louisiana, New Orleans	Jan. 23–30	2	1 case imported
Maine, Orono	Jan. 22	1	..
Michigan, Detroit	Jan. 23–30	1	..
Flint	Jan. 23–30	1	..
Grand Rapids	Jan. 23–30	2	..
Missouri, Saint Louis	Jan. 23–30	13	..
New Hampshire, Manchester	Jan. 23–30	2	..
New Jersey, Camden	Jan. 23–30	1	1
New York, Buffalo	Jan. 22–29	1	..
Ohio, Bucyrus	Jan. 23–30	4	..
Warren	Jan. 23–30	1	..
Pennsylvania, Allentown	Jan. 23–30	1	..
Erie	Jan. 23–30	1	..
Johnstown	Jan. 23–30	2	..
McKeesport	Jan. 23–30	5	..
Philadelphia	Jan. 23–30	65	17
Pittsburg	Jan. 23–30	15	1 case imported
Reading	Jan. 25–Feb. 1	2	..
Williamsport	Jan. 24–31	1	..
Utah, Salt Lake City	Jan. 23–30	1	..
Wisconsin, Milwaukee	Jan. 23–30	3	..
SMALLPOX—FOREIGN.			
Austria, Prague	Jan. 2–9	5	..
Brazil, Rio de Janeiro	Dec. 27–Jan. 3	41	9
China, Shanghai	Dec. 21–29	1	1
France, Paris	Dec. 26–Jan. 16	50	1
Great Britain, Edinburgh	Jan. 8–16	9	..
Glasgow	Jan. 15–22	65	4
Leith	Jan. 8–16	..	1
Liverpool	Jan. 8–16	..	1
London	Jan. 2–16	10	..
Manchester	Jan. 8–16	1	..
Newcastle-on-Tyne	Jan. 8–16	2	..
Sunderland	Jan. 8–16	6	..
India, Bombay	Dec. 29–Jan. 5	..	1
Karachi	Dec. 27–Jan. 3	7	..
Mexico, Tampico	Jan. 10–24	11	..
Netherlands, Amsterdam	Jan. 8–16	2	1
Russia, Moscow	Dec. 26–Jan. 2	5	..
Odessa	Dec. 26–Jan. 2	2	..
St. Petersburg	Jan. 2–9	24	1
Spain, Santander	Jan. 10–17	2	..
YELLOW FEVER.			
Africa, Grand Bassam	Dec. 12	Present	..
Brazil, Rio de Janeiro	Dec. 28–Jan. 3	2	..
Mexico, Vera Cruz	Jan. 16–23	1	..
Panama, Panama	Jan. 5–12	..	..
Venezuela, La Guaira	Jan. 2–9	Present	..
PLAGUE.			
British Burmah, Rangoon	Dec. 9	..	..
China, Hongkong	Dec. 5–12	1	..
India, Bombay	Dec. 29–Jan. 5	..	18
Karachi	Dec. 27–Jan. 3	..	..
South Africa, Natal (Pietermaritzburg)	Dec. 5	3	..
CHOLERA.			
Straits Settlements, Singapore	Dec. 5–19	..	..
Turkey in Asia, Diarbekir	Dec. 28–Jan. 4	..	..
Inebe	Dec. 28–Jan. 4	1	..
Kerbela	Dec. 21–23	..	..
Latakieh	Dec. 28–Jan. 4	11	..
Mossul	Dec. 28–Jan. 4	1	..
Mussieb	Dec. 28–Jan. 4	18	..

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Original Articles.

HEART SYPHILIS,*

BY I. ADLER, M.D.,
NEW YORK.

IT is now generally conceded that there is such a thing as cardiac syphilis—that is to say, that the syphilitic virus can specifically affect the heart. Perhaps O. Rosenbach is the only author who at present disputes this. As soon, however, as we go into details we find a wide diversity of opinion. There is still much confusion as regards the frequency of occurrence of this class of affections, their anatomical and histological characteristics, their diagnosis and clinical manifestations; and this is not strange, for, after all, the entire subject of heart syphilis, as indeed of visceral syphilis altogether, has been a subject of investigation for only a comparatively short time. Barely fifty years have elapsed since the first cases were reported by Ricord (1845), Lebert (1849), and Virchow (1858). Since then much thorough and valuable work has been done on this subject, but a complete and entirely satisfactory knowledge has not yet been attained. Moreover, but very little of all this work has gained admission into the current textbooks, and still less has it reached the consciousness of the medical public at large. It is only very recently that the textbooks occasionally devote to the subject of heart syphilis more than a passing and almost contemptuous notice, while the great majority of practitioners, if they consider it at all, think of cardiac syphilis as a pathological rarity which may occasionally be encountered on the autopsy table, but is of no practical importance. Against this standpoint much has of late been said and written, and it is hoped that the following contribution may assist in convincing the practitioner, not only that syphilis is an important etiological factor in many forms of heart disease, but also that, as a necessary consequence of this, therapeutic possibilities and obligations in our daily practice are opened to us.

Before discussing the clinical aspects of our subject, it will be to the purpose to inform ourselves as to the anatomical lesions which the syphilitic virus is apt to produce in the heart. Three groups of lesions are usually mentioned, viz.: (1) gumma, (2) sclerogummatous arteritis of the coronaries, and (3) fibrous myocarditis. It is generally maintained that these three groups all belong to the so-called tertiary period.

Gumma of the myocardium is of comparatively rare occurrence and differs in no way from the gummata of other organs. It appears to favor the left ventricle and the septum, but may occur in any other region of the heart, especially in the papillary muscles. The gumma may heal and become entirely absorbed, in which case, here, as in every other locality, tough, inelastic, fibrous scar tissue takes its place. This again, especially if at all extensive, may lead to partial distension and dilatation of the heart wall, the so-called cardiac aneurysm, with the imminent danger of rupture. On the other hand, the gumma may break down and ultimately perforate either into one of the cardiac cavities, or, not infrequently, outwardly through the pericardium, causing cardiac perforation and sudden death.

It is impossible to enter here into any, even the most summary, details concerning sclerogummatous arteritis. The very conception of this condition is by no means clearly defined or understood. There is no doubt that gummatous growths can develop in the aorta, the coronary vessels, and also in the smaller arteries in much the same way as Baumgarten has demonstrated for the arterioles of the brain. It is convenient, however, to exclude the aorta entirely from the present discussion, while with regard to the coronary arteries it will suffice to state briefly that sharply defined, small gummatous foci, either singly or in varying numbers, are occasionally found in the course of the ramifications of these vessels. These small gummatous foci may lead to partial obstruction, or even complete occlusion, of the vessels and thus to the suppression of the local blood supply with all its consequences. These processes also belong to the tertiary period.

The fibrous myocarditis or fibrous induration of the heart muscle is usually looked upon as a secondary process, the result of gumma or of obstructive syphilitic endarteritis. Whenever absorption commences in a gumma, fibrous tissue is newly formed to take the place of the absorbed gummatous material, so that when the absorption is finished, a complete substitution of fibrous for gummatous material has taken place. Again, when syphilitic endarteritis has caused obstruction or occlusion of a branch of the coronary artery, it is evident that serious interference with the nutrition of the muscular territory involved must ensue. In consequence of this, myomalacia, degeneration and destruction of muscle fibers, their absorption and replacement by scar tissue follows. While it cannot be denied that these processes do actually occur, usually in the tertiary period, they are, after all among the rare forms of syphilitic lesions.

I desire to call attention to another form of syphilitic myocarditis which does not appear to be generally known. The study of a rather considerable number of hearts of syphilitics of all ages, including both congenital and acquired syphilis, has led me to believe that there is a primary interstitial myocarditis associated with a clearly-defined panarteritis, the so-called arteritis productiva obliterans. This form of myocarditis is probably one of the most frequent occurrences in constitutional syphilis, and is by no means limited to the tertiary period, but, on the contrary, makes its appearance even in very early stages of the disease. It is not proposed to go into details on this occasion. A brief report on the subject was published by me some years ago ("Observations on Cardiac Syphilis," *New York Medical Journal*, October 22, 1898). A few facts, may, however, be here recapitulated: In hearts apparently normal, that show neither functional disturbance during life, nor gross lesions after death, though taken from indubitable syphilitics, it is not unusual to find, especially in the walls of the left ventricle,

*Read before the German Medical Society of New York.

cellular proliferations in the adventitia of the small and smallest arterioles. From these proliferations as starting points, strands of cellular infiltration traverse the neighboring myocardium, the muscle fibers are crowded apart and connective tissue is formed, at first loose and containing an abundance of cells but gradually becoming firm and more and more fibrous in character. The muscle fibers, at first quite normal, gradually degenerate, are atrophied and absorbed, and their place is ultimately usurped by fibrous tissue. Coincident with this process is the extension of the proliferation in the little arteries; the media becomes fibrous, the muscle cells being crowded out and replaced by connective and elastic tissue, and the intima proliferates vigorously. The lumen of the little vessel is more and more obstructed until it is finally entirely obliterated, and the process thus ultimately culminates in the total destruction of the arteriole and the surrounding myocardium, and the substitution in its place of connective tissue gradually becoming more and more densely fibrous. These fibrous patches are, as a rule, but very small, not at all perceptible to the naked eye. In the course of the further development of the process, however, new fibrous patches, sometimes in considerable numbers, continue to appear, and the fibrous tissue invades more and more of the muscular territory until at last quite extensive fibrous degeneration of the heart is produced. It is possible by appropriate treatment to arrest this process at an early stage—as, for example, during the period of cellular infiltration—and thus bring about a practically complete restitution to normal conditions. If fibrous tissue has been formed, the process may, of course, still be arrested and a perfect cure of the syphilitic disease may be effected, but the fibrous tissue once fully formed can never be entirely eradicated, and a complete recovery of normal conditions is, therefore, no longer possible. Some muscular tissue has been irrevocably destroyed and scar tissue has taken its place. To what extent the heart has been permanently damaged will, therefore, depend, in the first place, upon the number and extent of the fibrous patches, and, in the second place, upon their topographical distribution. The various territories of the heart muscle are not everywhere of the same physiological and pathological importance. A fibrous patch buried in the depths of the wall of the left ventricle may be of little or no importance, while a similar patch of the same size and structure located in a papillary muscle will produce disturbances of the gravest consequence. A few very small, possibly microscopical, foci are not likely, therefore, to cause serious damage, while larger and more numerous fibrous patches are certain to deteriorate the functional energy of the heart, even though the syphilitic process has been entirely arrested or completely cured. This is a fact of decisive clinical importance and due to the unique position of the heart in the human economy. A very large gumma of the liver may be absorbed and result in a huge retracted scar and extensive fibrous degeneration of a great amount of liver tissue. Nevertheless, and for all that, the function of the liver need not necessarily suffer. Even in the central nervous system, in an organ as delicate as the brain, syphilitic lesions may cause considerable fibrous degeneration of brain tissue and still, though perhaps associated with more or less brain symptoms, need not necessarily endanger life or the general economy of the system. On the other hand, every damage to the heart muscle must of necessity sooner or later result in serious disturbance of the cardiac functions and, therefore, in great danger to the entire individual. These considerations urge upon us most emphatically the importance of early recognition of syphilitic heart lesions, so that by adequate therapeutic measures the process may be arrested before irreparable damage has been done.

For completeness sake a few words may be added concerning the pathology of syphilitic peri- and endocarditis. The dry form of pericarditis is not infrequently met with, and is usually associated with gumma in or under the pericardium or in the mediastinum. Pericarditis with effusion is probably never directly associated with syphilis. A genuine endocarditis as the result of syphilis is also not adequately proven. Thickening and nodulation of the endocardium occurs together with or as a consequence of gummatous or myocarditic processes. Syphilitic proliferations may be formed on the valves themselves; these can break down and thus, by causing murmurs, simulate the clinical symptoms of endocarditis. Furthermore, not merely relative but very genuine valvular lesions may be brought about by dilatation of the ventricles, by thickening and retraction of the tendinous cords, by myocarditic infiltrations and shrinkage of papillary muscles, by luetic proliferations and their consequences on the valves themselves, etc.

Proceeding now to the clinical aspects of our theme, the first question that presents itself is in regard to the frequency of syphilitic heart disease. I have long ago reached the conviction that cardiac syphilis is by no means a rare disease, but is, on the contrary, quite common. We can obtain but little assistance here from dead-house statistics. Anatomical examinations have always been, and still are, very imperfect with reference to this question. A gumma in the heart is, of course, easily recognized as such, but it will always be difficult to determine if simple myocarditis is of primarily syphilitic origin. The presence of undeniably syphilitic lesions in other organs is often of value for establishing the diagnosis. These difficulties are further augmented when, in the course of time, other lesions, as rheumatic and degenerative processes, have been superimposed upon the old, originally syphilitic myocarditis. The fact, too, that the individual has acquired syphilis in years past must not lead us into the mistake of regarding all pathological changes in the heart of such an individual as necessarily of syphilitic origin. It must be remembered that there is syphilitic heart disease as well as heart disease in syphilitics, and a syphilitic may acquire a rheumatic, a typhoid, or an arteriosclerotic heart lesion as well as any non-syphilitic. There are, nevertheless, certain definite anatomical criteria, upon which it is not necessary to enter here, which will, in most cases, enable us to arrive at a fairly certain conclusion as to the luetic character of a given heart lesion. If more attention be paid in future to the question of syphilis, not only in the gross but also in the microscopical study of heart lesions, we may confidently expect better and more reliable statistics, but even now there are some data which can be utilized. Runeberg informs us in a recent article (*Deutsches medizinische Wochenschrift*, 1–2, 1903) that out of a total of 734 deaths on the list of a single life insurance company, 84 were certainly syphilitics and died of diseases in all probability attributable to lues. Of these 84, 33, or nearly one-half, died of diseases of the central circulatory organs (heart and aorta), and 24 of these 33 died of sudden heart collapse. Grassmann has also made some important contributions to this question (*Deutsches Archiv für klinische Medicin*, Vol. 99). He collected statistics of 288 syphilitics in the early stages of the disease whom he was able to examine very thoroughly and to observe for some length of time. In at least two-thirds of these

cases he observed during the secondary stage, disturbances of the normal heart's action, ranging from very slight anomalies to gravest insufficiency of the heart. In many of these cases the lesions were merely transitory and were readily cured by treatment; in numerous others, however, the heart lesions remained permanent and persistent after the discharge of the patient. His very exact and thorough investigations permit of no doubt as to syphilitic infection being the primary cause of the cardiac affections. These facts assuredly corroborate the view that cardiac syphilis is no rare disease, and we may safely agree with Runeberg that syphilis of the heart is at least as frequent as, if not even more frequent than, syphilis of the central nervous system.

If all this be true, then it necessarily follows that in every case of heart disease it is the evident duty of the physician to take account of syphilis as a possible primary cause, or at least as a contributing factor, for the same reason and in the same way that rheumatism and other infections are thus considered. And here the question of diagnosis arises. Is it possible to recognize heart syphilis as such with any degree of probability? It is a priori quite clear that a syphilitic myocarditis or disease of the coronaries will present no symptoms essentially different from those of the same diseases originating from other causes; nevertheless, there are numerous instances in which the diagnosis of heart disease from syphilis can be established with reasonable certainty, or at least with greatest probability. To this class belong, first of all, certain cases in which manifest affections of the coronary arteries occur in youthful subjects, examples of which have been repeatedly reported and discussed. If, for instance, we find typical attacks of angina pectoris in individuals between twenty and forty years without other evidence of arteriosclerosis or contracted kidney, the syphilitic character of the disease is highly probable. If in addition to this there is proof of previous syphilitic infection, the diagnosis becomes almost a certainty. Lastly, if antisyphilitic treatment effects a permanent cure—that is to say, not merely a temporary relief such as often occurs in coronary affections from any cause, but a permanent cure of the trouble—the diagnosis of syphilitic heart disease may be considered as absolutely certain. The following case observed several years ago may serve to illustrate this: A young man, merchant, about twenty-eight years old, had been suffering for a number of weeks, as his physician stated, from typical attacks of angina pectoris. He was compelled to remain absolutely quiet because the slightest exertion, even sitting up in bed, produced violent dyspnœa, palpitation, precordial distress, and pains radiating through the chest and arms. The usual routine remedies—strychnine, digitalis, nitroglycerin, morphine, etc., etc., had all been given without result. I found the young man in a pitiful condition; his lips were pale and somewhat cyanotic; the slightest exertion, such as turning in bed or even speaking in a loud voice, produced dyspnœa and the characteristic cardiac cough. The pulse was extremely weak, thready, accelerated and irregular as to rate and volume. The apex beat was diffuse and dislocated toward the left; the heart dulness extended from about the middle of the sternum to somewhat beyond the left mammillary line. There were no genuine heart murmurs, but the first sound at the apex was rough and impure; at the base, faint and muffled. The second aortic and, in a slighter degree, the second pulmonary were distinctly accentuated. The lungs were normal with the exception of scattered râles of varying character here and there. All other organs apparently normal. There was a clear history of syphilitic infection several years ago which had been treated for only a short time. The scar on the penis was still visible and enlarged inguinal glands were present, but no signs of an active syphilitic process were found. There were no evidences of arteriosclerosis, but on the contrary, the arteries appeared everywhere soft and entirely in accordance with the age of the patient. The urine was of normal specific gravity and contained neither albumin nor casts. The temperature was normal. The account of the attending physician as well as of the patient himself and his attendants, left no doubt as to the paroxysms, which occurred most frequently at night, being attacks of genuine angina pectoris. It was clearly a case of disease of the coronary arteries, together with myocarditis, dilatation, and incipient insufficiency of the heart. In view of the age of the patient, the absence of other etiological factors, the ineffectiveness of the usual therapeutic measures and the assured history of syphilitic infection, we were justified in assuming with reasonable certainty that we had to deal with a syphilitic process involving the coronaries and the myocardium. A rigorous course of antisyphilitic treatment, consisting of mercurial inunctions and rapidly increasing doses of iodide of potassium, was at once instituted. Digitalis was still administered for a few days but was soon dropped and the treatment carried out on antisyphilitic lines only. A rapid and steadily progressing improvement of all symptoms followed. When I saw the patient again after about two weeks, the attacks of angina pectoris had entirely ceased and he was able to be out of bed without dyspnœa or other unpleasant subjective symptoms. The dilatation of the heart had very materially decreased, but the heart boundaries as shown by percussion were still not quite normal. The pulse was much slower and stronger but still slightly irregular. The systolic sound at the mitral was clear; the second sound at the base still somewhat accentuated. The same line of treatment was continued. About two years later I had occasion to see the young man again. He had in the meanwhile, it appears, been perfectly well and able to do his work and live his usual life without any inconvenience. A very careful examination showed entirely normal conditions of the heart as well as of the other organs. A number of similar instances might be cited, but this one case is quite sufficient to emphasize the essential features of the clinical picture. The rapid and complete effect of the antisyphilitic treatment in this case was doubtless due to the comparatively recent development of the process; the lesions in the coronaries and myocardium were presumably still mainly cellular, and as such, capable of complete absorption. If the process had advanced to the formation of connective tissue or of fibrous or cicatricial induration, it might perhaps have been possible to combat the attacks of angina and to restore to the heart a portion of its normal tone and vigor, but a certain amount of myodegeneration with more or less pronounced cardiac insufficiency would undoubtedly have persisted and the heart would never have recovered practically normal conditions.

From all these considerations and from the anatomical facts outlined above, an opinion may be formed as to the diagnostic value to be accorded to the effects of antisyphilitic treatment in cardiac affections. The ex-juvantibus diagnosis is nowhere so firmly established as in the domain of syphilis. Does it hold good in heart disease? The answer to this question should, we think, be as follows: Whenever antisyphilitic treatment results in complete and permanent cure, the conclusion is justified that

the disease is of syphilitic origin. On the other hand, an incomplete cure of the lesions and symptoms, or even the entire failure of the treatment to influence the pathological conditions does not necessarily exclude syphilis as the primary cause of the disease.

A somewhat different picture is presented by another and quite large group of cases in which we find some organic heart lesions: myocarditis, pericarditis, murmurs, possibly with all the signs of valvular disease, angina pectoris of the aged, associated perhaps with pronounced general arteriosclerosis or with other degenerative processes—all of them lesions which, neither in their development nor in their subsequent course suggest any reason for suspecting syphilis. At the same time, however, the appearance of syphilitic foci, be they recent or not, in other organs, as the liver, the brain, etc., would seem to point to the possibility of the heart lesions also being syphilitic in their origin. In such cases very favorable results are often obtained by vigorous antisyphilitic treatment. An absolute cure is, of course, hardly to be expected, but improvement, sometimes to a very astonishing degree even in cases apparently desperate, is not at all infrequent. I will not stop to cite illustrative cases. I have had occasion to observe quite a number of cases of this type myself and numerous others may be found in the literature (Gerhard, Curschmann, Semmola, Saccharjin, Mracek, Lang, and others). For a complete and exhaustive account of the literature of the subject up to 1893 the reader is referred to Mracek's excellent monograph (*Archiv für Dermatologie und Syphilis*, Supplement, 1893).

All that has just been said of heart disease of adults and those advanced in years applies also to children and infants infected with congenital syphilis.

There is another and very large group of cases in which any suggestion or indication of syphilis is absolutely lacking; if any luetic infection can at all be made out, it occurred long ago and has been superseded by many years of absolute freedom from any specific symptoms. The primary infection has, perhaps, been forgotten, was never recognized, or is deceitfully denied—in short, though there may not be the slightest reason either from the history or from the clinical symptoms to suspect syphilis, the specific virus is nevertheless active in the heart and proper treatment may effect surprisingly good results.

As a summary result of the preceding facts and reflections the following statements may be made: Cardiac syphilis is not a rare, but, on the contrary, rather a common disease. It is often possible to make a diagnosis of heart syphilis with exactness and certainty; more frequently, however, the diagnosis, while not absolute, is one of greater or less probability. However, that may be, it is incumbent upon us to take syphilis into consideration as a possible factor in *every* case of heart disease, and it should be steadily borne in mind that even in infants, as well as in subjects far advanced in years, syphilis *may* be an important element in the case. I do not wish to be understood to mean that every child suffering with acute rheumatic endocarditis should be dosed with iodide of potassium, and that every old man or woman tottering slowly to the grave with arteriosclerotic degeneration should have their few remaining months made miserable with mercurial inunctions and injections; but even in these cases it should be perfectly clear to us why the question of syphilis is to be excluded. Our attitude toward many cases of heart disease should be similar to that commonly taken toward certain affections as tumors, etc., of the central nervous system. Let the patient have the benefit of the doubt and let an attempt be made with specific treatment even if the syphilitic nature of the disease is neither clear nor even probable. This standpoint which I have advocated for many years has been recently gaining ground. Krehl ("Krankheiten des Herz Muskels," Nothnagel's Cyclopedia) takes the same stand and points out that careful treatment with iodides and with mercury can do no harm, but, on the contrary, may often prove useful even in such cases as are not syphilitic. O. Rosenbach's dread of large doses of iodids in heart disease will generally be considered exaggerated and unnecessary. The irritation of the vascular endothelium, which he particularly fears, is by no means proven. On the other hand, it may be noted that very large doses of iodid of potassium are not at all necessary. In the majority of cases very moderate doses will be sufficient provided that they are given for a sufficiently long time and are supported by mercury, best employed in the form of inunctions or hypodermic injections. Where the stomach will not bear the drug it may still be administered by the rectum or iodipin may be employed to advantage.

In conclusion let me say that, just as, according to our conviction, syphilis as a possible factor should be considered in every case of heart disease, so on the other hand, a possible heart disease should be considered in every case of syphilis. In every case of syphilitic infection the heart should be an object of constant and most careful observation. Most syphilitic heart lesions remain latent for a very long time without giving rise to any subjective symptoms, or these latter are so very slight as easily to escape the attention of the patient as well as of the physician. Often, however, very serious cardiac disturbance, apparently quite acute and without premonition, or a surprisingly sudden and entirely unexpected death of heart failure, testifies to the fact that pathological changes must have been going on in such hearts for a long time unnoticed and unsuspected. It must be borne in mind that the pathological changes must be considerably advanced before they cause subjective or clinically perceptible disturbance. Furthermore, the likelihood of effecting a complete restoration to normal anatomical and functional conditions is the greater the earlier the process is arrested, the less tissue changes have taken place, the sooner energetic and adequate treatment is instituted. Another point to be remembered is that one must not look for very pronounced physical signs—murmurs, dilatations, endo- or pericarditic symptoms are not to be expected in these early stages. Slight arrhythmia, an occasional dropping of beats, roughened or diffuse systolic sounds, accentuation or reduplication of the second aortic or pulmonary sounds are in these cases of grave significance and merit the earnest attention of the physician. At every examination of the syphilitic patient the closest attention should be paid to the condition and function of the heart and he should be discharged from treatment only when there is assurance not only that all palpable signs of syphilis have been removed, but also that the heart is, as far as possible, in its normal condition.

22 East Sixty-second Street.

Dr. Samuel M. Brickner, who has been associated with the Gynecological Department of the Mount Sinai Dispensary, has been appointed Adjunct Gynecologist to the Mount Sinai Hospital. Dr. Brickner's active service begins with the opening of the new hospital buildings, in March.

HIGH-FREQUENCY CURRENTS IN THE TREATMENT OF SKIN DISEASES.*

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It must be conceded that we are passing into the dawn of a day of physical methods in medicine. Not only does the physician of 1904 give fewer and less drugs than his brother of 1804, but the patient is, I believe, less inclined than formerly to take large and frequent doses of physic. Whether or not this is altogether as it should be, will probably be better known to the practitioner of 2004. Being neither an electrician nor an electrotherapist, still as a dermatologist I have found myself drawn into the employment of a variety of physical methods during the past few years, several of which have to do largely with electrical currents.

Desirable as it is that every physician should have a knowledge of physics, still I maintain that a practitioner in any department of our science may acquire sufficient knowledge and skill in the successful employment of these useful measures without becoming thoroughly schooled in electricity, just as he becomes most successful in administering drugs without possessing all the knowledge that the pharmaceutist is forced to acquire.

I shall therefore attempt to discuss the nature of high-frequency currents, rather from their practical bearings, than from the side of strict electrical science, endeavoring to state the case in such a way that one wholly unfamiliar with the subject may gain some idea of what these newly recognized forces are and how they operate. In attempting to do this, which I realize is no easy task, I shall try to answer the questions: (1) What are high-frequency currents? (2) How are they produced? (3) How are they applied? (4) How is their action accomplished? (5) Of what value are they in dermatotherapy?

In approaching this whole subject it is well for us to make a distinction from a historical consideration, between high-frequency currents and treatment by them.

The first must be claimed as essentially of American origin. The second belongs to France by right of perfection of means and popularization of methods. Morton, in giving us his static induced current which was a newly recognized form of current in 1881, became one of the pioneers. His current, however, must not be considered according to some authorities as one of high frequency, being a unidirectional interrupted, and not an oscillatory current. His discovery was preceded in 1842, by that of Joseph Henry, also an American, who showed that the discharge from a Leyden jar was oscillatory and not continuous, as had been thought.

Tesla, likewise in this country, ten years after Morton, in 1891, by an ingenius arrangement of step-up transformers, multiple-pole alternators, and other devices, produced currents whose potential entered into the tens and even hundreds of thousands of volts.

The employment of high-frequency currents in medical practice did not attract much attention until d'Arsonval, in 1890, devised an alternator capable of ten thousand alternations per second.

From this time forward currents of high voltage and great frequency became more and more employed in France in the treatment of disease and attracted much more attention for a number of years upon the other side of the Atlantic than here.

*Address delivered by invitation at the annual meeting of the West Side Medical Society.

While French literature is somewhat extensive, comprising some twenty papers by d'Arsonval, a dozen by Oudin, and many by such able men as Apostoli, Bordier, Denoyés (including a volume of 365 pages), and my friends Brocq, Gastou, Bisserié, and others, comparatively little has appeared in our own journals. It may be said, I believe, that until Dr. William's little volume was published last year in London, no adequate chapter on the subject had appeared in the English language. To those of you who have not read it I would call attention to the excellent paper of my friend Dr. Piffard in the MEDICAL RECORD of October 31, 1903.

What Are High-frequency Currents? It is well known that if a condenser, such as a Leyden jar, be so arranged that its internal and external armatures are connected by a good conductor, forming an arc, the internal terminating in a metallic ball—and that if we excite in the conducting wires a gradually increasing difference in potential, a time will arrive when the condenser will discharge upon itself.

In order to keep up this discharge we must introduce into the condenser, its original electric charge at intervals of the smallest fraction of a second. No mechanical interruptor hitherto devised could supply this requirement.

It was only when the electric spark was introduced for this purpose that high-frequency currents became a possibility. The discharge between the terminals of the condenser will be oscillatory and of enormous frequency when the proper difference of potential is reached, and we have a continuous oscillating discharge.

The currents originate in the external armatures of the condensers when stimulated by an efficient source of electricity. They have such a high voltage that air, which is usually considered an excellent insulator, ceases to operate as a non-conductor so that the currents may be conveyed to the patient without the intervention of the usual conducting wires.

The current passes through a coil of wire in the form of a helix, known as a solenoid, when an electric discharge jumps from one of the internal armatures of the condenser to its fellow. The designation high frequency is almost confined in Europe to currents derived from apparatus designed by d'Arsonval and Oudin or modifications introduced by others.

There are a number of high-frequency currents, differing somewhat from one another, at times differing materially in character. In this country a form of high-frequency current has, of late years, become familiar as the hyperstatic. This was worked out and named by Piffard, basing his investigations on those of the European investigators mentioned.

This apparatus, used in connection with the static machine, furnishes a current by induction of high potential as compared with that of d'Arsonval, which is comparatively a low potential current, the patient being in a circuit by auto- or self-induction in both cases.

It is, then, in the indirect or alternating form of electricity that these currents originate, and as this has to do with low amperage as compared with direct or continuous currents great voltage or force of current can be made to enter the body without danger, when properly transformed, and with comparatively high amperage, because of the alternating character.

How High-frequency Currents Are Produced.—High-frequency currents may be produced by the aid of any electrical plant capable of generating *x*-rays. If a coil be used, the two poles of the secondary may be connected with the internal armature of one or two condensers arranged with bulb dischargers.

The size of the bulb has a bearing upon the rapidity of discharge and potential or force of each discharge; the larger the bulb the more forcible but the slower the discharge. The external armatures of the condensers are connected by a solenoid of low resistance.

The patient to be operated upon is connected to one or two points of the solenoid, which latter acts as an impedance; the patient being in shunt or derivation to it. The object of this is to avoid placing the patient in direct circuit with the condensers, as the too great impedance would prevent the extremely frequent oscillations necessary to the production of this variety of current as a method of treatment. If the connections are made with a static machine, a current is produced having higher voltage and lower amperage than when a coil is used.

Apparatus.—To Tesla is due the credit of devising the first apparatus making possible, through subsequent improvements, the production of these currents as they exist to-day. Tesla's device consisted in a coil the insulation of which was supplied by oil, instead of air, making possible the necessary protection against leakage which enabled high-tension apparatus to be subsequently perfected. His apparatus was in reality a transformer, utilizing the secondary current from an ordinary induction coil and transforming it into a current of even higher potential, and constituted what is known as a step-up transformer.

D'Arsonval's apparatus consisted of an induction coil, a helix of thick wire immersed in oil as an insulator, and condensing jars. He has also suggested for currents of great power to use instead of the Ruhmkorff coil another transformer with closed magnetic circuit energized by an alternating current. The internal armatures of the jars are connected with the source of high potential, and the external to the extremities of the solenoid, the patient being connected between any number of the loops desired.

The current is one of comparatively low voltage, and as such is to be distinguished from the resonator current and the hyperstatic current, which are generated in connection with a solenoid of fine wire, the current being obtained in the Oudin apparatus, which we will next consider, by resonance, and in the Piffard apparatus by induction.

In a modification of the d'Arsonval apparatus, introduced by Gaiffe of Paris, an oil condenser is used instead of Leyden jars.

D'Arsonval's bipolar coil, or resonator, consists of a cylinder of wood about which is wound some fifty yards of fine wire. Surrounding this, but at a distance from it, insulated by the air are four loops of much thicker wire, connected to a sliding base so that the outer set of loops can be placed as desired opposite any portion of the cylinder; the advantages being that fine gradation of effect may be obtained, or the cylinder may be made to use as a resonator, starting from either extremity at which the outer loops are placed.

The Oudin resonator consists of an upright cylinder, taking the place of the horizontal one just mentioned, the winding of fine wire being the same.

About the base is a stationary solenoid, consisting of larger wire, wound helically with few turns. The upper cylinder is not traversed directly by the current, but is thrown into vibration in resonance with that of the lower larger wire at the base, through which the oscillating current is made to pass by suitable connection.

Attached to the large wire helix is a movable contact, by changing whose position on the loops the two resonators are, so to speak, attuned to each other and to the rate of interruption in the primary. The function of the fine-wire cylinder is to amplify the current passing. This has its counterpart in music in the well-known harmonious vibration of the tuning fork and the amplification of the tone of the church organ secured by the cylindrical pipes.

The explanation of the phenomenon is somewhat clearer if we remember how a taut string of a violin, for example, vibrates with greater rapidity at the extremity remote from the part to which the impetus is applied.

In connecting up a resonator, one or two condensers, as the case may be, being connected in the circuit, a flexible wire joins a coil of the solenoid to the coils of the resonator. The other end of the solenoid may be grounded.

The Piffard apparatus, which I have employed during the past three years, is a transformer consisting of two Leyden jars as condensers. The wooden case encloses a helix of thick wire, surrounding a coil of fine wire, the insulation between the two being of glass and air, instead of oil or paraffine, as in some other makes of apparatus.

Originally the spark attachment consisted of a sliding metallic bar playing within a glass tube, which tended to muffle the sound of the spark. This contrivance was soon found to impair the working efficiency, and has been replaced in my own apparatus by an inch only of the metal bar projecting on either side, to serve as a safety spark-gap whenever the sliding bars of the static machine itself become too widely separated, so that the resistance of the spark-gap on the static becomes greater than the resistance between these two points on the hyperstatic and thus endangers the apparatus. The strength of current employed is regulated entirely by the sliding-bar of the machine; one inch separation of the poles being usually sufficient.

The apparatus has been further modified of late by the introduction of binding posts connected with the terminals of the primary coil.

Electrodes attached to these posts enable one to give a mild form of d'Arsonvalization without interfering with the use of the original hyperstatic current which may be coincidently applied to the body's surface. In the matter of electrodes, there are a great variety, in shape, form, make, and material. An efficient metal electrode for a feathery discharge consists of metallic points projecting from a flat base and surrounded by an insulating ring.

Glass vacuum electrodes are among those most frequently employed in this country, where they were first introduced, and are constructed in many designs for application to the various accessible cavities of the body. I am not prepared to state whether the gases contained within these hollow electrodes, or their high or low degree of vacuum, modifies, to any great extent, the treatment.

My ignorance of the subject is not a matter of surprise, since Geisler, the inventor of vacuum tubes, did not pretend to know anything about the action, and Lord Kelvin, who has devoted a volume to the consideration of the passage of electricity through gases in vacuo, propounds five hypotheses, none of which satisfactorily explains the question. My belief is, however, that the presence of actinic rays in the spark may exert a beneficial effect in some conditions, and this view is held by some of the gentlemen with whom I spoke on a recent visit to Paris.

How High-frequency Currents Are Applied.—There are a variety of methods of application, based upon the physical properties of the current. The commonest are by what are termed autocondensation, general electrification, local application by contact, and autoconduction.

1. *Autocondensation* is secured through a general electrification by placing the patient on a couch fitted with metallic connections rigged up with conducting wires, one passing from the metallic portion of the couch and the other from the patient through a handle to the two extremities of the solenoid.

2. *General electrification* is secured by monopolar effluvia or feathery discharges which go off in great abundance from the electrode, the patient not of necessity being in contact with another electrode, couch, or body-solenoid.

3. *Locally*, by means of glass, carbon, or metallic electrodes brought into immediate contact with the body. This can be bipolar, if stronger effect is desired, and in d'Arsonvalization. The d'Arsonval current and general electrification or direct contact through an electrode may be coincidently administered.

4. *Autoconduction* is the term applied when the patient sits with the feet in a water bath, to which one pole is connected or is enclosed, without contact, in a large solenoid, forming a cage which is connected with the resonator or high-frequency apparatus. The cage-solenoid may be made to act as a resonator; the patient being internally instead of externally situated in reference to the latter.

It differs from other modes of administration by the fact that there is no direct contact connection between the patient and the current, but is in an oscillating magnetic field which permeates his body. The patient can be coincidently placed in monopolar derivation to the solenoid by grasping a hand electrode from one pole of the solenoid.

How the Action of High-frequency Currents Is Accomplished.—What is claimed for these currents and what effect can be actually produced, do not always amount to the same thing. There is a greater scientific employment of electricity at the present day, probably, than ever before in the world's history, and still never has the medical profession been face to face with more outright faking than in recent times. We have, beyond a doubt, in these currents a method of stimulating vital energy hitherto unknown; a physiological and chemical tissue-change has been shown experimentally, which puts the matter beyond question. Locally, as well as generally, nutrition is improved; it is a tonic to the skin in lowered conditions of this organ, just as it is a tonic to the system at large when given in a way to affect the whole organism. Its anæsthetic properties can be utilized in a local way, and the effect of local anæsthetics as well as dehæmatizing agents can be somewhat increased by its local application.

The beautiful play of color within the electrode, the brilliancy and fascinating aspect of the spark as it jumps to the covered or uncovered body of the patient, have all the elements necessary for successful suggestion, and no doubt this effect plays no small rôle, especially in certain classes of susceptible patients. Given in a darkened room, the electrical effects are most beautiful and impressing, simulating in miniature, natural phenomena, ranging from the aurora borealis of the Northern sky through the flight of meteors and showers of stars to the electrical storm with its forked and chain lightning and atmospheric ozonization; the detonation of the primary discharges supplying the thunder.

The chief physiological claim made is that the currents increase metabolism, and that nutrition processes are improved; tissue changes being accelerated, the system is better able to throw off pathological processes and to resist microbic and other noxious invasion.

Powerful effects are made possible by the introduction of foot, or hand baths, the condensation chair or the large cage solenoid.

It is claimed that arterial pressure may be raised, and that by increasing oxidation and elimination decided effects may be produced upon systemic affections of grave nature, malignant disease, anæmic states, neurasthenia, chronic rheumatism and gout, obesity, diabetes, phthisis, etc.

Among general conditions which receive prompt relief are pelvic pains due to nerve involvement, postoperative pain, slight paralysis, paræsthesias, abnormal nerve sensations, pruritus, formication, etc. It is contraindicated in acute inflammations, including acute rheumatism, and febrile states, but where there is congestion and infiltration of tissue it often acts with decided benefit.

Effects in Skin Diseases.—Coming now to the subject proper of our remarks, I will premise that during the past few years I have employed these currents of high potential in my office-practice and have applied them to a somewhat wide range of dermotological conditions. I will leave out of consideration the effects claimed for the method in cancer and lupus—although I have convinced myself that as an adjuvant to the *x*-ray, for example, it is at times of decided benefit. I have destroyed very small sarcomatous infiltrations with the high-frequency spark and have given great comfort to several subjects of sarcoma of the jaw by means of the vacuum electrode effluvia and direct contact massage. I have thought also to have observed general improvement from the autocondensation or the d'Arsonval method in severe cancerous as well as other conditions. The chief benefit to be observed from these currents in dermatology, as far as I can now judge, is in those cases accompanied by marked pruritus, pain of neuralgic character, and in the various paræsthesias. In chronic eczemas, I have found the contact vacuum electrode of decided value in alleviating symptoms, and in diminishing infiltration. In lichen planus not only are the lesions improved at times, as I have observed in several cases, but the element of itching is alleviated and general benefit secured. In zoster of the thigh and arm with hyperæsthesia and neuralgic pain, not only has temporary relief been afforded immediately after each application, but the whole course of the disease has been shortened, and the lesions have healed more promptly than without their use.

In looking over my case books I have unearthed 175 histories in which record has been made of the use of these currents. This forms, however, but a part of those treated, as scarcely a day has passed that I have not made use of the method since November, 1901. The cases recorded include 37 of acne, 26 of alopecia, 27 of eczema, 8 of pruritus ani, 8 of pruritus vulvæ, 2 of generalized pruritus, 5 of pityriasis rosea, 3 of urticaria, 4 of lichen planus, 1 of mycosis fungoides, 3 of zoster, 3 of rosacea, 2 of pruritus hiemalis, 1 of pruritus scroti, and scattered cases of psoriasis, chloasma, ichthyosis, keratosis pilaris et follicularis, warty growths, moles, erythema nodosum, generalized molluscum contagiosum, scabies, dermatitis, dermatalgia, ulcers, etc.

European observers, including Freund, Barthélemy, Jacquot, as well as some already mentioned, report excellent results obtained in eczema, psoriasis, impetigo, lupus, alopecia areata, epithelioma, atrophia cutis, pityriasis versicolor, pigment abnormalities, etc.

In Brocq's service at the Broca Hospital, Jacquot reports fifty-six cases of lupus erythematosus with thirty-nine cures; of these, nine were of the fixed and thirty-one of the aberrant or wandering variety—of the latter there were twenty-five cures.

It would seem from this report that the method for the aberrant form is superior to both photo- and radiotherapy. Leredde and Pautrier regard high frequency as the method of choice, and it surely is the easiest and safest for both patient and operator. In the fixed or stationary form, the conditions approximate more those of lupus vulgaris and here coincident applications of vigo plaster, salicylic dressings, deeply acting chemicals, scarifications, electrocautery, radio- and phototherapy are to be energetic ally carried out.

The vasomotor effects may be well studied in urticaria. Here sparking the wheal produced entire disappearance of the lesion, which is replaced within a few moments by a dehæmatized area. Within a few minutes redness returns, which exceeds the bounds of the wheal whose borders are lost in the diffuse erythema.

The effect of contraction followed by dilatation of the vessels is very marked. A feathery discharge over the whole body has a soothing effect, relieving the itching for a time, and appears to shorten the course, though the usual internal measures are not to be neglected.

In the succeeding outbreak I have noted that while some of the wheals returned upon the original sites, those previously sparked failed to reappear, a slight reddened staining of the skin marking their situation. In these regions there was entire absence of itching as well as of renewed eruption. General effluviation with metallic pointed electrode, giving what I call a "feather duster" brush seems to di minish the pruritus, to shorten the individual attack and decrease the entire course in subacute or persistently recurring urticaria.

In conclusion, I can state that high-frequency currents are of decided advantage to those treating skin diseases, but are especially to be employed in connection with other measures. They are curative of themselves in a restricted class of cases.

They aid in relieving symptoms in a larger class, viz., those attended with pruritus. As a whole, high-frequency currents are inferior to the *x*-ray in skin work, but the two go well together.

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THE MEDICOLEGAL ASPECT OF ACCIDENTS CAUSED BY THE RÖNTGEN RAYS.*

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In the paper I read before this society at the November meeting of last year I asked the question whether the physician is responsible for Röntgen ray burns on his patients. My expectation was that some of the learned members of this body would answer it, but the fact that my question remained unanswered seems to illustrate its delicacy; and if I venture to approach the subject again, I do it because great strides have been made in the understanding of this most important subject.

That it is most important will not be denied any longer. Fortunately, the day has passed when those few, who took every opportunity to fight for the new method, were ridiculed or at least called erring enthusiasts. When Röntgen illustrations were shown in medical societies the expressions of pity for the utopian views of the speakers were clearly perceptible on the hearers' faces, and the ugly term "moonshine" indicated the key-note of the most frequent criticism.

*Read before the Society of Medical Jurisprudence, New York.

How important the Röntgen rays are in accidents I will illustrate by only a few cases:

One concerns a boy of nine years who sustained a fracture of the elbow, the nature of which was not elicited on account of the swelling. Six weeks later when it was impossible to extend the arm, the Röntgen rays demonstrated the presence of a fragment, broken from the external condyle and turned around so that it was driven into the tissues like a wedge. Its removal by chisel was easy. It was done a week ago and the boy's arm will be perfectly normal.

The other case shows, as I might say, the course of evil, inasmuch as the patient sustained a fracture of the patella twenty years ago, the failure of union rendering his walking uncertain. This uncertainty doubtless caused the subsequent four fractures, viz., Fifteen years ago the fracture of the one wrist, then that of the other; this summer he fell down into a cellar, fracturing his humerus and two weeks ago he selected two ribs as the scene of his fracturing activity. If the Röntgen rays had been discovered twenty years ago, his surgeon would have been able to obtain a better result, and the subsequent fractures would probably not have taken place.

I also wish to show you a skiagraph of a boy of twelve years which I took two days ago, and which illustrates that the sprain he was thought to have suffered from two weeks ago, in reality was a fracture, You can see how the lower fragment slipped upward, taking the whole hand with it, thus crippling the whole extremity. The information obtained enabled me to press the fragment down forcibly, a procedure which I would not have had the courage to undertake before the Röntgen era.

In view of such immense advantages, it appears strange that the general introduction of the method took so long a time. The high price of the apparatus, the many misinterpretations of the Röntgen ray plates, caused by insufficient anatomical knowledge as well as by technical shortcomings and the pretensions of charlatans, are partially responsible for the somewhat slow acceptance of the treatment But one of the most serious objections seems to be the report of burns received through the rays While they were greatly exaggerated by officious friends, confrères, and shyster lawyers, there can be no doubt that burns occur even under the supervision of skilful physicians.

This deplorable experience is explained by the fact that for a long time the peculiar effects and influence of the rays on the human integument were not known. Consequently the rays were applied with little restriction. The questions of dosage and time of exposure were neglected by the same physicians, who know that the same preparation of morphine which may restore health to the sick in small quantities brings death in a large dose. They did not hesitate to apply the new agency, almost without limitation, to their patients. Were they to blame as long as none of us knew better? Some good usually comes out of evil; and the accidents which resulted from this *modus operandi* have enabled us to study the irritating effects of the Röntgen light so thoroughly that we have obtained valuable hints for indications and limitations of its employment in practice.

It was found that the pathological changes of the skin, called Röntgen ray dermatitis and generally known as *x*-ray burns, resemble those in ordinary burns. Just as in ordinary burns, three different degrees should be distinguished.

The first degree is characterized by the symptom of hyperæmia. Epidermis and cutis are infiltrated

and the temperature is somewhat higher. Exfoliation takes place in small scales. The most pronounced subjective symptoms is a tormenting itching in the skin. Effluvium capillorum, which manifests itself, as a rule, without producing any visible signs in the integument, belongs in the same category. It seems that there is a regressive metamorphosis (atrophy) of the differentiated elements, viz., the glands, hairs, and nails. Most cases of Röntgen-ray dermatitis belong in this category.

The first symptom used to be the turgescence of the skin, which may appear as early as three days after the exposure. In the majority of cases, however, unmistakable signs do not show before the tenth day.

The main feature of the second degree consists in the formation of blisters, the clear or yellowish contents of which lift the corneal from the mucous stratum of the rete Malpighi. The inflammatory signs are well pronounced, the tension is considerable and the pain is intense. After the removal of the blisters, the corium is exposed as a red and sore surface (bullous form of Röntgen-ray dermatitis). The excoriated surface shows a yellowish-red appearance. Some cases look like having been varnished. In the further course some portions show a fibrinous cover like croup-membranes, which adhere tightly. The abundant secretion from the coarse granulations is of a seropurulent character.

The third and gravest degree is characterized by the escharotic destruction of the irradiated tissues. They show the signs of dry gangrene, and their appearance is brownish-black. There are intense inflammatory signs and the temperature rises accordingly. The patient suffers considerably. If the necrotic area exfoliates by a slow suppurating process, or if it, as it should properly be, is removed by the surgeon, a granulating ulcer remains, the cicatrization of which may take months (necrotic form of Röntgen-ray dermatitis).

Then the integument becomes hyperæmic, erythema of a light red appearance develops and changes in the pigmentation set in. If the irradiation is continued in this stage, these signs, especially erythema and pigmentation, disappear in two or three days. The integumental turgescence lasts somewhat longer. After depilation, the first signs of the recurrence of the hair show in five to nine weeks. In a few weeks there is complete recovery, though sometimes slight pigmentation of the integument remains.

If the irradiation is continued, the skin may become burned and scaly; or the bullous type of Röntgen-ray dermatitis set in. In this form intense reaction takes place after an incubation of about two weeks. This is of a subjective as well as of an objective character, and lasts about as long as the period of incubation did. Then cicatrization takes place. If the area of irradiation was covered with hairs, depilation is observed. The process of regeneration of hair is slow, and pigmentation and teleangiectasis nearly always remain.

The necrotic state of the Röntgen-ray dermatitis develops a few days later than the bullous form, as a rule, and requires months for its cure. This type reminds one of the stationary form of gangrene, which is known as "glacier-gangrene" in Europe. The antediluvian face of the old inspector of the ice-grotto at the Eiger glacier in Switzerland, well known to many medical tourists, affords a real study of this interesting tissue change.

There is a type of chronic Röntgen-light dermatitis which is especially found among physicians who devote a great deal of time to irradiation. This is illustrated by a photograph of the wrinkled, shriveled, vulnerable, and partially cracked terra-cotta hand of a physician, who had done daily skiagraphic work since the early Röntgen era. The condition is seen on the dorsal surface, which he turned against the Röntgen tube in order to ascertain, by the study of the bones of his own hand, what degree of translucency existed. The tip of the fourth finger was the most exposed target, which finds its conspicuous expression in the black colorization of the nail and the onychia. Next to it the little finger suffered most which is illustrated by the deep black of its nail. The nail of the middle finger is less blackened, and the index still less, while that of the thumb, which is held sidewardly, is fairly normal.

The hands of Röntgo-active physicians show the integument wrinkled and shriveled; the nails horny and cracked and the phalanges thickened, so that there is tension during movement. The elasticity is lessened and the sensibility increased. Effluvium capillorum is an invariable accompaniment. In some cases the formation of warts and rhagades is observed. Undoubtedly there is a cumulative influence.

Experience has taught us that in all cases of Röntgen-light dermatitis, other circumstances being equal, long exposures had taken place; and it is therefore obvious that short exposures are the best safeguard against the injury; but then the question is, Shall we reach the desired result, whether for diagnosis or therapy, by a short exposure? If not, what kind of prophylaxis must be used?

In order to appreciate this important point thoroughly, we must also consider some contributing factors, viz., the construction of the tube, the penetration power of its light, the distance from the irradiated body, the position of the object, the number of interruptions and the size of the secondary.

Whether an accumulator, a static machine, or a coil be used, seems to be irrelevant. But, as mentioned in previous publications on this subject, we have to reckon with Röntgen-light susceptibility, existing in some individuals, just as we have to do with iodoform idiosyncrasy. My statistics at the German Poliklinik of New York, which are based upon twenty years of continuous observation, show that about every fiftieth individual becomes affected with dermatitis when treated with iodoform. Since such idiosyncrasy cannot be diagnosticated before the dermatitis makes its appearance, we shall never be able to prevent it. But what we can do is to recognize it in its early stage, and if this is done, further spreading can be arrested by simply discarding its further use.

There are, however, two points of difference between the iodoform idiosyncrasy and the Röntgen light susceptibility. In the first place, a non-susceptible patient will not show any signs of iodoform dermatitis, no matter how long he may iodoformize himself, while there is no individual who would not be burned by the Röntgen light if its influence is kept up long enough. And, secondly, the Röntgen dermatitis will not stop as soon as further irradiation is discontinued. The peculiar features of the Röntgen rays, not to show the injurious effects as a rule before the tenth, sometimes not before the twentieth, day after the first exposure, stands in the way of an early and rational prophylactic therapy. The only method by which we may so far determine whether susceptibility exists or not is by tentative exposures. So it may sometimes be a chain of little causes: long exposures, short distances, powerful apparatus, condition of patient and weather, which in their entirety may be the stimulus for the reaction. Beside this inclination, which is borne with the individual and is to be regarded as an imponderabilitum, temporary

susceptibility exists, which may be attributed to temporary bodily conditions, to pathological changes or to climatic influence. I have repeatedly called attention to the observation that when suffering from a slight Röntgen light dermatitis myself, I could note a marked increase of the symptoms during sultry weather. The patients treated on such days had a similar experience.

I do not, however, believe that the question of susceptibility requires much consideration as far as exposures for diagnostic purpose are concerned, since with our present methods, the length of time needed is very much shorter. Even if repeated exposures have to be taken, so far I did not see a Röntgen-light dermatitis before the fifth repetition, the intervals having been from two to three days. And these cases were slight, the first or second degree. Still, as already said, with our present apparatus, a certain length of exposure invariably causes burning, whether the individual be susceptible or not. If long exposures are responsible in nearly all cases of Röntgen-light dermatitis, we shall naturally try to shorten them, as emphasized above. This we can do only to a certain extent, if we are seeking full and distinct diagnostic information. Unfortunately, the best skiagraphs are obtained by long exposures, made with tubes of low vacuum. This, in addition, requires a strong current. So, in order to get out the structural details, three irritating factors unite their influence, the long exposure, the soft tube, and the intense current. A tube with a high vacuum requires only a short exposure, but the details of the skiagraph are by no means brought out as well. So, theoretically, if the question of dermatitis did not exist, we would, as a rule, combine very low vacua, very long exposure, and currents of high intensity.

Fortunately, the longest exposure (the pelvis) does not now, with the aid of the Wehnelt interrupter, require more than about five minutes' exposure, and this will be tolerated even by a susceptible individual. So, practically, we do not need to fear much in our diagnostic efforts, and if we could make the rays still more powerful, in order to get more differentiation, we would not hesitate to do it.

But when repeated exposures of ten minutes' time are necessary, the question of susceptibility, as well as of ordinary cumulative irritation, should be considered, and therefore the intervals between the exposures should be made long—a week on an average.

None of the severe disturbances, however, reported in literature were due to short exposures, most of them being observed in professional electricians. A tube-maker in a Hamburg laboratory, for instance, by testing the tubes with his own hands, sustained a burn of the third degree, the treatment of which was apparently neglected. In the deep ulceration formed, over the basis of which an epithelioma and metastasis in the glands developed, so that disarticulation in the shoulder-joint had to be undertaken.

Dr. Samuel Lloyd, who has done me the honor of being present, reported the case of a tube-maker in Edison's laboratory who had received very severe burns on his hands and head. Finally he lost all the skin of his hands. He was skin-grafted in two or three hospitals, and finally returned to New York with an epithelioma developed on the *x*-ray burn of the right hand. This epithelioma grew rapidly, while he was under *x*-ray treatment, and finally amputation had to be performed. (MEDICAL RECORD, April 4, 1903, p. 554).

Tuttle (*ibidem*) referred to a man whose thigh he had to amputate because of the result of an *x*-ray burn. A careful pathological and microscopical study of the *x*-ray burn, as well as of the parts around it, had been made by William Vissman, whose conclusion was that it was the result of the production of an endarteritis and a periarteritis.

As far as I could astertain, extremely long exposures had preceded this injury. The pathological changes in the tissues were studied by Unna, Gilchrist, Kienboeck, Darier, Jutassy, Kibbe, Gassmann, Scholz, Oudin, and others. Unna found a slight increase of the nuclei in the papillary body as well as around the blood-vessels. At the same time there was more pigment in the upper layer of the cutis.

Kibbe found dilatation of the blood-vessels and rich cellular proliferation. Gilchrist noticed abundant brown pigment, in the mucous stratum and dilated vessels in the corium, while the corneal structure was thickened. Darier observed enlargement of the reticular cells, thickening of the epidermis, and atrophy of the hair and its follicles, and of the glands.

Examination of burned tissue made by me (see "The Pathology of the Tissue Change Caused by the Röntgen Rays," and Transactions of the Medical Society of the State of New York, January 28, 1902) showed a large amount of dense connective tissue and marked vascularity. The epithelial cells of the skin were diminished in size. The tunica intima of the small blood-vessels was thickened, their caliber thus becoming narrowed. The muscularis and adventitia appeared to be affected in the same manner. The muscularis may thus become atrophic. All this points to a process of constriction of the vessels. Some of the areas show still greater degeneration, the tunicæ of the small vessels being converted into a colloid mass and the intima being entirely severed from the muscularis.

The hair extracted after prolonged irradiation is found to have lost its structure. It ends in a point instead of showing a root. Zehmann found that the bulb at the end of the root often showed slight swelling.

The course of the Röntgen-light dermatitis is dependent, of course, upon the intensity and extent of the irradiation, and upon the kind of affected tissues. The prognosis of the second and first degrees is extremely favorable. The integumental area, situated directly above the bone, as on the skull, chin, thorax, spinal column, tibia, etc., being especially unfavorably located. The necrotic form naturally represents the severest type.

The more intensely the dermatitis sets in, the more the tissues are affected, and the more the consequences appear. The following case observed by me may serve as an illustration: The bullous form of Röntgen-light dermatitis was observed in this man of thirty-eight years, who, in the course of three years, had to submit to five thoracotomies for pyothorax. In view of the thickened pleura, which lined the immense thoracic cavity, I had resorted to pleurectomy, and a few weeks later the Röntgen rays were expected to give imformation as to the extent of the cavity, as well as of the previous rib-resection.

At first soft tubes were employed, the use of which gave but little contrast. This phenomenon was erroneously explained by the reason that, in spite of the removal of a large pleural portion, still a considerable part of thickened pleura had remained, which might have veiled the image of the ribs. When resecting the ribs shortly after the last exposure found them to be of very soft consistency, which showed the absorption of calcareous matter on account of the long duration of the inflammatory process (inflammatory atrophy). After having re-

peated my unsatisfactory efforts seven times, harder tubes were resorted to in combination with a high current and longer exposure, which caused a bullous dermatitis. The incubation lasted ten days, the skin was light-red first and then dark red. Later on, a blister the size of a large hand formed, the contents of which consisted of serum. After the blister was removed an excoriated surface was exposed, which cicatrized under a xeroform dressing in three weeks. Now, two years after the healing of the dermatitis, the pigmented integument indicates the presence of a telangiectatic area. The patient is of blond complexion.

The peculiar circumstances of the case must justify the repeated exposures, and I do not believe that this patient who suffers from his teleangiectasis has ever thought of holding me responsible for it. But suppose he would, I trust that the bar would sustain me.

In the chronic form I recommend repeated bathing in a decinormal salt solution.

In severer cases it appears to be natural that the patient is only too much inclined to blame his examiner. Whether the operator was negligent or not seems to be immaterial to the great majority of the injured; all they see are the consequences. In the court cases in which I was called upon as an expert, I was shocked by the unjust, if indeed I may not say the felonious, attitude of the plaintiffs. Although with our present means it should not appear very difficult to settle the question whether the physician has committed any negligence or whether he or his patient is the victim of unfortunate circumstances, there is hardly any subject in the wide field of medical jurisprudence where juries, judges, and experts disagree as much as in this field. The decisions of the courts in this country as well as in Germany, England, France, and the Netherlands illustrate a most deplorable state of affairs in this matter. French courts excelled in decisions against physicians, especially in all cases in which the corpus delicti has consisted in injury to the complexions of the fair sex.

Some time ago, in this state, a suit was dismissed which had been brought against a dentist of good repute who had suspected the neuralgia of his patient, a young lady, to be caused by a foreign body in her jaw. The dentist very properly recommended that a Röntgen-ray photograph should be taken in order to verify his suspicion. At that time few physicians were familiar with the technique of the new method, wherefore an electrician was recommended who had the reputation then of being an "*x*-ray specialist." The result after repeated exposures was an extensive burn of the third degree around the neck of the patient. The patient claimed that "a million volts of electricity" were used. Undoubtedly a somewhat excessive voltage, and one which should justify the large amount of damages demanded! The court upheld the defendant's contention, that the patient had voluntarily submitted to the Röntgen-ray exposures upon the advice of the dentist, and, as he had not administered the treatment, he was not liable. The dentist, in fact, deserves high praise in seeking the best information for the cause of his patient's ailment. The question of the responsibility of the electrician is still left open.

In this country several cases are on record in which burns were caused by searching for renal stones, the prolonged examination being done by expert physicians. Only in one case, as far as I know, the patient commenced suit against one of the best experts in Röntgography. The suit was dismissed by the judge.

The suit against Professor Hoffa of Berlin, the famous orthopedist, became widely known not only because of the prominence of the defendant, but more so for the complicated etiology of the injury.

The patient suffered from ankylosis of his hip, presumably after coxitis, for which he was treated by the Röntgen rays under the supervision of an "*x*-ray specialist." Altogether he was exposed six times. No change for the better taking place, the patient consulted Professor Hoffa, who advised a diagnostic exposure in order to ascertain the condition of the hip-joint. The distance of the tube from the abdominal integument was 30 cm., the length of exposure twenty-five minutes. Ten days later extensive dermatitis set in, which induced the patient to bring charges of criminal negligence in the treatment. Professor Hoffa, in defence, claimed that the exposure was made according to the principles adopted by the medical profession, and that furthermore the sensitiveness of the skin was increased by the previous irradiations. The district attorney, after having called upon an expert who sustained Professor Hoffa, dismissed the claim.

Nowadays, by our greatly improved means, Hoffa would not have burned his patient, even in spite of the preceding irritation, because he would not have been exposed for twenty-five minutes. It is only a few months ago that I had an opportunity myself to see Professor Hoffa take a beautiful Röntgen plate of a hip in three minutes.

We may safely expect that damage suits for Röntgen-ray burns, caused during diagnostic exposures, will become very infrequent. But with the employment of the rays for therapeutic purposes this question of injuries has entered into a new phase. Burns have now become a rather common accident. In several instances suits were brought against physicians, especially on the ground that they did not use the necessary means of protection. In most of these instances the severe character of the diseases demanded a severe treatment, so that burning had to be risked. This fact alone is sufficient proof of the perfidious nature of the suits. In cases in which only cosmetic considerations are concerned, such risky therapy is unnecessary.

It is not customary to shoot at sparrows with cannon balls. Why, if we treat a hairy surface on the face of a fair lady, for instance, resort to means as powerful as those we employ in carcinoma? And, on the other hand, if dermatitis occurs in the face of a fair lady, who simply wanted to be treated for hypertrichosis, the cure may prove to be worse than the disease. In other words, when treatment for non-malignant diseases is intended, careful tentative exposures should precede it. If, then, erythema should appear after one short exposure, thus proving the presence of special susceptibility, further treatment must be taken up only under extraordinary circumstances, and after the patient has been fully informed of the risks. For such purposes a first exposure of five minutes is advised. A soft tube should be selected. After a week the same procedure, now lasting ten minutes, is to be repeated. If, after a third exposure, and two weeks after the first one, no reaction has shown up, the patient is apparently not specially susceptible. Then he may, on an average, be irradiated every second or third day, and at last daily, until reaction manifests itself. Each exposure may last from ten to fifteen minutes.

During the tentative exposures the distance of the tubal wall from the skin should be four inches, later on it may be reduced to one inch. The vicinity of the irradiated area must be protected. This is done by a thick shield of lead, which if molded properly, attaches itself to the area selected; if not, it must be fastened by a bandage. If the face is concerned, a

sheet of lead, into which a hole is cut to correspond with the area to be irradiated, may be bent over it. During the intervals xeroform salve (1.10 lanolin) should be employed.

An illustration of the deplorable consequences of omission is the suit brought against a prominent physician in Germany who treated a lady for hypertrychosis of the chin for several months. After repeated reactions of a slight nature were observed, the face showed signs of dermatitis of the second degree, while the anterior aspect of the chest developed a burn of the third. After five months cicatrization had taken place in the face. But the chest still showed a large ulceration. At that time the patient brought charges against the physician for criminal negligence.

The court called upon various experts. One was the official court physician, who admitted that he did not understand anything of the Röntgen rays, but gave his official opinion nevertheless. Beside this expert testimony that of the "Governmental medical board of the province" was obtained. None of these testimonies was favorable for the defendant. The third was that of the "Royal medical deputation" of Berlin, which was in favor of the defendant.

The plaintiff recovered judgment to the amount of $75. The points of the complaint were: (1) The insufficient information of the patient in regard to the possible consequences of the treatment; (2) it alleged insufficient protection of those areas which did not require irradiation; (3) the continuation of the treatment after redness had appeared.

The court disregarded the first two points, but sustained the third, viz., negligence.

This judgment is based on an error. If the Court had held that the chest should have been protected it might have been more correct, but it could not have found fault with the continuation of the treatment after slight reaction had shown itself.

In treating malignant diseases, we should be governed by principles which differ entirely from those emphasized in regard to cosmetic treatment. While in the latter instance the area is distinctly circumscribed, in malignant neoplasms the vicinity must be seriously considered at the same time.

Therefore, if the treatment is of a beautifying nature the surrounding tissues must be protected. But nothing is more absurd than protecting an area which needs the influence of a sort of a destroying agent.

In other words, if we are convinced of the fact that even when there is only a small carcinomatous nodule in the mammary gland, the superficial layer of the pectoralis major muscle contains, or may contain, carcinoma cells, why restrict ourselves then, if we attempt to treat a nodule of this kind by the Röntgen rays? Is it not exactly the contrary of what we wish to achieve, if we then prevent distant carcinoma cells from being reached, by covering the vicinity with some impermeable metal? We want to reach *all* carcinoma cells if we can, and the so-called shield does not shield the patient, but the carcinoma cells. Therefore shields off in malignant disease!

If we have made up our mind to influence the carcinoma cells we must employ sufficient energy to enforce this result. This does not imply, however, that the other extreme should be striven for. We must follow our therapeutic strategy in a determined but carefully observant manner. The practical *modus operandi*, therefore, would be about as follows:

The patient suffering from malignant disease is irradiated without first submitting to tentative exposures. The tube should be as near the tumorous area as possible, the distance of the tubal wall from the skin never exceeding two inches.

This is done for the purpose of influencing the growth itself as powerfully as possible. After there is a slight erythematous reaction within the immediate vicinity of the growth, the distance is increased for the following séance. Thus the rays reach a larger surface. In mammary carcinoma, for instance, the area between the sternum and the axilla must be fully exposed. When this wider field becomes erythematous also, the irradiation must be stopped for a few days until it shows signs of disappearance. It is not advisable to wait until the last little sign of dermatitis has vanished, because much valuable time may be lost by waiting. Repeated attacks of dermatitis may thus be endured.

It seems to me that the further the carcinomatous infiltration has extended the more resistance to dermatitis exists, and consequently the less reaction takes place, the cell-metamorphosis lowering the irritability of the skin. This non-susceptibility, of course, varies with the different types of pathological tissue changes. It seems to be greatest in the fibrous type of carcinoma.

In severe cases, and when but little reaction shows after powerful irradiation, the diaphragm (*Münchener medizinische Wochenschrift*, No. 41, 1903) suggested by me should be used in order to concentrate the rays on the tumorous area.

If there be extensive ulceration, causing retention of pus, irradiation should not be continued until the area is made accessible, and any necrotic tissue removed by the scalpel or sharp spoon. If this is omitted, the power of the rays is not only inhibited, but, at the same time, toxæmia from local decomposition is added to cachexia, a very dangerous association indeed. Under exceptional circumstances deep-seated growths, or their remainder after partial removal, may be reached, if the healthy tissues covering them are lifted and reversed so that there is more direct access.

If the integument is concerned, soft tubes must be employed, but deeper infiltration requires tubes of medium hardness. It is obvious that for very deep-seated growths, hard tubes should be employed, in view of their greater penetrative power. But the rays do not in their present capacity possess so much force in the deeper tissues of the body as to induce a complete regressive metamorphosis.

The author does not maintain that the production of dermatitis in the treatment of malignant disease is desirable or a condition *sine quâ non*. But, with our present means, he regards powerful and long irradiation a necessity, and this, unfortunately, entails the prôvocation of the dermatitis.

The author's experience shows that whenever a dermatitis has appeared the size of the growth has diminished, œdema and pain have decreased, and the general condition of the patient has improved.

In spite of extensive dermatitis, which causes a most distressing burning and itching sensation, all patients suffering from malignant disease were anxious to undergo irradiation again as soon as possible. If the *raison d'être* is thoroughly explained to the patients, they will certainly not make their physicians responsible for excessive burns. A patient afflicted with carcinoma, especially if it is inoperable, has indeed nothing to lose, and can well afford the risk of being burned. Will he act like the boy who threw rotten eggs at the man who had dragged him out of the water and saved him from drowning, because in doing so he had pulled out a lock of hair? And in any case the physician is a

soldier and must do his duty unconcerned whether he is applauded or insulted.

Of course, the purely cosmetic standpoint is entirely different. If dermatitis, as alluded to above, occurs in the face of a fair lady who simply wanted to be treated for hypertrichosis, ingratitude will be earned for the removal of the superfluous hair.

As a rule, a séance of ten minutes, repeated every second or third day, suffices. Extensive and deeper-seated growths should be irradiated daily for the same length of time, and if no intense reaction appears, for twenty minutes.

As soon as improvement is noted, the exposures should, for a while, be shorter and the intervals longer. Six weeks after recovery irradiation must be taken up again for a short period.

How far the beneficial influence of inflammation produced by the Röntgen-rays goes is also illustrated by the case of this lady, the wife of a brother physician, to whom we are greatly indebted for kindly presenting herself to you. Her history shows that the first signs of sarcoma of the orbit were observed in the fall of 1901. Enucleation of the eye ball had to be undertaken, but recurrence in the frontal bone took place three months thereafter, and reached such an extent that it was regarded inoperable.

After having ascertained the extent of the growth by a skiagraph, I removed the diseased bone portions first by chisel. Three weeks thereafter, when cicatrization had taken place, irradiation was begun three times a week, exposing ten minutes each time. No change during two months' treatment was observed. But when irradiation was stopped for three weeks, the signs of recurrence showed up again, the vicinity of the orbit projecting far.

Now irradiation was resorted to every day at small distance, low vacuum and high current being chosen. After eleven exposures, extensive dermatitis developed, which proved to be of the ulcerative type, within the center of the irradiated area at the same time complete alopecia at the diseased side set in. The patient suffered considerably for a week, then the symptoms gradually subsided. The treatment consisted in warm applications of Burow's solution at first, and in the use of xeroform gauze later. Three weeks after the beginning of the vehement dermatitis all signs of the sarcomatous infiltration had disappeared, especially the projection and the general condition of the patient improved remarkably. Although during the last few months the irradiation could not be continued regularly, there is perfect euphoria. The signs of cicatrization have disappeared. While there are no evident signs of recurrence, I am not convinced that the sarcoma was cured. I believe that the process was well kept in check by the rays, so that it did not disturb the patient. If you will ask this patient whether she is grateful for having been burned she will unhesitatingly say: "Yes," and she has good reasons for such an answer.

Thus we see that circumstances alter cases. In the meanwhile another miraculous phenomenon makes its appearance on the medical horizon: Little as we know of the practical utilization of radium, yet it marks a new era in science. Its influence upon diseased tissue and its special advantages in little cavities of the body are indisputable, and consequently we shall soon hear of accidents caused by its therapeutic use.

Increased Facilities at Quarantine.—The Finance Committee of the New York State Senate has reported favorably Senator Raines's bill appropriating $50,000 for the quarantine stations and additional buildings at Hoffman and Swinburne islands.

INSOMNIA.*

By ELIOT GORTON, M.D.,
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I HAVE selected the subject of Insomnia for this brief address because, whether we are specialists or general practitioners, it is a subject of special interest to us as physicians and one the results and problems of which we all have to face and deal with in the every-day routine of our work. I venture to say that every one here to-night has had—probably has now—cases of insomnia to treat which by their very stubbornness and failure to yield to tried methods have taxed his patience and resources to their utmost. How many times have you thought to yourself or said to a brother practitioner, "Well, I've given that patient everything I know anything about without the least apparent benefit." One may finally dread to see the patient, since he comes day after day with his worried, anxious look and the same old story, "Well, Doctor, I took that medicine last night and it didn't do any good."

Whatever may be our personal opinion regarding the nature of insomnia, there comes a time when, because of the train of symptoms presented, it amounts almost to a disease process. For this reason it is of the greatest importance that we recognize its gravity in its incipiency and institute at once vigorous measures for its relief.

I have no panacea for insomnia. I do know, however, that too much dependence is placed on its purely drug treatment to the exclusion of other equally essential and equally valuable adjuncts to treatment, consisting of hygienic measures, which include baths, and a regulation of the diet and mode of life of the patient. If I shall succeed in presenting to you some principles in the method of treatment which my experience has taught me to value and with some of the points of which you may not be entirely familiar, this paper will have accomplished its object.

The question, What is sleep? confronts us at the very outset of any inquiry into the subject of this paper. Since, however, the question belongs to the physiologists, and since, further, no satisfactory answer is as yet forthcoming from them, I shall not attempt even a definition. I shall, however, ask your attention for a few minutes to the clinical aspect and treatment of insomnia, and I beg your indulgence if what I shall have to say is drawn entirely from an extensive experience in treating a symptom of special prominence in most nervous affections and often a particularly trying one in women suffering from nervous diseases.

First then, in order that we may have a logical and comprehensive sequence, let me refresh your memory with the few facts which are known relative to the physiology of sleep, for these are essential in order that we may have a clear understanding of the elements of treatment. With the incidence of sleep there is contraction of the cerebral vascular system and a consequent diminished flow of blood through the brain tissues. There is also a corresponding dilatation of the vessels of the periphery throughout the body, varying more or less in degree. There is marked slowing of the pulse rate, amounting to eight or ten beats per minute, and the force of the heart's action is diminished. There is deepening and slowing of the respiration with a corresponding retardation of all the metabolic and secretory processes. Further, we should bear in mind the normal sleep rhythm, and by this I mean the normal variations in the degree of intensity or the soundness of sleep throughout a night beginning at 9 P.M. and

*Read before the Practitioners' Club of Newark, N. J.

ending at 6 A.M. In a person in a state of health retiring at 9 P.M. the soundest sleep is recorded from about 10 to 12 P.M. From the latter hour onward the sleep gradually lightens until about 4 A.M., when it again becomes sound for a short period, and is followed by a period during which the sleep is especially light, the individual responding to sensory stimuli of one-fourth the intensity incident to the soundest sleep. In fact, the semi-consciousness of sleep during this period has led many to suppose it to be the soundest. This is due, however, to the pleasurable consciousness of the period. There are, then, two periods during which the sleep in a normal individual is especially deep and these periods are at about 10 o'clock in the evening and four o'clock in the morning. Bear in mind also the changes that take place in the blood-pressure and the cerebral circulation during sleep, and we are at once in a position to understand why certain drugs, the physiologic effect of which is to counteract these normal changes, should not be given.

It is difficult to state in other than a general way the causes leading to sleeplessness. We know that almost all psychoses are accompanied by loss of sleep at some period of the disease. Most cases of mania and neuræsthenia are preceded by a period of prolonged sleeplessness. In many of these cases the insomnia is accompanied by a period of overwork which clearly led to the mental breakdown. Alcoholic and other excesses cause a toxic type of insomnia difficult to control. Mental worry, grief or anxiety, are causes of the first magnitude, and so also is their twin brother, overfatigue. Tea, coffee, opium, particularly its more common alkaloid morphine, are also agents in causation. Like all other symptoms, a consideration of the cause, and its removal if possible, becomes the first object in treatment, but we must remember, however, that sleeplessness soon becomes a habit, and the longer it has been established, the more difficult it is of relief.

As a matter of convenience, we may classify treatment under three general headings—dietetic hygienic, and medicinal—and for the purpose of this paper the dietetic will be included with the hygienic, for they are interdependent.

The hygienic treatment, so often neglected and which in many cases is of far more value than the medicinal, consists in the use of the various hydrotherapeutic measures, such as the warm full bath, cold pack, sitz bath, foot bath, the cold rub, the ingestion of hot drinks, and regulation of the mode of life.

The medicinal treatment consists in the regulation of the alimentary tract and the exhibition of medicines, the physiologic effect of which is to produce sleep, the more important being paraldehyde, trional, sulphonal, chloral, and the bromides.

Insomnia in its incipiency usually yields readily to treatment, but we are chiefly concerned with those stubborn and distressing cases of long standing, in which the cause cannot be determined, or, if known, cannot be corrected, and a persistent and judicious combination of the various methods must be tried.

In many cases the first requisite in treatment is change of scene, of surroundings, of environment, and this in itself is often all that is necessary. The getting away from the stress of life, from business cares and worries, from the depressing influence of well-meaning but tactless relatives or friends is often imperative, and this is a fact which should be more generally insisted upon. However, a man feels that he is essential to his business and cannot leave it; a woman cannot leave her children; often the financial problem cannot be surmounted, and so the matter drags along until a point is reached where something *must* be done, and sacrifices are made which could have been avoided had the situation been controlled by a firm hand at the outset.

Let us take, as an example, the treatment of the insomnia due to alcohol and its concomitant excesses. To begin with, these cases must be absolutely under control, and for obvious reasons are difficult to treat at home. The withdrawal of liquor, at once if possible, but gradually if we must; the administration of a purge toward regulating the functions of the alimentary tract; a light but nourishing diet for the first few days; a tonic regime with a tonic bath such as the drip sheet or half bath followed by vigorous rubbing; hot milk between meals; moderate exercise; massage; the warm, full bath at night, twenty minutes in duration, or a cold pack of one hour's duration, followed by a glass of hot milk or malted milk, constitutes a satisfactory regime. Medicinally, the hypnotic "par excellence" is paraldehyde. Given in two to three drachm doses and repeated in an hour if necessary, it usually is followed by a quiet sleep from which the patient will awaken refreshed and decidedly improved. The rationale of this combined treatment is, concisely, as follows: Constipation is relieved, and any possibly toxic material cleared from the alimentary tract. As the stomach is usually irritable, a light nourishing diet is essential. As a nervine, strychnine sulph., gr. $\frac{1}{30}$, or larger doses, four times daily, is excellent on account of its stimulating and steadying effect. The drip sheet or half bath in the morning for its tonic effect upon the nervous system and to stimulate the eliminative function of the skin. Hot milk, bouillon or broth, between meals to allay the craving for stimulants and prevent the stomach from becoming empty, thus relieving the tendency to nausea and the feeling of "goneness" so commonly complained of. Moderate exercise and massage for its beneficial effect upon the muscular and circulatory systems. The warm, full bath or the cold pack at bedtime to assist one of the normal processes incident to sleep, the dilatation of the peripheral vessels. Paraldehyde for its somnific effect upon the brain and nervous tissue. I have gone fully into details because this is quite a typical form of insomnia, and the treatment as outlined, with modifications to fit existing conditions, may be applied to other forms.

I shall only outline the various methods of treatment in a general way, since individual cases differ so widely that the form of treatment best adapted for any given case becomes often a matter of judgment on the part of the attending physician. In the majority of cases the hygienic and medicinal treatment dovetail into each other in such manner as to make them interdependent, and success often follows their combined use when either one separately will fail. Where baths are used, the technique of administration is all important and failures are often attributable to its non-observance.

The warm, full bath given just before retiring, followed immediately by a hot drink and a hypnotic in moderate dose, is of great value. In the administration of the bath the patient's face should be bathed with cold water, and the head above the eyes enveloped in a towel wrung out of cold water. This is an important and necessary point in technique which is usually neglected. It prevents cerebral congestion and the sensation of vertigo which often follows the prolonged warm bath if given without the cold head compress. The patient should lie in the bath quietly, the duration should be from fifteen to twenty-five minutes and the water should be kept at the temperature of 98°. After emerging from the tub the patient must not be rubbed dry, for rubbing

has an exciting effect. The excess of water should be wiped away quickly and the patient put at once into bed and given a glass of hot milk and the hypnotic selected. The milk or hot drink must be so hot that it can only be sipped.

The cold, wet pack is equally efficacious. Here again the first requisite is the cold head compress and the bathing of the face. The sensation of cold disappears in a few minutes, since the radiation of heat is prevented by the blankets in which the patient is wrapped. There follows marked dilatation of the peripheral vascular system, and the resulting brain anæmia produces drowsiness and a marked slowing of the heart's action. As a result of the complete muscular rest a state of tranquility develops, and in most cases sleep follows. I have seen excited, sleepless patients and chronic cases of insomnia go to sleep in the pack and sleep throughout it. The technique must be rigidly adhered to else failure follows. When correctly applied, the patient is very comfortable after the first few minutes, and the usual duration is from one to two hours. If, however, the patient goes to sleep in the pack the duration can be prolonged. The sheet should be wrung out of water at a temperature of 70°.

Warm sitz baths, 95°, of twenty minutes to an hour in duration, exert a distinctly sedative and anodyne effect. This bath may also be used cold, 50° to 68°, two to five minutes' duration, with the same effect, for the reaction which brings about a flow of blood to the abdomen depletes the cerebral circulation. The cold sitz bath is contraindicated in acute inflammatory processes of the abdominal or pelvic organs.

The foot-bath is another valuable adjunct to the treatment of insomnia, and its beneficial effect is often surprising. Again, cooling of the head is indispensable. Both high and low temperatures are employed, 104° to 54°. The feet are immersed in water which must be kept at the desired temperature, and the bath continued until the feet are intensely red. The patient should stand in the bath, rubbing one foot upon the other. It is of especial value in neurasthenic insomnia or any condition caused by cerebral congestion and will often induce sleep without the aid of drugs.

These are simple hygienic measures of proved value, which may be instituted in any home with a bath tub. The depletion of the cerebral circulation is the principle underlying these procedures, and cases of insomnia due to a loss of vascular tone in the cerebral circulation, and in which the patient seems most wakeful in the recumbent position, respond immediately to these measures.

A review of the more serviceable hypnotics will not be out of place. Paraldehyde, on account of its pungent, disagreeable odor and taste, is prescribed very little in private practice, although it is one of the best and safest hypnotics at our command. It is invaluable in alcoholic insomnia, and almost equally valuable in the treatment of other forms. It should be given in 2-drachm doses if the desired effect is to be obtained, and this dose can be repeated in an hour if necessary. An irritable stomach usually contraindicates its use. A favorite method of combining paraldehyde so as to make its pungent odor and taste less objectionable, is as follows: Paraldehyde, two parts; whiskey, one part; syrup of orange, one part. This mixture separates into its component parts on standing and must therefore be well shaken just before dispensing. Each tablespoonful represents two drachms of the drug. In alcoholics particularly this remedy is far superior to the chloral and bromide mixture, both in effect and result, for it has no depressing after-effect, does not affect the heart and does not lock up the secretions—a point of much importance. In fifteen years I have seen but one habit case.

Trional is another popular hypnotic which is extensively used. The dose ranges from 15 to 30 grains, but the best effect is obtained from the smaller dose, repeated in an hour if necessary. It is slow in action, and should be given from one to two hours before bedtime. It is not soluble, and the dose is usually placed dry on the tongue, followed by a drink of water or hot milk. If, however, a dose of 25 grains does not induce sleep after the third or fourth trial, it is useless except it be assisted by some other drug or method. It also has the advantage of being fairly free from any unpleasant after-effect, with no danger of habit formation if used in the smaller doses. Large doses often seem to have a cumulative action and induce sleep twelve hours or more after administration.

Sulfonal is also extensively used with varying results. It is generally given in 15-grain doses dissolved in hot milk. It often has a depressing and unpleasant after-effect and a tendency to check secretion. I have had several patients with an idiosyncrasy for this drug, who could not take it even in small doses without becoming very wakeful and breaking out in the morning with an extremely annoying rash resembling measles. For this reason I seldom prescribe it until I have failed with others.

Chloral you are familiar with; its advantages and disadvantages; its unpleasant after-effect, its danger of habit formation.

The bromides have their sphere of usefulness also, but are usually combined with other drugs or methods. They are contraindicated in digestive disturbances. When bromide is used for the relief of insomnia in 40 to 60-grain doses, it should always be followed the next day by the half bath. This enhances its value, makes the patient more tolerant, and by rendering the skin active, the unsightly and disagreeable acne following its use can be readily controlled. If a patient is especially susceptible to bromide, a smaller dose may be effectively given if all salt be withdrawn from the food.

Opium and its alkaloids should not be given for insomnia. Small doses stimulate and excite the nervous system, producing a condition of wakefulness in the majority of cases, while larger doses present disagreeable after-effects. The results from its use are often more difficult to deal with than the affection itself.

I shall not take your time further for the enumeration of other hypnotics. Their name is legion and but few are of any real value. Our time is too valuable and our patient's case often too urgent to permit of much experimentation, so we are inclined to hold to the remedies and methods with which we have been more or less successful and the value of which we have proven.

There is one combination of hypnotics I desire to call your attention to. In cases in which the methods you have tried have been of no avail, give 10 gr. of sulfonal in hot milk at 6 P.M., 15 gr. of trional at 8 P.M., and the warm full bath with 40 gr. of bromide and a glass of hot milk at 9 P.M. Your patient will live through it and may have a good night's rest.

There is a form of insomnia caused by overfatigue, the rational treatment of which does not include any of these drugs. I refer particularly to physical rather than mental overfatigue, although the simpler form of the latter is also amenable to the same treatment. If we can reduce this excessive fatigue to one of simple fatigue our patient will sleep. This can be accomplished by the ex-

hibition of a mild stimulant such as strychnine, or a glass of ale or porter. Hot milk or hot malted milk is also of great service. The stimulating effect of the half bath, or a simple cold dip, often acts like magic in these cases. I cannot explain this satisfactorily on the basis of any of the known facts pertaining to the physiology of sleep, but I do know that these measures will induce sleep. I regard the exclusion of tea and coffee as imperative in the management of most cases, nor do I think it wise to allow chocolate or cocoa to be substituted. Although they contain much less caffeine or allied alkaloids, nevertheless I have seen cases which received sufficient to cause pronounced wakefulness. Drinks of this character should at least be excluded from the evening meal. In this connection, my experience has been that a light evening meal, taken early, is most conducive to a restful night. This may be supplemented by a walk in the evening an hour before retiring. Under no circumstances should the patient be allowed to continue his accustomed work into the evening hours, as this is especially conducive to wakefulness.

The treatment of insomnia will depend primarily upon the treatment of the disease from which the patient is suffering. In many cases of simple neurasthenia, the treatment of the disease practically resolves itself into the treatment of this one symptom. Under any circumstances the nervous case is the one most difficult to treat, and I consider that form of treatment as most successful which will cause the patient to sleep without the administration of drugs. I insist, however, that the measures I have described will materially reduce the drug dosage and induce a sleep which to all intents and purposes is normal in character. We may thus avoid the objectionable after effects which follow large doses of hypnotics.

Fair Oaks Sanatorium.

COMMON DUCT STONE ASSOCIATED WITH ACUTE SEPTIC CHOLANGITIS.

By GEORGE EMERSON BREWER, M.D.,
NEW YORK.

The object of this communication is to report and place on record the histories of three cases of common duct stone, associated with symptoms of grave sepsis.

While it is generally recognized that jaundice and pain are the commonest and often the only symptoms indicating the presence of a stone in the common bile duct, it is not as well recognized that a certain small number of these cases present in addition chills, fever, and sweating, so characteristically intermittent in character as strongly to suggest a malarial infection.

To this group of symptoms the term *fièvre intermittente hépatique* was first applied by Monneret. Since that tiem the condition has been studied and accurately described by Charcot, Osler, and a number of others, and its association with the presence of a foreign body in the common or hepatic ducts has been verified.

Considerable difference of opinion has existed in the past regarding the etiology of the septic symptoms, some authorities holding that the febrile crises were due to bile absorption, through abrasions in the duct mucous membrane produced by the foreign body; while others regarded them as of nervous origin and similar in character to some of the varieties of urethral fever.

Most modern observers, however, regard the condition as one of septic absorption from infection of the duct—a true infectious cholangitis. This view is strengthened by the fact that in the severe and neglected cases, the ducts are thickened and hyperæmic, the liver the seat of multiple abscesses, and the bile changed in appearance by the presence of pus and blood.

The condition is one of great gravity, and unless promptly relieved by surgical means, leads, almost invariably, to a fatal termination.

In many instances the diagnosis of malaria with catarrhal jaundice is made and much valuable time is lost by a long course of useless treatment by quinine and other drugs. The only treatment that can hold out any hope of success is surgical, choledochotomy, removal of the stones, and hepaticus drainage.

The following three cases are the only examples of this condition which have been recognized and operated upon by the writer, and they represent, approximately, three grades of virulence:

Case I.—G. M., male, aged fifty-two years. For several years this patient has complained of characteristic attacks of gallstone colic. Was jaundiced ten years ago. He was first seen by the writer in the winter of 1902. At that time he was moderately jaundiced and complained of occasional attacks of pain in the upper right quadrant of the abdomen, which were accompanied by chills and fever. There was tenderness over the region of the gall-bladder, but no palpable tumor. The diagnosis of a common duct stone was made and an operation advised. Operation was refused and the patient disappeared from observation. One year later the patient was again seen in consultation. At this time he was deeply jaundiced and complained of moderate pain in the region of the gall-bladder, which frequently became accentuated. With the increase in pain, there was usually a chill followed by high fever and sweating. The patient looked pale and haggard. There was a moderate leucocytosis, but no malarial organisms in the blood. Operation was advised, and as the patient's sufferings were great, and as he was gradually becoming more septic, the advice was accepted, and he went immediately to the Roosevelt Hospital

Under ether anæsthesia an incision eight inches in length was made over the right rectus muscle. The gall-bladder was thickened and contained thirty-five large and small calculi, together with a quantity of turbid bile. In the common duct there were found two calculi, each about the size of a small hazelnut. These were removed, the patency of the duct established by the passage of a probe into the duodenum, and the hepatic duct drained by the Mayo method. (This consisted in the introduction of a small rubber tube into the hepaticus, through the wound in the common duct. The wound is then partly closed by introducing two catgut sutures longitudinally on either side of the incision, and tying the opposite ends across the duct. A small strip of gauze is then placed over the closed wound, and secured by again tying the uncut ends of the catgut sutures over it. The free ends of the rubber tube and strips of gauze are brought out of the abdomen opening.) The calculi were next removed from the gall-bladder, which was also drained by a rubber tube introduced and held in place by two purse-string sutures. The abdominal wound was partly closed, an opening being left for the exit of the gall-bladder and duct drains. The patient's temperature remained elevated for ten days or two weeks, during which period there was an abundant flow of bile from the wound. All drainage was removed at the end of the second week. The gall-bladder wound closed promptly, but there was continual leakage from the

duct. At the end of ten days bile began to appear in the stools. About the second week the jaundice began to disappear slowly, but was practically gone at the time of complete healing of the wound, which took place about six weeks after the operation. He has since been in perfect health.

Case II.—J. M., female, aged sixty-six years. Was admitted to the surgical division of the City Hospital in February last. The patient had the history of gallstone colic, extending over a number of years. About six months before her admission, she became jaundiced. There was constant pain in the region of the gall-bladder, with the loss of weight and strength. During the last three months, she had been having irregular attacks of acute pain accompanied by vomiting, chills, high fever, sweats, and an increase in the jaundice. Operation was advised, but for one reason or another was postponed for three months, until her admission to the writer's service. At the time of her admission, the patient was thin, weak and bed-ridden. There was deep icterus, and the attacks of fever occurred, practically, every day.

An incision eight inches in length was made over the outer border of the right rectus muscle. The gall-bladder was found to be normal and was not opened. The common duct contained a large movable stone, which was extracted through a longitudinal incision. Hepaticus drainage was established by the introduction of a small rubber tube through the opening in the common duct. This was accompanied by a strip of gauze, held in place by the Mayo method. The abdominal wound was partly closed and dressings applied. She made a tardy though complete recovery. The drains were removed at the end of fourteen days, but the abdominal wound was packed until complete cessation of bile leakage, which persisted for about four weeks. All septic symptoms immediately disappeared after the operation, and she made a complete recovery.

Case III.—C. K., female, aged thirty-six years, was admitted to Roosevelt Hospital in the autumn of 1902, suffering from symptoms of grave sepsis. There was an indefinite history of abdominal pain, extending over a number of months. At the beginning of the present attack there had been pain, fever, and slight jaundice. Her condition rapidly grew worse and there developed a moderate distention of the abdomen. On admission her temperature was 105°, her pulse, in the neighborhood of 140, weak and irregular. There was also moderate jaundice, nausea, vomiting, tenderness, and rigidity over the upper half of the right rectus muscle. Her condition was such that operation at the time was deemed unadvisable. The following day, however, there was marked improvement in all her symptoms. A more careful examination was undertaken, and the diagnosis of septic cholangitis made with the probable presence of stone in the common duct. The symptoms which led to the diagnosis of cholangitis were, pain and tenderness in the epigastric region, the absence of signs over the region of the gall-bladder, the presence of tenderness over the liver (elicited by forcibly compressing the lower thorax with the hands, placed over the ribs on either side), general sepsis, and jaundice.

Under ether anæsthesia, an incision was made over the outer border of the right rectus muscle. The gall-bladder was distended and contained several small calculi. There was a large, round stone in the common duct which was removed through a longitudinal incision. Following the removal of the stone, a large amount of opaque dirty pinkish fluid, consisting of a mixture of blood, pus and bile, escaped from the common duct. This was promptly removed by careful sponging, and the entire region disinfected by a general use of peroxide of hydrogen and salt solution. Hepaticus drainage was established, and the wound partly closed, a large drainage tube being also left in the gall-bladder. Following the operation, there was an immediate improvement in all the septic symptoms. The tube, in the common duct, was removed in about ten days, that in the gall-bladder was allowed to remain somewhat longer. She made a complete recovery, and was discharged at the end of five weeks.

It is interesting to note that in the first two cases there were no gross changes in the walls of the ducts, and the bile appeared normal in color; in the last case the ducts were thickened and œdematous, the liver enlarged, and the bile opaque, thick, ropy and of a dirty, pinkish color.

In the first two cases the acute symptoms had existed for several weeks, and the progress of the septic intoxication was gradual; while in the latter case the symptoms were grave and alarming from the first, and the progress of the sepsis was rapid. In the milder cases, without gross changes in the bile or ducts, it is probable that the infecting agent is one of low virulence, and that the lesion is limited to the larger ducts.

These patients, if unrelieved, suffer greatly, and eventually die from a combination of exhaustion, sepsis, and cholæmia. In the severe type of the disease, the patients die promptly, unless relieved at a very early period, and the autopsies show a septic and often virulent cholangitis, œdema of the liver, and innumerable small abscesses.

In practically all of these cases the stone is a movable one, and the complete obstruction to the flow of bile to the intestine when present is due to swelling and œdema of the mucous membrane, evidenced by the fact that bile is often completely absent from the stools for several days or weeks after removal of the stone.

This fact emphasizes the importance of hepaticus drainage in all cases.

A CASE OF CHOROIDAL INFLAMMATION, WITH PERMANENT LOSS OF VISION, CAUSED BY EXCESSIVE USE OF THE EYES DURING A COMPARATIVELY SHORT PERIOD OF TIME.

[By] D. B. ST. JOHN ROOSA, M.D.,
NEW YORK.

On the 3d of October, 1896, I was consulted on account of impaired vision, by a physician, forty-six years of age, practising near New York City, who gave me the following history:

While attending a patient, a confinement case, where he was obliged to wait for a period of more than twelve hours, he passed, as he thinks, ten hours of the time almost continuously in reading a book or two books printed in rather, but not excessively, small type. He is confident that his vision up to that period was excellent in each eye, for besides his ordinary employment as a physician, he tested his eyes frequently in shooting. On the next morning after this period of reading occurred, he found a blur, apparently over both eyes, but finally he settled down to the conclusion that it was confined to the right eye. It was very disturbing. He considered himself overworked, and he took a trip on the water and was exposed to the glare, without any particular pains being taken to prevent its influence on his eyes. The blur continued about the same during his trip and on his return home. About six weeks after the failure of his sight, he sought my

advice. I found his vision was $\frac{20}{50}$ in the right eye, in the left eye $\frac{20}{70}$, that the vitreous humor of the right eye was hazy, so that no good view could be obtained back of it. I prescribed for him, but finding that he did not grow worse, he did not consult me again until the 10th of January, 1898, when I found exactly the same vision, the right eye, $\frac{20}{50}$, the left $\frac{20}{70}$. He complained of the same subjective blur, which he insisted had never changed since the morning after the exposure of his eyes to prolonged use. I then found, on ophthalmoscopic examination, that the vitreous had quite cleared up, but there were several spots of choroidal atrophy over which the retinal vessels passed. The patient was continuing his occupation as a physician, besides being somewhat interested as a municipal officer in a small city, and had no particular inconvenience, except that he always has what he called a blind spot in his right eye, as at his visit in 1896. On the 19th of December, 1903, the doctor again consulted me, and I found his vision exactly the same with the right eye, rather better with the left, it being indicated by the fraction $\frac{20}{15}$. The ophthalmoscope showed the same extensive choroidal changes—atrophy in the right eye. The left fundus oculi appeared to me to be normal. The patient came at this time to be fitted with glasses for reading, he having become very presbyopic.

Remarks.—Although continuous use of the eyes on small objects is constantly enumerated in textbooks as one of the causes of inflammatory action in the eyeball, such a result is really seldom seen by the oculist. One of the reasons may be that the asthenopia, which generally follows excessive use, usually causes patients to desist from undue occupation with their eyes, before the danger line has been crossed. Naturally, exceptions to this condition are made in the case of myopes, for myopia is itself an inflammatory condition; but I am referring now to persons who start with emmetropic, or hypermetropic, or slightly hypermetropic, and sound eyes. The relation of cause to effect in the case I am reporting is pretty distinct. The observer was intelligent, had good occasion to watch his vision in his occupations, and states distinctly that he never felt the blur until the morning after this continued use. Probably the choroiditis was set up at that time. It is also remarkable, in this case, that the disease came to an immediate standstill, so far as impairing the function of vision is concerned. One would have expected that the choroiditis would advance, as the patient took no extraordinary means to protect his eyes from this danger. On the other hand, his sea trip was just what an oculist would not have advised. It is interesting to note that the retina has not been invaded, to any very considerable degree at least, by this inflammatory action. The process attacked the vascular part of the eyeball, and immediately invaded the vitreous, causing the hyalitis, which was all there was to be seen on the first examination in 1896. It is also interesting to note, as it seems to me, that this is a traumatism rather than an infection of the eye. In later times, with our advanced knowledge in infectious diseases, we sometimes are inclined to ignore primary, mechanical and chemical causes, which apparently produce conditions entirely similar to those from pure infection.

20 EAST THIRTIETH STREET.

German Degree for an American Woman Chemist.—A young lady from Detroit, Miss Mowbray, has received the degree of doctor of science, *magna cum laude*, from the University of Berlin. She is the first woman chemist to whom the university has granted the degree.

Chronic Tonsillitis—G. D. Murray lays stress on the following points: The teeth should receive attention from infancy, also that the tongue when coated should be cleaned as carefully as the teeth. The mouth is a primary cause of tonsillitis and ought to receive simultaneous treatment with the throat. Offensive breath, from microorganisms present in the mouth and throat, *can be eliminated* through the personal effort of the patient. Bad taste in the mouth, particularly before meals, suggests infection of the tonsils, decomposing epithelium débris on the tongue, gums, teeth, and oropharynx—one or all. This filth (in which Sternberg found forty-two different varieties of microorganism) ought to be cleaned and sterilized several times daily by the patient. Diseased tonsils, not necessarily enlarged, and often hidden, no longer act as a barrier to disease, but rather as a germ incubator and ought to be removed. No method of removing the tonsils is a safeguard against dangerous hemorrhage when one operates on a bleeder.—*The Laryngoscope.*

A New Method for Diagnosing Fractures.—Plesch has found that any injury to or disease of a bone impairs its conducting power for sound, and hence modifies the percussion note heard over it with a stethoscope. If one epiphysis of a long bone is percussed while the other is being auscultated, the note is perfectly transmitted if the bone is intact. If it is fissured, the note becomes muffled and a metallic ring may be heard; while if it should be fractured, conduction ceases. In practice it is best to use the epiphyses of the long bones for percussion, though if these are not accessible, the epiphysis of the adjoining bone may be used, as the sound is well transmitted across joints. In cases of fracture by beginning to auscultate distally to the supposed seat of injury, and gradually approaching the point of percussion the spot at which the note first becomes audible indicates the position of the fracture. The author describes in detail the method to be followed for the different bones, and emphasizes the value of the method in such difficult cases as subcutaneous fractures of the cranium and fractures of the neck of the femor.—*Deutsche Zeitschrift für Chirurgie.*

A Lecture on the Mental Disorders Associated with Decay.—G. H. Savage declares that premature senility produces exactly the same symptoms to which ordinary senility gives rise. The mental disorder of premature senility may be induced by worry, but much more commonly it is dependent upon alcohol, and very commonly upon syphilis. The insanities of decay and old age occur at any age—from thirty to ninety. The time of their appearance depends not only upon the hereditary constitution of the individual but upon his surroundings. Although loss of memory is about the most characteristic defect associated with senility, it is not always in direct relationship to decay of the brain. One of the points of characteristic difference between general paralysis of the insane and senile decay is, that in senile decay the memory fails so much more markedly and completely than it does in general paralysis of the insane. Another important point to remember in considering the vagaries of memory among old men, is that you may get an accentuation of the old memories, so that they are brought out more clearly. In senile mania, there is not infrequently great exaltation of ideas, a great amount of boastfulness. Again, some of the most difficult cases are those of senile epilepsy. Probably one of the most common forms of mental disorder associated with senile decay is melancholia in one or other of its forms. One of the not uncommon symptoms of progressive senile decay is hallucinations. A considerable number of patients pass into a state of mental weakness after apoplexy. The writer sums up the most characteristic forms of mental disorder as: simple dementia, loss of higher control, as evidenced in maniacal outbursts and acts of indecent exposure; and finally senile dementia of the hypochondriacal type, which is often associated with ideas of obstruction.—*The Practitioner.*

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THE PROGRESS OF CANCER INVESTIGATION.

THE announcement from London, by three observers, of the discovery of an important fact in the histology of malignant growths, and the corroboration of this discovery by two other gentlemen in a paper read before the Royal Society on January 21, has stimulated our ever-present interest in this matter, and has opened a hopeful path for further investigation. The two last-mentioned gentlemen, Doctor Bashford and Mr. Murray, have been studying the method of cell division in normal and in proliferating cells, and have embodied their results in the paper mentioned above. These results bear heavily against the hypothesis of the parasitic origin of cancer, and in favor of the view that malignant growths are due to perverted cellular growth and proliferation. These observers have devoted most of their attention to the physiology of nuclear division, which, it is needless to say, is the most important part of the process of cell-division, and is a subject which has attracted a large amount of attention during the past few years. In a few words, this new discovery may be described as follows: observation has shown that, during the process of karyokinesis, the nucleus of a typical cell in ordinary human tissue under normal circumstances divides with the formation of thirty-two chronosomes, one-half of which gather themselves about each nuclear pole, and eventually form the nucleus of the new cell, the body of which is formed by one-half of the protoplasm of the original cell. Certain cells in the body, concerned in the process of reproduction, have been found to show only sixteen chronosomes during nuclear division, and to exhibit a different karyokinetic figure from that seen in ordinary cells. When such cells meet their physiological complements the normal number of chronosomes for the particular species is restored, and cellular reproduction proceeds in the usual way. Such cells are said to be gametogenic. The English observers have shown that in cancer cells from various sources sixteen is the usual number of chronosomes, and that in other ways cancer cells resemble the gametogenic cells. They have consequently suggested the word "gametoid" to describe such abnormal growth as is seen in the cells of a malignant neoplasm.

The practical indication of this discovery is that under certain forms of irritation or stimulus the normal cells of the body will change their mode of proliferation, will assume characteristics which do not properly belong to them, and in some of their vital processes will approach those of normal gametogenic cells which are known to be extremely active. When a normal cell acquires such qualities it becomes able to proliferate with great rapidity, to invade surrounding tissue with its cellular progeny, and, apparently, to engraft its abnormal powers upon cells in its neighborhood, not its descendants. Such characteristics are those which, judging them by their results, we call malignant, and this new discovery emphasizes what pathologists have become more and more impressed with, that the study of the most minute and recondite cell processes, is what may sometime lead us to a clear understanding of what malignant neoplastic growth really is, and may perhaps indicate means for the control of such processes.

This discovery does not offer us anything new in therapeusis, but it is an advance in positive knowledge, and as such forms an element in a structure which we may reasonably hope to build to contain the means for a successful contention with the scourge of malignant disease. It may also prove an efficient means for the differential diagnosis of neoplasms, for according to its testimony the cells of a malignant growth ought to contain sixteen chromosomes and those of a benign tumor, the usual thirty-two, for the human species.

The theory that cancer originates in latent embryonal tissue, suddenly stimulated into activity and perverse growth in some unknown way, does not appear to receive any support from the discovery which we are discussing, and in our opinion further investigations will make this theory still less tenable. There is no reason for assuming the existence of embryonal tissue as the basis of a malignant growth when all the phenomena can more satisfactorily be explained by the theory that malignant characteristics are developed in cells of various normal and properly placed tissues by some so far undiscovered stimulation which causes a perverted and luxuriant proliferation. Malignant degeneration may occur in embryonic tissue, but that is clearly not to be cited as proof that embryonal tissue is the only source of malignant disease. Such occurrences mean simply that the embryonal cells have been subjected to the same form of stimulation or irritation which produces malignant proliferation in the case of other cellular tissue.

By this discovery, additional proof of correctness is afforded to the theory that cancer, both carcinoma and sarcoma, has for its basis a form of perverted cell activity which results in luxuriant proliferation, reversion to an atypical course of growth, and the ability to invade surrounding cellular structures, imposing its characteristics upon them. We believe that this peculiar form of activity is caused by some form of stimulus or irritation, but of even the approximate character of this we are so far ignorant. We are not referring now to coarse forms of physical irritation exemplified in the causation of epithelioma of the lip, but to some sort of action not improbably brought about by chemical or physiochemical changes in the blood, which is thus unable to supply the cells of the tissue with their normal nutriment. A most hopeful line of investigation seems to be opened by the discovery announced by our English confrères, and we look forward with interest to further developments. The life history of the cancer cell promises to be most rigidly investigated, and it will be the imperfections in our technique

and the inherent difficulties of the subject rather than lack of enthusiasm which will make our progress halting and uncertain. A fruitful but exceedingly difficult field for work is in the subject of the metabolism of the cells of neoplasms, and any knowledge gained here might assist us to the important goal for which all are striving—efficient therapeusis.

SANATORIA FOR CONSUMPTIVES.

SINCE the time when tuberculosis was recognized as a disease which could be both prevented and cured, the most scientific means have been employed to prevent and treat the malady. Hospitals have been erected for the sole behoof of consumptives, wards have been set apart in existing institutions for tuberculous patients, and the dispensary system of home treatment of those suffering from the disease who are unable to pay, has been initiated in a number of the large towns of the civilized world. Common sense and rational modes of treating and preventing consumption are now in vogue. No longer is the patient shut up in a close, ill-ventilated room, from which all fresh air was rigidly excluded, but is treated by methods exactly the converse. Fresh air and sunlight are now appreciated at their true worth, and their curative value to the consumptive has been of late so frequently demonstrated that even the most skeptical and conservative physicians have been compelled to declare themselves converts to the new views. With the rise and general adoption of these principles of treatment came, naturally, the sanatorium movement. It was felt that in order to get the best results from treating consumption on these lines, special buildings must be erected in which patients would have to conform to certain rules as to diet and manner of living generally.

The leading principle of all sanatoria was that the inmates should breathe all the fresh air possible and that advantage should be taken of whatever sunlight there might be. This complete upheaval of old-time notions was at first received with little favor; it was regarded as but another fad, and predictions were freely made that after the enthusiasm which usually accompanies a revolution had died out, that reason would once again assert her supremacy and we should revert to the old order of things. So far, however, from such being the case, sanatoria have sprung up on every side and have flourished abundantly, and the only fear now is that this method of treatment is being overdone, and that these institutions, instead of being regarded as but one means to the end, are now looked upon as the only salvation of the consumptive and as the only way of checking the spread of the disease. The truth is that sanatorium treatment is most decidedly an important factor in the crusade against tuberculosis, but at the same time it is but one factor. There are other measures to be taken which oppose very largely in bringing the fight to a successful issue.

Dr. Arnold C. Klebs of Chicago read a paper at the annual meeting of the Minnesota State Sanitary Association at St. Paul, December 18, 1902, in which he sets forth his views as to sanatoria and hospitals for consumptives. In his opinion the principal factors of the sanatorium régime are: persistent open-air life, abundant alimentation, hydrotherapeutic measures, and a general hygienic regulation of the patient's daily life, always adapted to the requirements of the individual cases, to be ascertained by constant medical supervision. With regard to the necessity of an open-air life for the consumptive, there is such perfect agreement among medical men on this point that it would be waste of time to dwell on the matter.

Dr. Klebs, however, does not believe in the absolute "Rest Cure" as practised in modern sanatoria, but thinks that with careful selection of cases, many patients could be occupied in some way, useful and diverting to them, without interfering in the least with their progress toward recovery.

As to the alimentation of the consumptive, a considerable diversity of opinion exists. In the majority of German sanatoria it is the custom to stuff the patients, compelling them to eat a certain large quantity of food regardless of their feelings or the condition of their stomachs. The MEDICAL RECORD has more than once commented adversely on this practice, rather believing that a smaller quantity of food well-digested will do the consumptive more good than to overload his stomach. Dr. Klebs, while insisting that it is to the great benefit of a tuberculous patient to eat well, does not mention the subject of forced feeding. He, nevertheless, declares himself in favor of a generous and varied diet, and is of the opinion that a good cook in a sanatorium ought to have a position of greater importance than the head nurse.

The author advocates hydrotherapeutic measures as a factor of the régime of great benefit, and states that they should not be neglected, but must enter naturally into the patient's daily life.

Dr. Klebs ends an interesting and illuminative paper with these conclusions: "The spread of the disease can be prevented by general education of the public about the nature of the disease, and its dangers, its method of spread, about the factors which predispose to the disease, and the importance of hygiene and cleanliness. Such education should address itself chiefly to those whose position gives them influence over others, as parents, teachers, superintendents of industrial companies, and last, not least, physicians. More importance ought to be given to this subject in the curriculum of medical schools. The State or city through its Board of Health ought to investigate and enforce improvements of sanitary condition of private and public buildings, and not only issue, but enforce, anti-spitting ordinances. It should enforce notification of cases of open tuberculosis, or at least advanced cases, and the disinfection of dwellings in which patients with tuberculosis have died. The enforcement of pure-food laws and the supervision of the milk supply belong also here.

"Special dispensaries for tuberculous patients should have offices in the different parts of the city. There applicants could be examined, advised and treated, and the offices could keep in touch with the houses of such patients through visiting nurses. The offices also should supply patients with cuspidors, bandage material and special foods, free or at a nominal price. They should select cases for sanatorium treatment, send advanced cases for isolation to hospitals or asylums, should remove children from tuberculous parents, and by keeping records of the

different cases and their houses, might direct the attention of the authorities in the direction where sanitary improvements have to be enforced."

The *British Medical Journal*, January 9, contains a leading article on sanatoria for consumptives, in which the question is discussed as to whether this manner of treatment has produced the good results claimed for it. "To an enquiry made," says the article referred to, "by a German assurance society with regard to the state of consumptives who had been treated in sanatoria between 1893 and 1897, 1336 replies were received, which were classified as follows: 257, or 19.2 per cent. were dead, 120 or 9 per cent. were unable to work, and 950 were able to work partially or completely." The statistics from Goebersdorf give similar results, while Englemann gives somewhat more satisfactory figures.

The lesson to be learned from a consideration of treatment of consumptives by means of sanatoria, thinks the writer of the *British Medical Journal* article, is as follows: "The natural process of recovery from definite phthisis probably requires three years rather than the regulation three months. For the well-to-do who can afford protracted treatment on sanatorium lines the method is an immense gain; while for the favored few among the poor who can obtain the full treatment for a sufficient time the method is equally of priceless value. For the great majority, however, a three months' course of sanatorium treatment, if it be immediately followed by a return to ordinary life, cannot be relied on to afford lasting relief."

Educating the mass of the people how to prevent the disease is the most important factor in the crusade against consumption. Sanatoria are a useful means of treating those afflicted, but the value of such institutions has been exaggerated. Greater care, too, might be exercised in selecting cases suitable for sanatorium treatment. The early stages of tuberculosis is the only form which is likely to receive marked benefit in sanatoria for the consumptive poor.

Health of the Japanese Navy.

The last report published on this subject gives details of the sanitary conditions of the Japanese Navy during the year 1901. The state of affairs now prevailing in the Far East lends especial interest to everything that concerns the fighting forces of Japan.

It appears that the mean daily force in the Japanese service for the year 1901 was 26,469 persons, showing an increase of 3,172 as compared with the preceding year.

The total number of cases of disease and injury entered on the sick list was 24,954, a ratio of 942.76 per 1,000 of force, being a decrease, compared with the preceding year, of 36.63 per 1,000, but an increase of 238.55 per 1,000, when compared with the average ratio of the last seventeen years—from the year 1884 when the improvement in the scale of diet commenced, to 1900. The average number of men sick daily was 1,602.37 which is in the ratio of 60.54 per 1,000 of force, being a decrease of 2.51 and an increase of 11.40 when compared with the preceding year and with the average of the last seventeen years respectively. The total number of cases recovered was 21,597, giving a ratio of 865.47 per 1,000 of cases, being a decrease of 57.21 and of 46.69 as compared with the last year and the average of the last seventeen years respectively. The number of deaths was 136, which gives a ratio of 5.45 per 1,000 of cases and exhibits an increase of 0.76, and a decrease of 6.00 in comparison with the previous year and the average of the last seventeen years respectively. The death rate per 1,000 of force was 5.14, which gives an increase of 0.55 when contrasted with the preceding year and a decrease of 2.92 in comparison with the average of the last seventeen years. Of the total number of deaths 97 died of disease, 9 from injury, 10 by drowning, and 20 by suicide. The death rate per 1,000 of force was 3.66 in the case of disease, 0.34 in that of injury, 0.38 in that of drowning, and 0.76 in that of suicide.

Of cases of general diseases, those of the respiratory system were very frequent, there having been during the year 1,928 cases, which gives a ratio of 72.84 per 1,000 of force. Nervous diseases were also common and there were 14 cases of kak'ke. Venereal diseases, however, headed the list, the total number of cases under this group amounted to 5,926. Diseases of the digestive system accounted for 5,025 cases.

The total number of injuries was 4,392. The ratio of mortality per 1,000 of force was 0.34.

The total number of persons vaccinated during the year was 9,157. The ratio of success was 41.79 per cent. and that of failure 58.21 per cent.

The entire report is a model of its kind, and is but another proof of the remarkable adaptability of the Japanese.

The Negro as a Patient.

Much has been written at one time or another concerning the negro, viewed from all standpoints. The problem of how to deal successfully with the negro question is one of such surpassing importance that all details in regard to the subject are of interest. There can be no doubt but that many of the ideas prevalent with respect to the black race in the United States are greatly lacking in accurate knowledge, and, therefore, any information which may be forthcoming from reliable sources should be welcomed.

Sometime ago, Dr. C. M. Brady of New Orleans read a paper before the local society entitled "The Negro as a Patient," in which he vividly described the unhappy condition of the negro from a medical point of view and suggested remedial measures. The writer summarized the chief causes of the excessive mortality among negroes as follows: (1) Neglect of the children through laziness and ignorance, especially in feeding children on fermented milk or solid food and considering the resulting illness due to teething, and therefore beneficial. (2) Insanitary surroundings, including poorly built dwellings and insufficient ventilation. Insufficient and poorly cooked food. (4) Insufficient clothing and covering and fire in winter. (5) Loss of rest. The average young negro does not obtain more than two-thirds the necessary amount of sleep. (6) Venereal excesses and untreated venereal diseases, syphilis. (7) Neglect in childbirth. (8) Drug and alcohol habits! Cocaine in wine is drunk to great excess among many of the young negroes of both sexes. (9) Failure to secure prompt medical attention. Failure to carry out medical directions as given.

This is the plan proposed by Dr. Brady to better the conditions of the negro race: (1) That from all negroes that work as laborers, farmers, clerks, mechanics, etc., from all those who earn wages in any legitimate manner, whose gross income from whatever source amounts individually to less than $900 a year, there be deducted 5 per cent. of their income, (2) That one salaried man be appointed in each parish to collect and disburse this fund and to have

supervision over all matters connected with the enforcement of the law. (3) That all employers and people who pay negroes for produce or articles created by them, deduct from their receipts the legal tax, according to this law, and that violations upon the part of either employer or employee be punished with a suitable penalty. (4) (*a*) With the funds thus collected it is suggested that there be employed in each parish such a number of suitable and competent physicians at a satisfactory compensation, that there should be no lack of capable and regular medical attention, all drugs and such necessities to be furnished free of cost to the patient. (*b*) Intelligent negro women of good moral character must be educated in nursing, and sent from house to house at the expense of the board to nurse all serious cases of illness. These women when not engaged in actual nursing must visit homes where there are young children and infants and teach the mother the proper methods of rearing them. They must perform all the usual duties of midwives in normal labor, and be instructed to call in the physician in all cases of labor that seem to be prolonged beyond the usual time. (*c*) In cases of disability from accident or disease, half wages be paid indefinitely until recovery, on the certificate of the physician. (*d*) A pension for old age be allowed to the heads of families when they are no longer able to earn a living. (*e*) A suitable contract to be made with a strong industrial insurance company to insure every individual practically without examination. The parish administrator to pay the dues monthly, or quarterly, by check to the home office, thus saving for the insurance company the heavy expense of writing and examining new business and the still heavier expense of the house-to-house collection of the dues for the old business. In this way a far more favorable rate of insurance can be granted by the company, with larger death benefits. (*f*) That the negroes be encouraged by the State Board to establish banks, factories, mills, and the like, and to furnish the labor and capital themselves. Dr. Brady suggested that a State board be created by the Legislature for the protection and advancement of the colored race, and that police powers be granted its members to enforce the above rules and regulations throughout the State of Louisiana.

In the discussion that followed the reading of Dr. Brady's paper, all the speakers, while agreeing that his scheme was impracticable, were unanimous in declaring that the condition in which the negroes of the South live was a distinct menace to their white neighbors, and was a matter which needed earnest attention.

Some Duties of the Army Surgeon.

The new "International Encyclopædia," which has just been issued, contains a brief article on military surgery, written by Major Louis L. Seaman, late Surgeon First U. S. Volunteer Engineers. The contribution in question presents certain phases of duty not appreciated by the military surgeon, and is of great interest throughout. The writer points out that the army surgeon must possess executive ability and a certain amount of military training, so that in time of action he can quickly organize his assistants and hospital corps, seeing that the wounded are brought promptly from the firing line to the first dressing station, which should be located at the nearest protected spot to the firing line. Here the wounded man can receive all necessary and immediate attention, promptitude in this respect being naturally a matter of the greatest moment. The problem of rapid transportation is also dealt with by the writer, and notice is drawn to the splendid results in the development of this feature which were attained in the war with Spain, by the hospital ships and fast railway train in charge of the surgeons of the American army, whereby many valuable lives were saved.

Perhaps, however, the most notable part of Major Seaman's article is that which treats of the duties of the surgeon when the army is not in action. It is at this period that he must show himself not only a capable surgeon, but "a keen sanitary engineer in the selection of camp sites, of camp drainage, of the location of latrines, in the inspection of all water supplies, the quality of food and its cooking, of the soldiers' clothing and his personal cleanliness. He must be an epidemiologist and a bacteriologist, as well as a student of dietetics and metabolism."

Major Seaman has made a special study of the diet best suited to the soldier when campaigning in tropical climates, and has written considerably on the subject. He is opposed to, what he terms, the iron-clad ration of the soldier, pointing out that this method of feeding has at times led to starvation or scurvy, or has proved an excitant to intestinal disease.

The remainder of the article contains valuable information and presents in condensed form the most salient features pertaining to military surgery.

Acute Ulcerative Endocarditis and Septicæmia Caused by Weichselbaum's Meningococcus.

A septicæmia due to Weichselbaum's meningococcus is believed to be of extreme rarity. Indeed, only in two instances has this microorganism been isolated from the circulating blood during life (Gwyn, Bulletin of Johns Hopkins University, June, 1899, and Salomon, *Berliner klinische Wochenschrift*, 1902, No. 45). Never has this diplococcus been proven to be the cause of a malignant endocarditis. For these reasons the case reported by Louis M. Warfield and John K. Walker (Bulletin of the Ayer Clinical Labratory of the Pennsylvania Hospital, October, 1903) is unique. The illness of the patient extended over a period of five weeks and terminated fatally. When first seen the patient was in a state of delirium with a temperature of 103° F. Shortly thereafter a systolic murmur transmitted to the axilla was discovered at the apex. The total leucocyte count was 11,100 and the Widal reaction was negative. The course of the fever throughout was irregular and septic in character. The total leucocyte count gradually increased. The Widal reaction remained persistently negative. Albumin and casts were present in the urine. No symptoms of meningitis were ever present. Ten days before death 6 c.c. of blood were taken from the general circulation. From this Weichselbaum's meningococcus was isolated. The same organisms were also obtained from cultures made at autopsy from the cardiac vegetations. In both of the cases above mentioned, in which this coccus was obtained from the circulating blood the clinical picture was one of meningitis complicated with inflammatory appearances in several joints. The symptomatology of the present case is so at variance with these that it possesses more than passing interest, since it shows that the result of an infection with the diplococcus intracellularis meningitis is not always the production of a meningitis, but that it may produce a septicæmia and malignant endocarditis, without involvement of the meninges. This at once opens up a new field for investigation in connection with the etiology of these conditions.

Cincinnati Death Rate.—During January 763 deaths were reported to the Cincinnati Department of Health, this being more than 50 per cent. higher than the average for the past fifteen years.

ANNUAL REPORT OF THE STATE CHARITIES AID ASSOCIATION TO THE STATE COMMISSION IN LUNACY.

The eleventh annual report of this commission has recently been published. The reception hospital bill is, perhaps, the most important measure mentioned in the report. This bill proposed to provide for the establishment of a reception hospital for the insane, through the joint action of the State and city of New York. The measure, however, failed to pass the Legislature, owing apparently to the amount of appropriation it carried. Another bill which did not receive the favorable consideration of the Legislature was also strongly disapproved by the association. This was the Bedford State Hospital Bill, framed with the view of establishing a State Hospital for the Insane in the buildings occupied by the New York State Reformatory for Women at Bedford. The association actively opposed the measure, which was introduced in the Legislature to centralize further the control of the State hospitals. The most salient features of the proposed amendment were that "the commission may appoint a treasurer, who shall act as such for all the State hospitals," and that contracts for staple articles of supplies may be entered into "by an agent appointed by the commission for that purpose." "The association felt that this would completely centralize the financial and business management of the State hospitals, and that, although the vast financial powers already vested in the State Commission in Lunacy were not sufficiently safeguarded, the changes provided for in the bill would remove several of the few remaining restraints upon the exercise of these powers."

The bill, notwithstanding the strenuous opposition of the association, was passed by both the Senate and the Assembly, but was vetoed by the Governor.

During the past fiscal year, 1903, the per capita rate of maintenance of the inmates of the New York State hospitals has been $172.55, an increase of nearly $11 over the rate of the previous year. "This increase," says the report, "is to a large extent due to the rise of prices, but is also due in some measure to a rise in the standard of care, especially in feeding and clothing the patients, and to the allowing of necessary and long-delayed repairs and improvements at the various institutions."

More buildings are greatly needed for the accommodation of the mentally deranged in New York State, as on October 1, 1903, there were in the fourteen State hospitals 2,666 patients in excess of the capacity of these institutions as last certified by the commission.

Although the building operations now going on will provide for the present overcrowding, no provision has been made for the future, and it is estimated that within the next three years there will be 3,300 patients for whom buildings must be made ready. This difficulty can be overcome in two ways: First, by enlarging the existing State hospitals, and second, by building new State hospitals. As to new hospitals the association thinks that these should be of two kinds—psychopathic, or reception hospitals in the large cities for the curative treatment of the acutely insane, and for the preventive treatment of incipient cases of insanity; and, large hospitals in the country on the colony plan, for both acute and chronic cases.

The report states that the diet in the New York State hospitals has been somewhat more satisfactory during the past year than during the previous year. With regard to the medical service of the aforesaid institutions, it is stated that an effort has been made to increase the efficiency of the medical work of the State hospitals by bringing them into closer touch with the Pathological Institute, established by the State Commission in Lunacy in New York City, and also by encouraging young men from the medical schools to enter the service as clinical assistants.

There has been, however, some difficulty in obtaining physicians to fill the vacancies which are steadily increasing. The reports of members of the State Charities Aid Association, who, during the fiscal year 1903, visited the various State hospitals throughout New York, are manifestly of great value and interest, but are too lengthy to deal with here. On the whole, the report for 1903 is encouraging, although, doubtless, many improvements might be introduced to the advantage of all concerned, into the management of New York State hospitals. It is, therefore, well that the "sins of omission and commission" which the association have detected should be sharply criticised, for reforms are brought about by such means.

BOOKS AS HARBORERS OF DISEASE.

The *New York Times* of February 8 has an article on the above subject, which is both well written and timely. This is preëminently the age of large free libraries, as it is also of microbes. The germ theory of disease has been evolved within a comparatively recent period, and hurtful microorganisms have been found to lurk in the most unsuspected places. Under these circumstances, then, it is by no means a cause for surprise that attention should be called to the menace to the general health afforded by the much-used public library and especially by the lending libraries. It is easy to conceive that epidemics of contagious and infectious disease may be quickly spread by the agency of contaminated books, and it is likewise hard to see how such occurrences can be entirely prevented. Books may be sterilized and disinfected, and yet may be full of noxious germs. The editorial in the *Times*, however, points out that the recent investigations of German microscopists concerning the number and variety of malevolent microorganisms found in colonies in the bindings and between the covers of books from the public libraries, are not, as is supposed by many, new discoveries. The fact has been known almost for as long a time as bacteriology itself. The multiplication of libraries of late has brought the danger resulting from the circulation of books more prominently before the public, and the question now is how to minimize this danger. Sterilization even when effective, is difficult to apply with success to books, and the problem presented does not lend itself easily to solution. Books, or at least some books, improve the mind, but when they, at the same time, injure the body, the reading public may truly be said to be on the horns of a dilemma.

Pittsburg's Unenviable Typhoid Record.—A comparative list of typhoid mortality of all cities in the United States of over 30,000 population for the years 1888–1891, inclusive, shows Pittsburg to be at the head of the list for that period, and Allegheny fourth. In the report of the joint commission in 1894 a table of typhoid-fever mortality for the five years, 1888–92, showed Allegheny at the head of the list and Pittsburg fourth. The two cities showing as great a mortality as that of Pittsburg in this table were Lowell and Lawrence, which have since applied the remedy. The census of 1880 showed the typhoid-fever rate per 10,000 population to be greater in Pittsburg than in any other city in the United States, Nashville being then a close second. These statistics leave no doubt of the fact that Pittsburg has for a quarter of a century suffered more from typhoid fever than any other city in the country.—*Pittsburg Despatch.*

News of the Week.

Our Minister to Korea.—The United States Minister to Korea is Dr. Horace Newton Allen, formerly of Delaware, Ohio. Dr. Allen, who is forty-five years old, is a graduate of the Ohio Wesleyan University, at Delaware, and of the Starling Medical College, in Columbus, and the Cincinnati Medical College. Twenty years ago, immediately upon his graduation from the Cincinnati Medical College, he was appointed by the Presbyterian Board of Missions as a medical missionary to Peking. He remained in China for a year and then went to Seoul. Here he gained favor with the court by his successful treatment of one of the princes. When the Korean legation was established here in 1888, Dr. Allen accompanied the officials to Washington and remained two years. He returned to this country again in 1893 to take charge of the Korean exhibit at the Chicago World's Fair. In 1894 he was made secretary of the United States Legation at Seoul and in 1897 was appointed minister.

Misfortune of the "Maryland Medical Journal."—We regret to learn that the February issue of this journal was destroyed in the Baltimore fire. It was devoted in large part to an account of the Tuberculosis Exposition, an elaborate and most valuable report of the exposition having been especially prepared for it.

Visit of Health Officers to Mexico.—The delegates from the boards of health of Alabama, Mississippi, Louisiana, and Texas have returned from their visit of inspection and conference in Mexico. The only formal proposition submitted by them to the Mexican health authorities was an agreement authorizing health inspectors of the four States, and also officials of the United States Public Health and Marine-Hospital Service to inspect any district in Mexico where yellow fever might exist or be suspected to exist for the purpose of investigation, and to determine the necessity of enforcing the quarantine regulations at the border. Dr. Licéaga said that the Supreme Board of Health of Mexico would take the proposition into consideration, and would make such recommendations as might seem warranted to their Government.

Possible Closure of the New York Eye and Ear Infirmary.—At a meeting of the Board of Directors of the New York Eye and Ear Infirmary, held February 10, a resolution was presented for consideration which suggests the closing of the hospital. The resolution fixes May 1 as the date for closing, this action being forced upon the directors by an increasing indebtedness. The expenses of the institution, it is stated, exceeded the receipts for the past year by $22,000, and the deficit of nearly $2,000 a month continues. The Infirmary has been in existence for eighty-four years.

A Gift to the Library of the Academy.—The Library of the New York Academy of Medicine has received, through the generosity of Drs. Alexander Lambert, Abraham Jacobi, Andrew H. Smith, Alfred Meyer, D. B. St. John Roosa, Robert W. Taylor, Walter B. James, Reginald H. Sayre, and Edward G. Janeway, a perfect set, in fine condition, of the "Acta Eruditorum," the first literary journal published in Germany. It enjoyed a long existence and great popularity. Otto Mencke began the publication of the journal in 1682. Its object was to give a faithful and particular account of books; and it was conducted on the same plan, even after a better taste in composition and greater independence were introduced into literary discussions in the French journals published in Holland. The German journal began, however, gradually to decline in value and in the number of its subscribers, particularly after 1754; and the irregularity of its appearance became at length so great that the last volume, that for 1776, was not published until 1782, exactly a century from the time when the journal was commenced. The whole set consists of 117 volumes in 4to, including the supplementary volumes and indices. Leibnitz, in this journal, first gave to the world his notions respecting the differential calculus. All the most important German medical articles of this period were published here, and also reviews of the medical works of this period.

Prevention and Suppression of Typhoid Fever.—Rules and regulations have been prepared by the Illinois State Board of Health relative to the prevention and suppression of typhoid fever. Copies of them have been sent to all the newspapers in the State, and to every county, township, village, and city health officer, and they will also be distributed among the people by the local health officers.

Red Cross Activity.—On the initiative of the Marquis de Vogue, President of the Naval and Military Volunteer Ambulance Society, the committee of the Red Cross in Paris met February 13, to take measures for affording assistance to the wounded of the two belligerent powers. From St. Petersburg it is reported that the American and English women there have started on the preparation of materials for the Red Cross Society with an enthusiasm equal to that of the Russian women engaged in the same work. Various committees effected a general organization last Sunday at a meeting held in the Anglo-American Church.

Typhoid Fever is prevailing epidemically in Watertown, N. Y. The source of infection is believed to be the city water supply derived from Black River, since the fever cases are widely scattered throughout the city, not a single street being without one or more cases. Inspectors are to be appointed to investigate the cause of the pollution of the river.

Report of the Chicago Pasteur Institute.—The director of this institute, Dr. A. Lagorio, reports that since the institute was opened, July 2, 1890, 2,026 patients have received the anti-hydrophobic treatment. Of these, 1,807 had been bitten by dogs, 76 by horses, 57 by cats, 19 by cows, 18 by skunks, 25 by other animals, and 22 were infected by hydrophobic human beings. Of individuals bitten by animals absolutely known to have been rabid, 982 were treated; of patients bitten by animals presumed to have been rabid because of symptoms of disease during life, 776 were treated, while 268 cases were cared for in which rabies was suspected. Only seven deaths were reported, a mortality of 0.34 per cent. Six individuals abandoned treatment, two of whom subsequently died from hydrophobia.

Ambulances for Japan.—Two hundred and thirty-six ambulances were shipped from Indianapolis last week for Japan. They were loaded in 118 flat cars, each car holding two ambulances.

College of Physicians of Philadelphia.—At a stated meeting, held February 3, Drs. John H. Musser and W. W. Keen presented a communication entitled "A Successful Operation for Perforating Ulcer of the Stomach in a Patient Past Seventy Years Old." The patient was a woman, who, for some time, had presented symptoms of gastric ulcer, with excessive acidity of the gastric juice. Symptoms of perforation developing, a diagnosis was agreed upon, and operation undertaken within five hours. The perforation was found at the pylorus, and by reason of the conditions present, a communication was estab-

lished at this point with the colon. A second case was referred to in which operation within twelve hours of the accident was followed by recovery. In both instances the result was favorably influenced by the fact that the patients had taken only albumin-water in advance of the accident, and the stomach was practically empty. On the other hand, the danger of underfeeding in cases of gastric ulcer was pointed out, on the ground that if the usually hyper-acid gastric juice is not made use of by food, it will proceed to digest the stomach itself and thus lead to peroration.

A Secretary of Public Health Indeed.—Congressman Baker of Brooklyn has introduced a freak bill providing for forty-five executive departments of the Government to look after all the needs and desires of American citizens. Of a piece with the rest is the section regarding the Secretary of Public Health, who is directed "to establish bureaus of healing, nursing, burying, and burning for the purpose of preventing and removing the diseases of mankind, as well as for removing pain wherever found, without charge, and to ascertain if possible and faithfully respect the desires of the people and their friends as to the disposition of their dead bodies."

New Cincinnati Hospital.—The Board of Medical Advisors of the Cincinnati Hospital received on February 2 the recommendations of the Medical Staff for the construction of the new hospital. They call for 1,000 beds, with 100 beds reserved for contagious diseases and also a nurses' home for 100 nurses. The recommendations were forwarded to the building Commissioners.

Compensation for Injured Laborers in Russia.—A law providing compulsory compensation for factory employees and miners in the case of all accidents has recently become effective in Russia. In the event of death an annuity is payable not only to widows and legitimate children, but to illegitimate children and to the mothers of such children and also to adopted children, the annuity to equal the wages of 260 days per annum, although the average of working days numbers only 220.

Crowded Hospitals.—The public hospitals in this city have been filled to overflowing with sufferers from pneumonia and other diseases commonly ascribed to exposure to inclement weather conditions. In many of the larger hospitals patients are lying on mattresses on the floors, and the smaller ones are obliged to refer many applicants for admission to other institutions.

The New York State Hospital for Tuberculosis, now in course of erection at Raybrook, will, it is believed, be ready for occupancy in April.

Dr. E. S. De Puy of Fruitvale, Cal., author of "The Courage of Ming Foo" and other works of fiction, is reported to have abandoned the practice of medicine for a literary career.

Bequests to Hospitals.—In the adjudication of the estate of the late Henry C. Cochran of Philadelphia bequests were allowed as follows: Pennsylvania Hospital, $10,000; Presbyterian Hospital and University of Pennsylvania, each $5,000; Gynecean Hospital, Polyclinic Hospital, Medico-Chirurgical Hospital, Home for Incurables, Sanitarium Association, each $1,000; Philadelphia Dispensary, Northern Dispensary, each $500.

Dr. Seymour Oppenheimer has been appointed laryngologist and otologist to the Mt. Sinai Hospital Dispensary.

Physicians Drowned at Manila.—A despatch from Manila reports that during a storm in the night of February 9 a native sailboat that was returning from Alabat Island with a party of Americans on board capsized and sank. Dr. H. Tetamore, a contact surgeon; Dr. J. Williams, a board of health inspector, stationed at Autimonan, and Burch and Grace McGrew, both teachers, from Auburn, Neb., were drowned.

American Nurses for the Japanese Army.—Dr. Anita Newcomb McGee, who organized a corps of nurses which did duty in Cuba in 1898, and afterward in the Philippines, has offered to fit out a nursing staff for service with the Japanese Army. This offer has been accepted by the Japanese Minister in Washington, and Dr. McGee will leave early in March with ten or twelve nurses to establish a field hospital with the army in Japan. Committees of women in various parts of the country will be formed to raise money for the support of the nurses. If the subscriptions warrant, other nurses will go.

District Appointments in Cincinnati.—Dr. J. W. Hall has been appointed District Physician for Cincinnati's Eighth Ward to replace Dr. C. W. Dawe resigned, and Dr. Frank C. King to replace Dr. J. T. McKibben in the Fourth Ward.

Measles Epidemics.—Measles is epidemic in Hope, Ind., and Findlay, Ohio, over two hundred cases having been reported in each of these places.

Typhoid Fever Decreasing in Cincinnati.—There has been a decided decrease in the number of typhoid-fever cases reported in Cincinnati for the past week, 50 new cases and 11 deaths as compared with 122 new cases and 15 deaths the preceding week.

The Masonic Home at St. Louis has drawn plans for the erection of a medical and surgical infirmary in connection with its building as a home for aged masons. The building will be one story, 100 x 50 feet, containing eight wards, operating room, office, and rooms for nurses. Dr. A. C. Leggat, attending physician to the Home, will have charge of the new addition.

An Insanitary Dairy.—Inability to reconstruct a dairy to conform to the city regulations of St. Louis has caused the proprietor to go out of business. An inspection of the dairy showed that the drainage was bad, the water supply unsatisfactory, and the stables and barns ill ventilated. Typhoid fever developed in some of the families who patronized the dairy. Strict orders were issued to put the grounds and buildings in perfect hygienic condition, but the proprietor said he was unable to do this and the dairy was therefore closed.

Pneumonia has prevailed in St. Louis in a peculiarly fatal form for the last ten days. Many have been attacked and not a few have succumbed to the disease. The climatic conditions seem to favor the development of pneumonia, the weather being cold and cloudy for several days, then followed by a warm season, which caused many people to disregard ordinary precautions. In the fatal cases the disease runs its course in from forty-eight hours to seventy-two hours.

Offers of Assistance Declined by the Japanese Red Cross.—Dr. Nicholas Senn, who offered his services to the Red Cross Society of Japan has received a reply from Baron Hashimoto to the effect that the organization has not the power to accept the proffer of assistance. Dr. Senn states in explanation that the Japanese Red Cross Society is one of the best in the world and is able to take care of all wounded for many months to come.

Obituary Notes.—Dr. EMILE A. DE SCHWEINITZ, chief of the biochemic division of the Bureau of Animal Industry of the Agricultural Department and dean of the Medical Department of Columbia University, died of uræmia at his home in Washington, February 15, in the thirty-eighth year of his age. He was born in Salem, N. C., was educated in the Nazareth

Hall, Pa., High School and the Moravian College of Bethlehem, Pa., and was graduated from the University of North Carolina in 1882, receiving the degree of Doctor of Philosophy at Göttingen, Germany, in 1886, and Doctor of Medicine from the Columbian University in 1894. He was United States delegate to the Fourth International Congress on Tuberculosis at Paris in 1898, and in Berlin the following year. He held the same appointment to the International Medical Congress and Congress for Hygiene at Paris in 1900. He was a member of the International Applied Chemical and Biological Society, the German Chemical Society, the French Society of Pure Chemistry, and practically every American scientific society of importance. Although a comparatively young man, Dr. De Schweinitz had won an enviable reputation as a bacteriologist. He was an earnest scholar, an investigator of much originality, and a prolific writer on bacteriology, hygiene, and orrhotherapy. Tuberculosis was seemingly his favorite subject of study.

Dr. EDWARD C. RUNGE of St. Louis died at his home on February 9. He was ill only a few days succumbing to an attack of pneumonia. He was born in St. Petersburg in 1857 and received his education at the University of St. Petersburg. He was graduated in Medicine from the St. Louis Medical College in 1891. In 1895 he was appointed Superintendent of the St. Louis Insane Asylum and was retained in this position through the administration of three mayors of the city. A little more than one month ago he retired from his position and entered private practice.

Dr. HENRY LYLE SMITH of Hudson, N. Y., died February 11, at his home in that city, at the age of sixty years. He was a graduate of the College of Physicians and Surgeons in this city in the class of 1864, and began practice in Hudson in 1867. He was a member of the Medical Society of the County of Columbia, of the Medical Society of tye State of New York, of the New York State Medical Association, and of the Society of the Alumni of Bellevue Hospital.

Dr. MAXIMILIAN G. RAEFLE, who served in the Medical Corps of the navy in the Civil War and who was for several years deputy coroner in this city, died of apoplexy on February 12. Dr. Raefle was born in Baden, Germany, in 1836, and was graduated from the Humboldt Medical College, St. Louis, in 1861. He served under Admirals Farragut and Porter in the Civil War.

Dr. JOHN MERCER ADLER died of apoplexy at his home in Devon, a suburb of Philadelphia, on February 12, at the age of seventy-six years. He was born in Georgetown, D. C., and was educated in Georgetown College and Princeton University. Studying medicine at Columbia University, he was graduated with the class of 1847. Immediately after this he went to Colon, being connected with the Panama Railroad. Three years later he returned to this country, going to Davenport, Iowa., as chief physician of the Military Hospital there, and was in charge during the entire Civil War. With the close of the war he went to Philadelphia.

Dr. CHARLES AUGUSTUS WHEELER of Leominster, Mass., died in the Massachusetts General Hospital, Boston, on February 11. He was born in Fitchburg in 1836 and received his medical degree in 1857. He served in the medical corps of the Union Army during the Civil War.

Dr. CHARLES W. DODD of Cincinnati died of apoplexy at his home in Mt. Auburn, on February 7. He was born in Cincinnati, forty-four years ago, and was graduated from the Medical Department of the University of Michigan in the class of 1884.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

BART'S; THE CITY MEETING—OUT-PATIENT ABUSE—MOORFIELDS, QUESTION OF FINANCIAL MANAGEMENT—INSTITUTE OF MEDICAL SCIENCES—RESEARCH FUND FOR THE HOSPITAL FOR PARALYSIS—PICRIC ACID POISONING.

LONDON, January 29, 1904.

THE city magnates assembled in great force on Tuesday, filling the Egyptian Hall of the Mansion House (many, indeed, being obliged to content themselves with standing room) in response to the invitation of the Lord Mayor to meet in furtherance of the appeal for St. Bartholomew's Hospital. The great hospital is within the city and the city is very proud of its noble charity. The appeal to the wealth of the city was, therefore, sure of hearty support. The treasurer of the hospital, Sir Trevor Lawrence, son of the great Bart's surgeon, was the first speaker. He held that the question of the site was thoroughly thrashed out by the Mansion House Committee last year—which was practically unanimous in favor of retaining the present position. It was a rare circumstance for a great charity to occupy the same site for 800 years. It had been suggested to divide the hospital, but that would involve many difficulties and the destruction of the school. This latter was the next most important thing to the treatment of the patients. Sir Trevor further said the value of the site had been greatly exaggerated. The circumstances were not the same as when the Christ's Hospital land was bought; then two would-be purchasers were in the field—now they would have to be compulsory sellers of the present site and compulsory buyers of another. On the present site seven million patients had been treated in the last fifty years. The present buildings were erected 150 years ago, and though altered as required from time to time, were rather antiquated. Certain departments required immediate attention. Six new blocks of wards, an isolation block, and other buildings were wanted. It was estimated that £438,000 would give them an entire new hospital. The income for the last ten years averaged £67,000 per annum. But the purchase of the additional land, that had been made, so reduced the capital that the loss of income would be about £6,000.

The Bishop of London moved a resolution approving the decision to reconstruct the hospital on its ancient city site, and said he was following the best traditions of his office, for a prebendary of St. Paul's founded the hospital, a bishop of London found the land, and the lord mayors and bishops had worked together for it for 800 years. As to the site he was content to take the verdict of the sixteen honest men who went into that question. He could imagine a plausible plea for removing St. Paul's on the mere ground of the value of the site.

Sir Wm. Church (president R. C. P.), who had been connected with the hospital for forty years, seconded the resolution and spoke of the 40,000 workers who came into its neighborhood daily, among whom accidents were sure to occur. So the heavy city traffic was another cause of the influx of patients.

Mr. Tweedie (president R. P. S.) supported, asking that the historic and sentimental interest in the hospital should be remembered, and what would not New York give to have in her borders such an institution, in which Harvey and Hunter worked?

Dr. Gee also supported, and declared antiquity did not mean decrepitude, but in this case was a sign of perennial youth.

The resolution was carried with only three dissentients and then Mr. Alban Gibbs, M.P., moved one commending the appeal, which is the only one for 150 years, to the public. As to the city, he said it was not a charity, but a duty to give.

The master of the Mercers' Company, who seconded said one of his predecessors, Sir Richard Whittington helped to restore the hospital, and 150 years later Sir R Gresham, when Lord Mayor, petitioned Henry VIII, who gave back the charter and part of the estates. His court supported the present movement, and the city guilds could not use their wealth better.

The chief rabbi, Sir Hart Dyke. M. P., and Mr. Bowlby supported, in appropriate speeches, and the resolution was carried with three dissentients.

Sir W. Treloar said the committee had already received money or promise, to the extent of £40,000, including £1,000 from the Queen. A vote of thanks to the Lord Mayor concluded the proceedings.

The question of hospital abuse is raised afresh by the appeal, for it has been put forward that 150,000 out-patients are attended in the year. But who does not know that this figure does not represent the very poor, but wage-earning people who could well afford to pay the

moderate charges of the struggling young general practitioner? This boast of great numbers is very misleading.

Appeals for funds for our hospitals are always being made, but at the present time they seem more numerous as well as more urgent, than usual. It seems unfortunate that so many should be made simultaneously, for the most generous of contributors can scarcely comply with all at once, and there is great difficulty in discriminating. The question of hospital abuse mentioned just now will become more urgent and the public will be obliged to consider it.

Among the hospitals in urgent need let me to-day select the Royal London Ophthalmic, more commonly known as Moorfields, though no longer situated in that locality.

When it was proposed to buy the present site in the City Road and build the present hospital, I pointed out the danger of the financial difficulty which is now pressing on the management. It seemed to me an extravagant plan to build on a site, at a rental of £1,210 per annum, to which rates are to be added of nearly £1,000 more. The old Moorfields was only rated at £55, and those who thought rating authorities would give up their claim, must have been strangely optimistic. The managers, however, were infatuated, and are now landed in a heavy debt. The generosity of the public will not be wanting, but the example of recklessness should serve as a warning to other managers. The King's Hospital Fund, in its last report, says "this hospital should receive more support from the public," and as regards the current expenses, I cordially endorse the statement. At the same time, the object lesson should not be lost sight of. Old "Moorfields" was long the Mecca of ophthalmologists. They flocked to it from all countries, and the staff is still carrying on the traditions of this great special school. This is its centenary year, and so many of your readers are familiar with its work they may be interested to learn that it was established in Charterhouse Square chiefly to meet the needs of the sufferers from ophthalmia in the Egyptian campaign. In 1821 it was removed to Moorfields, and the present new buildings were opened in 1899. It has special claims on the public, and I hope they will soon be met, but none the less its difficulties should be a warning to managers of other charities, who are far too ready to rush into debt. In fact this propensity of hospital managers is a crying evil.

The appeal of the Senate of the University of London for funds to build and endow an institute of medical sciences has received the support of the general hospitals in the form of a letter from the several chairmen or treasurers addressed to the chancellor of the university.

An appeal has been issued by the National Hospital for the paralyzed and epileptic for contributions toward establishing a research fund. So many visitors from your side have seen the work carried on at this hospital that I am sure they will be glad to hear that the appeal is successful.

Picric acid has been so freely used in burns that it may be well to remember that symptoms of poisoning may be produced. Two such cases were recorded by Dr. J. S. Rose in the *Scottish Medical and Surgical Journal* for December. An ointment was employed of the strength of half a dram to the ounce—certainly rather strong. A solution of 1 per cent. is more commonly prescribed, and some have used the dry powder.

OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

PROVINCIAL HOSPITALS—COMPARATIVE MORTALITY AMONG THE RESIDENTS OF MANILA—SPECIAL INSTRUCTION FOR MEMBERS OF PROVINCIAL BOARDS OF HEALTH.

MANILA, December 31, 1903.

The Board of Health is about to establish and operate twelve hospitals in the provinces, to be located at points throughout the archipelago, which are centers of populous districts, and on ready lines of communication. Where practicable, suitable buildings will be rented for hospital purposes, and this can be done in about two-thirds the cases. In the remainder it is proposed to construct modern hospitals on the pavilion plan. Each hospital will have of fifty beds' capacity, and have facilities for the treatment of both whites and Filipinos. There will be an American and Filipino physician assigned to each hospital, with one or more white trained nurses and a further personnel of Filipinos. The hospitals will be fully equipped and modern in every way. They will be a great blessing to Americans in the provinces, as well as to the Filipinos, who are now in many places unable to secure proper medical attendance or hospital treatment. To the shame of Spain, there was not a single hospital in the Philippine Islands outside of Manila, before the arrival of the Americans. The friars, who absorbed such a vast proportion of the wealth of the islands, made little effort to return a part of it to the class from which it was derived, by instituting hospitals and dispensaries in the name of humanity. In fact, the attitude of the Spanish Government was to ignore the needs of the Filipinos, and of the Spanish friars to belittle modern medicine, and teach that disease and death was a punishment from heaven, only to be averted by prayer. The new hospitals will be free to the poor, but a small charge will be made to government officials and others able to pay for the same. It is proposed to operate a dispensary and out-patient department in connection with each hospital, under the native resident hospital physician, while it is intended that the American physician shall also act as the immediate local agent of the insular board of health and supervise sanitary work by the provincial health boards in the several provinces assigned as his hospital district. Such immediate supervision over provincial sanitary work is much needed in order to properly direct the efforts of the provincial sanitary authorities, and prevent them from falling into the official lethargy but too common to the natives of these islands. The general organization and function of the provincial hospitals in the provinces will be similar to those operated in Formosa, where the Japanese have ten such hospitals, one of as much as 170 beds' capacity.

The report of the Board of Health for the month of October shows that the rate of mortality among the Filipinos in the city of Manila was nearly five times greater, and among the Chinese two and one-half times greater, than the death rate for the combined American and European population of the city. These facts reflect the value of the more hygienic modes of life of the latter class. Inoculation of the Chinese population against plague was resumed during the month, with the purpose of completing the immunization of this class of the population by December 31. A list of every house in which plague has ever occurred has been prepared, and, together with those in their immediate vicinity, reinspected and ordered put in proper sanitary condition before the same date. Rat-catchers have been directed to devote special effort toward the extermination of rats in such houses and their vicinity, and a total of 21,928 rats were thus destroyed during the month. The sanitary situation in the city of Cebu being unsatisfactory, the insular board of health took all health matters out of the hands of the local board of health and assumed direct control of all sanitary matters through a committee appointed for the purpose. For the purpose of promoting greater efficiency on the part of provincial and municipal sanitary officials, more rigorous inspection of their work was ordered, and efficiency records were established for securing better knowledge respecting the efficiency, aptitude, attention to duty, personal habits and fitness for promotion of these officials. The sanitary authorities have also established a course of instruction, by object lesson, in Manila, for the presidents of provincial boards of health throughout the islands. Few of these men have been outside of the Philippine islands, and they have had no opportunity to familiarize themselves by practical experience with modern methods of sanitary procedure. The course of instruction is wholly practical and covers a period of four weeks. Small classes are ordered up every month, and it is expected that in six months all the forty provincial health officers will have completed the course of instruction. The course includes six days as assistant at a district sanitary station, observing its general management, house, and food inspection, disinfection, plague inoculation, rat-catching, and the treatment of plague and cholera houses, the service of sanitary orders, diagnosis and transportation of infectious cases. Three days are spent in instruction in port quarantine and ship disinfection, under the chief quarantine officer. Two days are employed with the inspector of plumbing and the chief of the pail conservancy system, observing the methods and appliances in use for the sanitary reception and disposal of excreta. Instruction is given for two days by the veterinary surgeon in clinical and post-mortem diagnosis of the epidemic diseases of live stock, and the examination of animals and carcasses at the abattoir. Two days are spent at the Serum Laboratory observing the methods of preparing serums and vaccine virus, also of inoculating against rinderpest, and the use of fungus in destroying locusts. One day is spent with the city vaccinators, observing methods of vaccinating and maintenance of records. Six days are spent at the San Lazaro hospitals, observing the management and equipment of the plague, cholera, smallpox, leper, women's morgue, crematory, and steam disinfecting departments; the treatment of the sick, and the method of making post-mortem examinations and disposal of the dead. Finally, two days are spent in the office of the secretary of the Board of Health, to observe the method of keeping records, the calculation of vital statistics and the preparation and use of reports; also to be present at meetings of the the Board of Health and note methods of procedure.

The officials under instruction are expected to profit as far as possible by the opportunities afforded under the

above course, are required to take notes, and will be called upon to render a report at the conclusion of the course to show the professional benefit derived therefrom. The industry, zeal, and aptitude of each man will also be reported upon and entered in his official record for consideration in connection with future retention or promotion. Travelling expenses to and from Manila are allowed, and per diems of two dollars authorized for expenses for each day while under instruction.

THE EXAMINATION OF STOOLS FOR SOLID BODIES.

To the Editor of the Medical Record:

Sir: A few weeks ago Dr. Howard Lilienthal described, in the Medical Record, a "Simple method for examining the stools for gallstones and other solid bodies." His method is a very good one, but I do not suppose he will object to hearing of another and more simple manner of "doing a dirty job" neatly.

The plan I have used for a number of years is the following, and its simplicity will commend it to physician, nurse, and patient:

Take an ordinary flour-sifter with handle and wire crank, such as may be obtained at any housefurnishing store for fifteen cents. When needed, the sifter may be placed in a chamber commode, or the bowl of a water-closet, the passage being deposited in it. It can then be set into a chamber and taken to a hopper, or where water can be allowed to run through it, at the same time the crank is turned gently. This quickly washes away the débris from the scybala, leaving only hardened material such as gallstones or foreign matter in the sifter.

Charles V. Cross.

916 Market Street, San Francisco.

SHALL THE GENERAL PRACTITIONER DIVIDE FEES WITH THE CONSULTANT?

To the Editor of the Medical Record:

Sir: The question as to whether or not the general practitioner should divide fees with the consultant presents many matters for consideration. As an ordinary physician who frequently has consultations with specialists, I may be privileged to give my point of view from the practical side of experience. I venture to say that the principle of reciprocal money dealings between the parties concerned is wrong, no matter how it may be explained. In every case in which a pecuniary consideration is entertained the judgment of the interested individual is always biassed. It is the price to be paid for the alleged favor. Thus the most competent man is not always selected. It implies collusion between "grafters." It is easy to see that the patient trusting in the impartial judgment of the man on whom he places the responsibility of deciding the issue does not get fair play. It is not a question of actual fitness to perform an operation, but one in which the highest bidder or the most liberal doler controls the issue. I have always contended that the giving and taking of divided fees is radically wrong for both parties. If the practitioner takes his commission he is either depriving the expert of a fee which the patient is willing to pay for such special service or is loading an unnecessary burden on the payee by an extra item on the bill, the real purpose of which is concealed. This makes the family doctor descend virtually to the position of a mere drummer for his expert friend, while the latter is placed in the still more humiliating position of accepting money under false pretenses.

It has been asked how the practitioner is to be compensated for the temporary loss of his patient? As regards the special work to be performed he has no right to be considered in the matter. He is simply incompetent to perform the work which another can do for him, and for the time being loses all extra pecuniary claim either on the consultant or patient. The bargain from a strictly business consideration is between the two principals concerned, the operator and his subject.

But what about the prestige of the family doctor? Certainly, all round man as he may be, he cannot be expected to be an expert in all branches. It should be no lowering to his pride to say to his patient that a particular case requires special treatment. Far from lowering himself in the eyes of the patient he elevates himself to the position of a trusted adviser and a man of good judgment. The patient is more than ever inclined to trust to his opinion in other like emergencies and feels relatively safer with a man who knows his limit than one who always knows it all. The specialist at work is merely in temporary command. Does any one mistrust the captain of an ocean liner because he signals for a shore pilot? On the contrary such an act always stamps the captain as a safe man in any extra emergency. No dignity is ever sacrificed, as each man has his own place for the time being.

There is often trouble, I admit, in having these relati positions clearly defined. Some of the specialists ha on too long, while some feel as if they own the patient long as his nose, throat, and eyes last. They thus put t client on a new tack, and the female, especially on her o account, may sneak to the new office for treatment of h "womb complaint." This, of course, cannot be help when a dishonorable expert gets into a case. But I ta it that this is an exception rather than a rule. At pres there is no known remedy to make a silk purse out o pig's ear. The condition is wholly one of profit and lo and must be so accepted when the principles of me business and sharp practice govern certain individu Specialist and practitioner each have their place, and they keep them, there need be no reason for any m understanding. They can work legitimately into e others hands by maintaining proper reciprocal relati without mere money from one to the other coming i the transaction. There need be no mixed business i the consideration. The specialist comes in for spec work, and when he has done it he should retire at t earliest possible moment. In any necessary after-tre ment the practitioner should be his right-hand man, a should represent the patient as general counsel. These distinct functions, which should be separately paid for the patient without the necessity of dividing a gene fee. The same rule should be applied to all operati in which the physician assists either directly or indirect Further than this, the specialist can often recomme the practitioner to such patients as may require gene treatment, and thus repay courtesies in a becoming a acceptable manner. If such understandings could ex there would be no need of a back-door "graft" syste which is a disgrace to an honorable profession.

Vindex.

To the Editor of the Medical Record:

Sir: I am one of the large army of hard-working prac tioners whose practice consists of obstetrics, surgery, ve ereal, and children's diseases. But then I have a la family to support, and my expense equals my income. have a life insurance which must be kept up, and this really all I should leave if I die. With me, as with m of my fellow workers, bread and butter comes first. Th high-toned, independent, know-everything chaps, specialists, seem to think, as does your correspond that it is a crime to divide the fee with the general pr titioner. Do we not lower ourselves for the time bei both in the eyes of the patient and surely in the eyes the specialist? Are we not frequently told by the fa that Dr. So-and-so, a specialist, or Professor So-and- will see mother at 4.30 P.M.? Has it not happened others as it has happened to me, that I had a woman labor pains just at the time appointed, and rather th be discourteous, hurriedly sent for my friend across t street to look after my case, and the result was that t family discharged me for neglecting to serve them wh they most needed me. I confess I do ask for and receive part of the consultant's fee. Whose business this? Who regulates my own fees? If I think my co sultation is worth only fifty cents in the office, this do not concern the medical societies or the code of ethi Are there not hundreds of men who attend families f two and three dollars a year? Does this mean that th can live on such paltry incomes? Dr. Robert T. Mor is very wrong when he says: "That if the specialist charg a fee and gives part of it to the physician as a commiss the transaction is in the nature of trade." Evidently I Morris has a great deal to learn concerning the rank a file of the profession, or else he must have an exclusi consultation practice.

One word regarding the interesting letter of Dr. Per Dickie. This gentleman is broadminded and liberal, a surely is the man who sees the point. He says: "It the duty of the specialist to reimburse the general pra titioner, not only for losing the patient but for the sac fice of the patient's confidence." I wish that some o of us would have the backbone to have this statement Dr. Dickie's put in the form of a resolution and sent the medical societies of the State, as I am sure that t voice of the profession would answer "yea" to his not sentiments.

A General Practitioner.

Addition to Presbyterian Hospital of Chicago. Directors of this institution are considering plans f the construction of additions to the hospital. The will include a surgical pavilion and a new out-patie dispensary for the poor. Part of the $500,000 r quired for these additions has already been pledg

SUPPRESSION OF MALARIA ON THE ISTHMUS.

To the Editor of the Medical Record:

: Do you ever listen to suggestions from laymen? ave been reading the article in your issue of Febru- 6 on "Mosquito Extermination an Engineering blem." It seems to me that, so far as the extinction malarial germs from the line of the Panama Canal is cerned, the problem is one which can be solved at an ense immeasurably less than that which would be uired in treating it as an engineering question, pro- d the authorities in charge of the work are able and ng to treat it for a short time in a drastic manner.

s I understand the well-proved theories regarding quitos and malaria, the following facts are established: Malaria is communicated in no other way than by anopheles. (2) The life of an anopheles does not ed ninety days. (3) The fact that a human being malaria in his system can be ascertained positively a microscopical examination of his blood.

seems to stand to reason that if a district infected malaria—that is infested by anopheles—could be utely depopulated for ninety days the malady ld be absolutely exterminated over that district, could be reintroduced only by the coming into it of an beings having malaria. Undoubtedly if the gov- nent undertakes the construction of the canal it will repared to exercise to the full the authority granted e pending treaty. It would, of course, be arbitrary ause a certain amount of hardship to take the steps sary to carry out the suggestion I am endeavoring ake. But considering that the cost of completing construction of the canal is approximately $150- 000, and considering also that the cost of exterminat- the anopheles by almost impossible processes of nage would be enormous, considering also the im- se expense involved by the establishment of hos- ls and other sanitary measures—does the suggestion wild that the government should absolutely de- ate the canal strip during the time necessary to rminate the anopheles in this way? Of course the sit by rail must be maintained, but it would not be cult to take all the precautions necessary to prevent spread of malaria during the ninety-day period. example, it should be provided that all the persons ged in operating the railway should be carefully ined and their freedom from malaria fully proved. the same rule should be applied to the station men others necessarily employed along the route, and they should be required to remain secluded in mos- o-proof houses during all the nights. The passage ains would probably not involve any risk. They ld run in the day time only, and the anopheles is stomed to feed on human beings in the night only. e are other measures which occur to me but which I not mention, by the use of which, with those already ested, the work of exterminating the mosquitos capable nveying the disease could be made thorough and ect. The further steps would be by no means diffi- They need perhaps be nothing more than an exami- on of the blood of all the workmen imported before should be allowed to enter the zone for the purpose gaging in the excavation. Edward Stanwood.

ston, February 9, 1904.

ODE OF INFECTION OF TUBERCULOSIS.

To the Editor of the Medical Record:

As bearing on the atrium of tuberculosis for man, ther generally by the alimentary or respiratory tract, following facts may be of interest:

Havana up to 1901 (I am not familiar with its con- ons since) tuberculosis was prevalent. I find for the years (from 1890 to 1894) preceding the war the hs from tuberculosis were 1,661, 1,573, 1,531, 1,331, 1,366 respectively, the average being 1,492 per annum. average total mortality for these years was 7,058, ing the deaths from tuberculosis over twenty-one per . of the total mortality. The population of the city ng this time was about 200,000. These years are cted because during the years of the war and those diately following the social and sanitary conditions e so changed that they were not average years, and statistics for such years would be misleading—for ance, over 3,200 deaths from tuberculosis are reported 898. The years selected are chosen as being average s.

ow there is not one drop of cow's milk unboiled used lavana—the infinitesimal quantity of asses milk used d not be considered. Milk then can be eliminated as ource of tuberculosis. Butter is not used, and only a d and very mature cheese and to a very small extent. The other animal food before the American Intervention was: (1) Codfish; (2) jerked beef (tasajo) from the Argentine Pampas; (3) beef from central and eastern Cuba; (4) hog products of the United States to a very small extent. Three-fourths of the animal food, however, was codfish and tasajo, both of which should be absolutely free from tuberculosis bacilli. The same should be nearly true of Cuban beef, as it was never stalled—the cattle being half wild. In addition, meat in Cuba is eaten well-cooked, usually in a stew. It is *never* eaten raw.

It would seem then that the introduction of tuberculosis by way of the alimentary by animal products, should not occur in Havana, and yet the figures above show the disease to have been decidedly prevalent—above the average for towns of its size. It may be noted here that during the five years taken, the deaths from tuberculosis in Havana averaged nearly seven times as many as those from yellow fever, yet we have always spoken of Havana as "scourged with yellow fever," while the prevalence of tuberculosis there has attracted little comment.

H. R. Carter, M.D., Surgeon U. S. Public Health and Marine Hospital Service.

Baltimore, Md., February 8, 1904.

Progress of Medical Science.

The Boston Medical and Surgical Journal, February 4, 1904.

Some Conclusions Based on a Study of One Hundred and Thirty-four Cases of Calculus in the Ureter.—Benjamin Tenney sums up his paper as follows: Intermittent pain on one side, with varying amounts of red blood in the urine, are constant symptoms of stone in the ureter. Though the best means of locating stones, the *x*-ray cannot yet give evidence sufficient in itself to warrant us in operating or refusing to operate on certain cases. If a calculus starts from kidney to bladder, it is likely to catch within an inch of one of three places, all of which are accessible to the surgeon through extraperitoneal openings. A single calculus is the rule, but the exception occurs, according to these cases, about once in eight times. The opening in the ureter or kidney pelvis for removal of the calculus should be sutured if possible. Both sorts of suture materials have been used with equally good results, and wounds in both locations apparently heal equally well. The recovery is only delayed if sutures are not used. A calculus in the ureter is a menace not only to health but to life, and its removal is an operation of low mortality, provided it is undertaken before secondary changes appear in the kidneys. The writer concludes his article with a valuable chart of cases.

Decapsulation of the Kidneys.—Edward Reynolds presents the following conclusions which he believes rather tentative: (1) We must admit that our present knowledge of the pathological physiology of renal disease is still defective, but we are justified in believing that nephritis has, as a rule, an infective origin, and probably that the defective renal drainage, due to swelling of the organ within a rigid capsule, plays a part in maintaining the disease. (2) That the cases in which general uræmic symptoms are more prominent than the physical signs obtained on the examination of the urine are unpromising cases for operation. (3) That where the urinary signs and constitutional depression outweigh the distinctly uræmic general symptoms, we may regard the cases as favorable for operation. (4) That where one kidney is mainly or predominatingly affected, a unilateral operation upon that kidney offers an excellent chance of prolonged improvement in health, if not, indeed of ultimate cure. (5) In women, in whom ureteral catheterization involves little trauma and less risk, all cases of chronic nephritis should be subjected to ureteral catheterization and the unilateral ones selected for operation. The writer believes that the ureteral catheter furnishes the only method of segregation of the urine which can as yet be regarded as definite. In women the use of the ureteral catheter is exceedingly easy, and the writer thinks may fairly be said to be non-injurious. In a large series of cases he has never seen an untoward symptom.

Journal of the American Medical Association, Feb. 13, 1904.

New Aspects of Yellow Fever Etiology.—C. J. Finlay reviews the experimental findings of the last three years. It is generally believed that from ten to twelve days must elapse between the bite of the stegomyia of the yellow-fever patient and the inability to inoculate another patient. During this time a series of transformations goes on in the body of the infected mosquito. These are presumably as follows: (*a*) Introduction of young sporozoits sucked up with the blood of the patient. (*b*) Growth of the sporozoits to adult age. (*c*) Formation of schizonts and merozoits. (*d*) Formation of gametes. While in the body of the non-immune, counting from the moment

of his inoculation by the infected stegomyia, the following stages are likely to take place during the period of incubation: (*a*) Localization of the gametes in appropriate sites. (*b*) Fecundation of the macrogametes by the microgametes of the yellow-fever germ. (*c*) Formation of the oökinet and development of the oöcyst in appropriate cells (endothelial)? (*d*) Discharge of free sporozoits of yellow fever into the circulating blood (perhaps too small to be recognized with the microscope). (*e*) Development of the toxæmic symptoms characteristic of the invasion of yellow fever in the inoculated non-immune.

A Consideration of the Neuroses of Status Lymphaticus.—These neuroses are enumerated by A. P. Ohlmacher, who places at the top of the list the sudden death occurring in victims of lymphatism from a wide variety of causes. Secondly the author names infantile eclampsia. Some of the children who have died in the convulsions of teething have been found to have had enlarged thymus and lymph-adenoid hyperplasia. A third neurosis is glottic spasm, and infantile tetany may be mentioned under this head. Finally there is at least a frequent coincidence of idiopathic epilepsy and the status lymphaticus. All cases of the latter diathesis are liable to sudden œdemas, and these may sometimes be the immediate cause of death or may lead onto the various neuroses above enumerated. According to this view, the clinical phenomena would depend on the extent and location of the intracranial œdema, or, in other words, on the portion of the encephalon particularly subjected to pressure. In event of compression of the external portion of the cerebrum various convulsive disorders of the motor apparatus are provoked; when the balance of pressure becomes so distributed as to raise the intracerebral pressure other severer symptoms occur, ending in case of sufficient pressure on the floor of the fourth ventricle in sudden respiratory or cardiac failure.

The Present Status of the Uric Acid Question.—The views of W. Baumgarten are expressed in the following summary: The source of uric acid in mammals lies in the nucleins and their decomposition products, the purin bases. The uric acid eliminated in the urine arises partly from the nucleins and purin bases due to the breaking down of cell nuclei in the body itself, that is, the endogenous uric acid; and partly from the nucleins and purin bases contained in the food, the exogenous uric acid. The amount of endogenous uric acid excreted in twenty-four hours is the minimum which the individual normally excretes; it does not change in quantity, though it varies with individuals; it is influenced only by the mode of life, but in no way by the quantity or character of the constituents of food which do not belong to the group of nucleins and purin bases. The exogenous uric acid is always an addition to the endogenous uric acid, and depends in amount entirely on the quantity of certain purin bases contained in the food. Of the free purin bases only the oxypurins, hypoxanthin and xanthin, increase the uric acid elimination; of the bound bases both oxypurins and aminopurins increase the uric acid; the methylated purin bases do not effect the uric acid elimination, but increase the purin bases in the urine. Of the oxypurins, both bound and free, one-half is excreted in man as uric acid; of the bound aminopurins, some appear one-half, some one-fourth as uric acid. The fraction is in each case independent of the individual, and is practically constant. Uric acid is not an end product of metabolism, but is intermediary between the purin bases and some lower oxidation product which has lost the purin characteristics. This product may possibly be urea, but this is certainly unproven in man and only probably in lower animals. In the carnivora allantoin, in the herbivora glycocol, forms a large portion of the recoverable oxidation products of uric acid.

Medical News, February 13, 1904.

Enlargement of the Phalanges in Rickets: A Report of Two Cases.—Jacob Sobel reports two cases of rickets with enlarged phalanges. In the first case, the first, second, and third phalanges of all the fingers of both hands, and both phalanges of the thumbs were thickened. There was no pain or tenderness on pressure, no œdema of the skin or enlargement of the joints. The phalanges of all the toes showed a palpable thickening, though to a far less degree than those of the fingers. This thickening affected the shaft, and more particularly the middle, rather than the epiphyseal ends. The enlargement of the three middle fingers was more marked than that of the thumb or little finger. This first child was a boy. The sister showed thickening of the phalanges of the fingers and toes, though it was less marked than in the former case. The rachitic manifestations were very marked in both of these cases. The writer has seen, however, several cases of rickets of not unusual severity in which some phalangeal thickening existed. He believes that this condition is very frequently overlooked, owing to lack of attention to the hands and feet.

Treatment of Pneumonia.—Delancey Rochester states that the recognition of the fact that pneumonia is not a local disease of the lungs but an acute infectious fever with its most pronounced anatomical lesions in the lung, gives a basis for the rational treatment of the disease. The writer has recently had an experience that convinces him of the utter valuelessness of the antipneumococcic sera that are on the market, and he believes that until a true antitoxin for pneumonia is obtained, such as we have for diphtheria, the best results will come from recognizing the essentially toxic nature of the disease and treating it along the eliminative supporting lines which he summarizes as follows: (1) The sustaining of the metabolic processes of the individual by the administration of easily digested or predigested foods in small quantities at stated intervals, the administration of large amounts of pure water for eliminative purposes and the administration of oxygen gas by inhalation whenever the absorbing surface of the pulmonary mucosa is involved to such extent as to interfere with proper metabolic oxygenation. (2) Elimination, (*a*) by the liver and bowel through the vigorous use of calomel and salts; (*b*) by the skin through sweats induced by external heat; (*c*) through withdrawal of blood when indicated by right heart-distention. (3) Stimulation of heart by strychnine, alcohol or ammonium carbonate and in suitable cases by the subcutaneous injection of normal salt solution. (4) The local treatment of the lung by leeching, wet cupping, or dry cupping, as indicated.

The Dietetic Treatment of Arteriosclerosis.—Thomas B. Coley presents a most interesting paper on this subject. He declares that in the management of arteriosclerosis we must consider the long course of the affection and the fact that the damage which has been done cannot be repaired. The physician should aim to arrest the process and make the development of serious complications less likely. Whatever his age, the patient with arterial sclerosis is to be regarded as an old man whose work must be of the lightest character and whose life must be made as easy as possible. The writer gives the following suggestions concerning dietetic restrictions: (1) The quantity of food should be greatly reduced, not more than one-half or two-thirds the general average for body weight being required. This amount in detail should be estimated according to the general rules laid down. (2) The quality of the food is important. Proteid foods are to be reduced, but not excluded. Meat should not be taken more than once daily, and then in small quantity. It should be our effort to see that the patient obtains well-cooked food, especially avoiding large amounts of fat or other substances difficult of digestion. Alcohol, tea, coffee, and cocoa, as well as tobacco, are to be forbidden or used with extreme moderation. Excessive water drinking, or drinking large quantities of any fluid must be curtailed. (3) The regulation of meals is important. Breakfast should consist of fruit, a cereal with cream and perhaps an egg, poached or soft-boiled. There should be an interval of five or six hours between breakfast and dinner, and the heaviest meal should be taken in the middle of the day. It is not advisable to place too many restrictions upon what the patient shall have for his dinner. It may consist of soup, fish, meat, and vegetables, but overfeeding is to be strenuously avoided. Between dinner and supper five or six hours should also elapse, and this meal must be light and consist, as breakfast, mainly of fruit and cereals. In general, a comparatively dry diet is indicated, and the patient should eat nothing between meals. Elimination must be kept at its maximum of efficiency, and hygienic regulation laid down in great detail and strictly enforced.

New York Medical Journal, February 13, 1904.

Personal Experiences with the Administration of Nitrous Oxide and Oxygen for Prolonged Anæsthesia.—P. Le Breton tabulates eighteen cases in which the above-named combination of gases was employed for anæsthesia. The longest time of operation was one hour and a quarter. The author believes that the combination is for prolonged anæsthesia satisfactory but limited in application. The wealthy class alone can demand it, because of the cost of materials and the larger fee for the engagement of an experienced anæsthetist. The bulky and expensive apparatus, and the difficult method of administration are not inviting, and the occasional lack of smoothness in the narcosis discomforts the surgeon. Hence the employment of this method will be reserved for anæsthetists in the larger cities, in the case of operations upon the extremities or trunk where the condition of the patient demands an anæsthesia free from danger and practically free from after-effects. The deserving increasing popularity of the gas and ether combination predicts a similar popularity of the use of

gas, oxygen and ether, when the gases are used until the incision is made and after the suturing is begun, and the ether provides complete relaxation and freedom from cyanosis during the operation proper. The contraindications are chronic alcoholism and well-marked arteriosclerosis or cardiac lesions.

Original Research Regarding Human Perspiration.—J. H. Hoelscher describes his method of procuring normal sweat without loss by evaporation and as free as possible from skin impurities, and then describes the peculiarities of the sweat following the exhibition of various remedies. From his experiments, he draws the following general conclusions: First, the hot-air bath causes an aseptic fever despite the antipyretic action of acetanilid, sodium salicylate and quinine, given with the bath; second, the hot-air bath given in uræmic states shows a sweat with increased urea and nitrogen; third, in articular rheumatism, in conjunction with the salicylates, the hot-air bath gives more rapid results and lessens cinchonism; fourth, certain types of myocarditis are benefited by the hot-air bath; fifth, pilocarpine should never be used without the aid of hot applications to the body. So combined, there is no sialagogue and less toxic drug effect, and far more sweating than otherwise; sixth, three cases of catarrhal jaundice were sweated; all the modern tests failed to disclose the presence of bile pigments in the sweat; only the epithelial débris containing bile deposits; seventh, modern sugar tests failed to reveal the presence of sugar in sweat obtained from diabetics; eighth, a case of chronic constipation and indicanuria did not diclose the presence of indol or skatol in the sweat; ninth, regarding the function of eliminating normal and abnormal substances, the skin is not to be compared with the kidneys; tenth, free sweating seems to affect favorably the course of psoriasis. This statement, however, needs to be sustained by more research. Finally so, the effect on other skin diseases. Lastly, 1500 c.c. of sweat contain about eleven and one-half grams of solids (nearly three drachms), one-half organic and one-half organic; about six decigrams (one grains) of urea; and about .47 centigram (eight grains) of nitrogen.

American Medicine, February 13, 1904.

Facial Paralysis.—Norton L. Wilson enumerates various etiological factors possible in relation to facial paralysis. The diagnosis or location of the lesion is important, as the prognosis depends upon its location. As to treatment, electricity should not be applied until the end of the third week, except to ascertain the excitability of the muscles. Then electricity and massage should be used regularly and systematically. If the muscles respond to faradism, that current should be used. If they do not respond to the induced current, galvanism should be used, but only with the galvanometer. Flannel wrung out of hot water or the hot-water bag does something by relieving the stiffness and dilating the vessels for the first few days. The ear and eye should receive the proper attention. Internal medication is of little or no value.

Myxoneurosis Intestinalis Membranacea.—C. A. Ewald states that there are a great many reasons why myxoneurosis is of a nervous nature. The cases are most frequent in women, and are often accompanied by some genital disturbance, coming especially during the climacteric and disappearing when this period is passed. Diet plays a very important part in the treatment. Specially efficacious when simple constipation accompanies the myxoneurosis are the coarse breads; fats, as butter, cream, salads with oil; fatty sauces, gravies; coarse vegetables of the cabbage family; curded milk with plenty of sugar; fruit juices, figs, syrup, jams, prunes, stewed fruits, and fresh vegetables of all kinds. In the cases not complicated by constipation the results of diabetic treatment are not marked. Through better nourishment, however, the hysteria and neurasthenia are directly benefited.

The Prevention and Treatment of Puerperal Infection.—Richard C. Norris declares that autoinfection is a term rarely to be employed, and usually should be reserved for the one who wishes a cloak for his ignorance. The prevention of puerperal infection guided by the most recent results of bacteriology requires a study of three important details of technique: (1) The antepartum toilet of the patient; (2) hand sterilization and the dangers of vaginal examination; (3) the immediate repair of injuries to the birth canal. The writer says that antiseptic vaginal douches are unnecessary, and may be detrimental in normal cases. The use of sterilized rubber gloves is most valuable. The antiseptic solutions should always be made with boiled water. All instruments should be boiled before they are used. Careful inspection should be made of the vaginal mucous membrane from cervix to vulva. It must be remembered that the upper part of the parturient canal is more susceptible to infection. After an early diagnosis of infection has been made, the infected area, usually within the uterus, should be inspected by the finger to determine if possible whether we have to deal with putrid absorption from decomposing débris or the smooth endometrium of septic infection. The appropriate cases for curettage are those in which the uterus contains débris. The writer believes the best results to follow the use of a sharp curette. When the endometrium is smooth, there is no need for scraping. Following curettage, the question of the douche is under discussion at the present time. For putrid endometritus a disinfecting douche is indicated, according to the writer. Strong antiseptics are not only useless but dangerous. Salpingitis that progresses to abscess formation requires evacuation and drainage. Injured or infected ovarian or uterine tumors should be removed after labor. Hysterectomy for puerperal infection is by no means a settled question. Ligation or excision of the uterine or spermatic veins when they are the seat of thrombosis with pyæmic symptoms is the latest attempt to reach by surgery a very dangerous type of puerperal infection. The gravest forms of puerperal infection can very often be prevented by the early recognition of beginning infection and the prompt resort to the well-tried methods of treatment.

British Medical Journal, January 30, 1904.

Infection in Acute Rheumatism.—W. P. Le Feuvre recalls several cases which suggest infection in acute rheumatism. One patient was a railway guard. He used the same room and bed alternately with a fellow-guard. He had scarcely recovered from an attack of acute rheumatism before his room-mate was for the first time in his life similarly attacked. In the latter case there was no trace in personal or family history of any rheumatic taint. There was nothing in the position or neighborhood of the guards' quarters to suggest a cause for the attack. Another case is mentioned of a mother who came to nurse her daughter during an attack, and suffered similarly after about a week's interval. The writer says he has noted two or three similar cases.

Vasectomy for Enlarged Prostate.—Thos. Alph. Buck reports the history of an interesting case. The patient was of fat and flabby physique, aged fifty-eight and married. He was very regular in all his habits. He exhibited symptoms of enlarged prostate. Micturition was frequent both day and night. At times there was almost absolute retention, urine being voided only by drops and with extreme pain and violent strain. The prostate was uniformly enlarged like a medium-sized apple. The condition of the patient was one of chronic invalidism. No catheter could ever be passed, even under chloroform, though there was no stricture of the urethra, or spasm or pain on attempting to do so. The patient insisted upon operation. About one inch was excised from the right vas deferens. The patient experienced no discomfort and was up and about in six days. From this time he has had no difficulty in micturition or occasion to seek medical aid.

Notes on Myiasis.—P. S. Lelean in speaking of flies says that, of more recent years, perhaps the most curious biological contribution is that of Dr. Folker of Guatemala on the gusano worm. He describes the ovulation of this mosquito-like fly. After piercing its proboscis into the skin, it passes the "tail" along it as along a director, and deposits a full charge of ova into the cavity. A boil ensues in three days. From a pathological standpoint, Bruce's recent demonstration of the *rôle* of Glossinapalpalis in sleeping sickness stands alone in importance. As to treatment, the natives occlude the orifice of the cavity in which the larva is contained by a piece of stamp paper; the air-breathing parasite, being thus asphyxiated, can be expressed. The aperture is covered with a tobacco-leaf, the nicotine poisoning the grub. Folker uses a hypodermic of chloroform, which so paralyzes the larvæ that he has by this means expressed as many as fourteen in less than two minutes, a velocity which commands respect. The Dermatobia noxialis (screw worm) is killed in the frontal sinus by carbolic injections of a two-per-cent. solution. In the auditory meatus the larvæ often cause so much tenderness as to make mechanical extraction impossible. A little calomel blown into the meatus is said to cause their death and spontaneous extension. In India it has been found that maggots ingested in mangoes are most difficult to dislodge, a fact not to be wondered at when they survived five minutes' immersion in pure carbolic acid. One patient passed from 50 to 110 larvæ daily for twelve months, and greatly feared their eating through the intestine. One case was cured by enemata terebinthinæ; another was on buteafrondosa, and in a third—parasiticides having no effect—scybala were produced by opium, and the embedded maggots came away by subsequent use of purgatives and enemata. Finally, in huts infected by diptera, if cones of dried pyrethrum powder

be burnt, the flies fall stupefied to the floor, whence they can be collected and burnt.

Berliner klinische Wochenschrift, January 25, 1904.

Syphilis and Tabes.—Erb reviews the pros and cons of the syphilogenic theory of tabes, and reasserts his former views on the subject. The only conclusion that can be drawn from the accumulated statistics is, he thinks, that tabes stands in close relationship to syphilis, and, in most cases, originates solely in consequence of a preliminary syphilitic infection. The question, however, of whether this is its exclusive etiology, and whether every single case of the disease has its origin in a former syphilis, cannot yet be answered in the affirmative, though this is probably the case.

The Active Immunization of Man against the Typhoid Bacillus.—Shiga made observations on the agglutinating and bactericidal powers of his own blood serum and that of a colleague after immunization with free receptors. This was done by injecting the product obtained by mixing a one-day agar culture with 5 c.c. of sterile physiological salt solution, heating for one hour at 60°, keeping at 37° for two days, and filtering through a Reichel bougie. The filtrate was tested to determine the absence of germs. Small amounts (0.05 to 0.5 c.c.) were injected and produced practically no local or general effects. Eight days afer the last injection, agglutination was produced by the author's serum in a dilution of 1 to 640 and in that of the other subject in a dilution of 1 to 80. The difference is referred to the fact that the author had suffered an attack of typhoid fever twelve years previously; preliminary control tests had, however, been negative. The bactericidal value of the sera was also tested and found to be well marked.

The Etiology and Pathology of Tabes, Especially Its Relation to Syphilis.—Lesser seeks to reconcile the various objections that have been brought against the theory of the syphilitic origin of tabes, and the views of the adherents of this doctrine, by considering tabes as belonging to a third class of syphilitic lesions. The group ordinarily considered as secondary lesions comprises the papular manifestations which are found almost exclusively in the skin and mucous membranes, occur in the first few years of the disease, are susceptible to treatment by mercury, and are infiltrations. The tertiary or gummatous lesions are found in all regions, are chronic, and found mostly in the later years of the disease, and are susceptible to treatment with iodides. Under the heading of *quaternary* lesions, the author would establish a class in which interstitial inflammations of a proliferative nature occur and attack the inner organs many years after the initial infection. These are resistant both to mercury and the iodides, and comprise such lesions as tabes, syphilitic contracture of the liver, smooth atrophy of the tongue, etc. By adopting this class of quaternary lesions, the author is able to take up in detail and refute all the objections of the opponents of the syphilogenic theory, and the conclusion he reaches is that most cases are due to the specific infection. Aneurysm occupies much the same relation to syphilis as tabes, and is also comprised in this class of quaternary lesions.

Münchener medizinische Wochenschrift, January 19, 1904.

Eosinophile Cells in Sputum.—Hildebrandt summarizes the conclusions of various writers on the occurrence and significance of eosinophile cells in the sputum. These are very contradictory, but agree in assigning more or less importance to the presence of these cells. The author made observations on a variety of cases, including asthma, acute and chronic pulmonary tuberculosis, acute bronchitis, lobar pneumonia, etc., and found that the cells were present in each in sufficient numbers to render futile all attempts at establishing diagnostic rules. In particular, the presence of eosinophile cells in the sputum is not characteristic of bronchial asthma, nor is it evidence against the existence of pulmonary tuberculosis, as some authorities claim.

Observations on the Diazo-reaction, Koplik's Spots, and the Temperature in Measles.—Müller observed these features in an epidemic of measles in Marburg, in which two hundred and fifteen cases were treated in the polyclinic. The diazo-reaction was found present in nearly all cases at the acme of the disease, but usually it appears only with the eruption, and is therefore not an early symptom. Koplik's spots are a valuable early symptom since they frequently appear on the first day and are found in at least 80 per cent. of the cases. They are not pathognomonic of measles, however, since they were repeatedly observed in rötein also. In most uncomplicated cases the temperature follows the classical course, exhibiting a short, sharp rise in the catarrhal stage followed by an intermission of one to two days and then remaining high for about four days, finally falling by crisis. Types described by Jürgensen were also seen, viz., a gradual remittent rise or a sudden sharp rise remaining continuously high.

Serious Consequences of Deep Cervical Incisions in Labor.—Hofmeier describes two cases in which this method of facilitating delivery, first advocated by Dührssen, had very serious results. In the first case the incisions were made by another obstetrician three years previously. When the patient came under the author's treatment it was found that the cervical canal from its middle upward was the seat of a firm cicatricial stenosis. As no advance in dilatation was made after the patient had been having severe pains all night a careful instrumental dilatation of the cervix was done and the child perforated and extracted. In the other case the author himself, in 1897, incised the cervix, owing to its unyielding nature. The incision was very slight, but furious bleeding was set up which could be checked only after a rapid instrumental delivery had made the parts accessible. Two subsequent deliveries were uneventful, but the fourth was protracted, and owing to the rigid scar tissue the cervix and lower uterine zone were ruptured by the advancing head, and the resulting hemorrhage cost the patient her life. If incisions must be made the author recommends that they shall be antero-posterior and not placed laterally.

French and Italian Journals.

Suture of the Heart.—Georges Renon thinks that all wounds of the pectoral region with considerable hemorrhage, either external or internal, should make one think of an injury to the heart and require immediate surgical intervention. This should be carried out aseptically and as rapidly as possible, suturing the wound round the finger. Drainage is not called for. Venous injections or large subcutaneous injections are to be avoided. The case reported was in a man of twenty-three years with a stab wound in the chest made by a large pocket-knife. Before the operation of closing the wound he was considerably exsanguinated by the profuse hemorrhage. The wound was exposed by a transverse cut and many clots were found and removed. A violent hemorrhage followed, which was only partially controlled by inserting the finger into the wound in the heart. The muscle was quickly sutured and drawn together, completely stopping the leakage, and the pericardium was emptied and sewn up, leaving a small drain. By this time the patient was nearly collapsed, and transfusion was done. The condition of the wound continued good all except a great flow of serum from the pericardium. The patient died the next night. At the autopsy it was seen that the suture had held perfectly and there had been no leakage into the pericardium. The wound, which at the time of operation was thought to be at the base, was found at the apex of the left ventricle.—*La Tribune Médicale*, January 16, 1904.

The Treatment of Uncomplicated Goiter with Intraglandular Injection of Iodized Oil.—Dubar thinks local treatment as practised by rhinologists and ophthalmologists for combating infection is suggestive of possible good results if applied to other parts of the body. The cases of goiter he cites sustain his expectations. He thinks that if there is a local need of a certain substance it may be useless or even dangerous to place it in some other part. The oil used contained 40 per cent. iodine and the dose averaged 5 c.c. per day for ten days. In one of the author's cases after injecting one c.c. in weekly injections for nine times, the goiter had shrunk from 34 to 32 cm. In the second case after six similar injections the goiter shrank from 38 to 35.5 cm. Four injections more reduced it to 34.5 cm. He noted an absence of reaction after the injection, which made him think that in the oil the iodine formed a true chemical compound. The author admits that he had noticed nodes after the injections of iodized oil, but says that these nodes were always reabsorbed.—*Le Progrès Médical*, January 23, 1904.

Grocco's Paravertebral Triangle.—C. Baduel and L. Siciliano state that under normal conditions percussion of the vertebral column shows good resonance as far down as the base of the lungs. This resonance is impaired by the presence of fluid in either pleural cavity. The triangle of Grocco is the triangular area of dulness in the neighborhood of an effusion. This triangle is a very important symptom in the differential diagnosis between pleuritic effusion and pulmonic consolidation and to a lesser degree between pleuritis with effusion and without. The triangular dulness begins at about the same height as the upper edge of the fluid, while in the other two affections there is a margin of the affected area which does not give this sign. But the peculiar feature is that in the pleuritic effusion the triangular dulness is found on the opposite side of the vertebræ to that of the fluid.—*Rivista Critica di Clinica Medica*, January 16, 1904.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held February 4, 1904.

ANDREW H. SMITH, M.D., PRESIDENT.

Action on Proposed Amendments to Constitution and By-Laws.—It was moved and carried that the number of Fellows elected as such shall not exceed one thousand, and at least three-fourths of this number shall be residents of the City of New York. It was also moved and carried that the library should be open to the public from 9.30 A.M. to 1 P.M. and to members of the Academy from 9.30 A.M. to 10.30 P.M. Books can now be taken out by members only when for their personal use.

Lesions Peculiar to the Pancreas and Their Clinical Aspect.—Dr. EUGENE L. OPIE of Baltimore read this paper. He said that to the clinician the characteristic feature of pancreatic disease was doubtless the obscurity of its symptoms. Sometimes extensive destructive changes were unaccompanied by recognizable symptoms. Recognition of pancreatic disease was further complicated by the fact that lesions of that gland were seldom primary but were dependent upon changes in other organs, notably in the duodenum, liver, or bile passages. He said that an understanding of the peculiar pathology of the pancreas and of its relation to that of other organs was therefore essential to the diagnosis of pancreatic disease. He divided diseases of the pancreas into the following two groups: first, those that effect the secreting apparatus of the gland and, second, those which had their seat in the islands of Langerhans and interfered with the influence which those structures exerted on carbohydrate metabolism. He then mentioned some recently demonstrated facts which concerned the physiology of the pancreatic juice, the so-called external secretion of the organ, although their bearing upon clinical medicine and upon pathology might not as yet be evident, they serve to show the complexity of the pancreatic functions. The activity of the pancreatic juice was in considerable part dependent upon the secretions with which it came into contact after it had entered the intestine. He next considered the effects of pancreatic juice when it was diverted from its proper channels into the tissues about the organ, causing the characteristic lesion, but since it was usually confined to the adipose tissue of the abdominal cavity its diagnostic importance was only made manifest when the surgeon opened the abdomen. He referred to fat necrosis, which occurred only in association with disease of the pancreas. Circumscribed opaque white foci of necrosis were conspicuous upon the translucent yellow fat of the omentum, of the mesentery, and below the parietal peritoneum, and were recognized as soon as the peritoneal cavity was opened. He said acute hemorrhagic pancreatitis was most frequently associated with fat necrosis, and suppurative pancreatitis was less commonly found accompanying it. Fat necrosis might also accompany chronic interstitial pancreatitis or obstruction of the pancreatic duct caused by biliary or pancreatic calculi or by carcinoma compressing the duct. In order to explain the relation of fat necrosis to these various lesions it made it necessary for him to describe briefly its pathogenesis. The relationship between cholelithiasis and acute hemorrhagic pancreatitis was entered into. A review of forty-one reported cases in which gallstones had been found in association with acute pancreatitis had shown that a calculus in seven instances was lodged at the duodenal orifice of the common duct, and mechanical conditions favored the penetration of bile into the pancreas. The clinical aspect of certain facts described was the following: (1) The presence of jaundice or the history of previous attack of gallstone colic might give confirmation to the diagnosis of acute hemorrhagic pancreatitis when somewhat indefinite symptoms suggest the presence of this condition. (2) When at operation undertaken for the relief of obscure abdominal symptoms, disseminated fat necrosis indicated the presence of acute hemorrhagic pancreatitis, examination of the gall-bladder and bile passages would in a considerable proportion of cases reveal the presence of gallstones. Another lesion which had its origin in the secreting apparatus of the pancreas was the chronic inflammation which followed obstruction or ascending infection of the pancreatic ducts. He considered another group of lesions that inhibited primarily that influence which the organ exerted on metabolism through the medium of the circulation, *i.e.* the so-called internal function. Clinical observation had as early as 1788 shown that diabetes mellitus was frequently associated with grave disease of the pancreas, but the relationship of the pancreas to carbohydrate metabolism had not been clearly recognized until von Mering and Minkowski succeeded in completely extirpating the organ in dogs, and showed that in a few hours sugar appeared in the urine. The pancreas was essential to normal carbohydrate metabolism. It was evident that diabetes mellitus, or at least glycosuria, might be regarded as a symptom of pancreatic disease. The most commonly associated condition was undoubtedly chronic inflammation, causing an increase of the interstitial tissue of the gland. It must be born in mind that diabetes mellitus might occur without demonstrable changes in the pancreas; in at least one-third of the cases the organ was found by gross and microscopical examination to be normal. From facts cited, he made the following conclusion, that when diabetes mellitus was found in an individual suffering from cirrhosis of the liver, the former disease was dependent upon the co-existence of chronic interacinar pancreatitis, doubtless produced by the same etiological factor, in some cases alcoholic excess, which was responsible for the hepatic disease. There was another group of cases in which diabetes mellitus was found to be associated with advanced arterial sclerosis. Since the pancreas furnished to the blood a so-called internal secretion, perhaps a ferment, necessary to normal carbohydrate metabolism, and since diabetes mellitus resulted when the pancreas was no longer capable of supplying this need, he said the possibility of artificially replacing the defect had suggested itself. A number of observers soon found that the administration of pancreas or extracts derived from it and administered to dogs deprived of their pancreas failed to prevent glycosuria or diminish its severity when established. There was, however, clinical and experimental evidence to show that when diabetes was the result of a destructive lesion which inhibited the digestive function of the pancreas, some benefit might be obtained by supplying the intestine pancreatic ferments.

The Relation of Surgery to the Recent Advances in the Knowledge of the Pancreas.—Dr. GEORGE WOOLSEY read this paper. He said that on account of its physiological importance this organ could not be removed with impunity, for von Mering and Minkowski had shown that complete extirpation of the pancreas in dogs was followed invariably by symptoms of a fatal diabetes. These experimenters had also found that if a small portion of the gland remained, whether connected with the duct or not, there would be no glycosuria until that portion atrophied. Hence, with few exceptions, tumors of the pancreas could be removed without immediate danger of diabetes. Lack of pancreatic secretion in the intestines could be supplied by administering pancreatin, but the internal secretion could not be supplemented. He said that even incision into the pancreas had its dangers, not only from hemorrhage, but also from the fact that leakage may cause (1) A lack of peritoneal adhesions, leading to peritonitis, (2) a fat necrosis of the subperitoneal fat, and (3) a chronic fistula with irritation of the surrounding skin. The diagnosis, and treatment as well, of pancreatic disease was very much hindered because of the pancreas being so deeply situated in the upper part of the abdomen. Several points in the anatomy of the pancreas had been studied and emphasized in recent years,

and these Dr. Woolsey referred to. The relationship of the pancreatic duct to the diverticulum of Vater was noted; a stone impacted in this diverticulum might completely fill it and occlude both the biliary and pancreatic ducts. The association of pancreatitis with cholelithiasis was noted; as a prophylactic measure more general operative treatment for cholelithiasis was advocated. The severity and often rapidly fatal nature of the lesion was an important impediment to successful operative treatment. He favored the course to operate early in acute pancreatitis and not wait for recovery from the initial collapse, but to treat the latter by infusion, etc. On account of the rarity of acute or subacute pancreatitis few if any surgeons had had a large personal experience.

Diagnosis of Acute Pancreatitis.—He said it was the difficulty of diagnosis which more than anything else prevented a more rapid development of the surgery of pancreatitis. As a matter of fact, a diagnosis was seldom made until the operation or autopsy revealed it. In diagnosing acute and subacute pancreatitis, the subjective and objective symptoms and the disturbances of function were the means at the surgeon's disposal, and of the first two little or nothing could be said. The disturbed pancreatic function was almost invariably connected with chronic lesions productive of extensive destruction of the pancreatic tissue, or with interference with the passage of its secretion into the intestine. When this occurred, with or without diabetes, the patient was, as a rule, beyond the help of operative measures. But little or any light had been thrown on our knowledge of acute pancreatitis by recent advances. He believed that the severe acute form presented quite a charcteristic picture for the purpose of diagnosis and made a probable diagnosis lie within the realm of possibility. Its onset was sudden with intense, colicky epigastric pain, becoming general later, severe vomiting and eructations, and distension, rigidity and tenderness, especially of the upper abdomen. There was marked collapse and the face and extremities were cold, often cyanotic and covered with a cold sweat. The pulse was small and rapid and the temperature was not high, often subnormal. Motor disturbance of the stomach and bowels, *i.e.* vomiting and obstipation, were so commonly associated that a diagnosis of intestinal obstruction was most often made. If this symptom-complex occurred in connection with corpulence, alcoholism, gallstones, gastroduodenal catarrh, traumatism or arteriosclerosis, the diagnosis was made still more probable. Acute pancreatitis was often mistaken for and often could not be differentiated from acute perforative peritonitis or acute obstruction of the bowels, high up. The best means of diagnosis and treatment was an early laparotomy. The diagnosis he said would be established if the exploratory incision revealed a fat necrosis.

Treatment of Acute Pancreatitis.—He said that heretofore the expectant plan had been commonly advised until the symptoms of collapse had passed away, but the best judgment was now in favor of early operation. The severe cases die wthin the first four or five days, those that survive longer develop general peritonitis, local abscess or necrosis of the pancreas. In a few cases the progress was arrested. The question of early operative treatment was associated with that of the significance of the exudate. The pancreatic secretion from an injured pancreas mixed with blood had a very toxic effect and, in the peritoneal cavity, might so effect the peritoneum as to cause death. In acute pancreatitis he said we had a bacterial infection as well; even this may be, and often was, the cause of the pancreatitis. He said that some cases of so-called pancreatic apoplexy might run an aseptic course or the patient might die before the bacterial infection had had time to effect the peritoneal exudate. The peritoneal exudate in acute pancreatitis commonly contained bacteria, and the toxic and infectious nature of this exudate made its evacuation most necessary. This was borne out by the results obtained in early operation where merely evacuation, irrigation, and drainage were employed. Personally he believed this was all that could be done in these severe cases, and it could be done under cocaine.

Chronic Pancreatitis.—The occurrence of the chronic form was more common than the acute, and its etiology was usually a chronic catarrh of the pancreatic duct extending from a similar condition in the duodenum or common bile duct. If in addition to the pain and tender spot an inch above the umbilicus prolonged jaundice appeared, with or without a distended gall-bladder, probably a diagnosis could be made. Under anæsthesia an enlargement of the head of the pancreas could be made out. A diagnosis from cancer of the head of the pancreas was not easy even after exploratory incision. He said that Opie, Robson, and others had called attention to the close relationship existing between chronic pancreatitis and cholelithiasis. In the former jaundice was more unvarying, the gall-bladder more apt to be dilated, and there might be disturbances of function evidenced in the urine and stools. Exploratory operation was the proper course for diagnosis. Robson had shown that the condition could not only be relieved but completely cured by indirect drainage through the gall-bladder, by a cholecystostomy or cholecystenterostomy, thereby relieving the tension, congestion, and inflammation of the head of the pancreas.

Cysts of the Pancreas.—The most common lesion, so far as the number of operations were concerned, had for a common cause chronic pancreatitis; the occurrence of this retention cyst added another reason for early diagnosis and operation for chronic pancreatitis and its common cause or associate, cholelithiasis. He said that pseudo- or peri-pancreatic cysts had been shown to constitute a large proportion of so-called pancreatic cysts. The commonest and safest operation he believed to be incision and drainage after fastening the cyst to the anterior abdominal wall, *i.e.* so-called marsupialization. Tumors of the pancreas gave a less favorable outlook. Unfortunately these cases are left too long and not referred to the surgeon early enough.

Conclusions.—He urged the more general use of Hahn's method of operating for acute pancreatitis in the early stages, by evacuation, irrigation, and drainage; he emphasized the fact that as several serious lesions of the pancreas may be due directly or indirectly to cholelithiasis, we were provided with another indication for more frequently operating upon the latter; he suggested that as an exploratory operation was the only way of making a diagnosis in many cases of pancreatic disorder, and as these as well as the conditions they resembled also demanded operative treatment, they should not hesitate to advise early resort to it in case of any doubt. The diagnosis of an indication for exploratory incision was all that was absolutely necessary.

Dr. R. F. Weir said that surgeons were indebted in pancreatic diseases as well as in appendicitis to the wisdom and astuteness of a physician, Dr. Fitz of Boston, who was the first to call attention to certain points of importance in pathological changes in both organs. In his past experience he recalled two cases of pancreatitis which were discovered only after opening the abdomen for some obscure surgical condition. In each instance he had found fat necrosis. Not being able then to interpret the case, he went on with the treatment of cleansing and draining, with indifferent results. He said that, after all, these troubles presented themselves to the surgeon in two ways, the acute and chronic stage, the former being extremely difficult of diagnosis. There is a series of symptoms which point to trouble in the upper part of the abdomen, and, in efforts at diagnosis, one should carry in mind the pathological conditions

which might occur there and attempt to arrive at a diagnosis by exclusion. In the acute form of pancreatitis, whether hemorrhagic or suppurative, he called attention to the statement made by Murphy of Chicago, that an examination of the blood would assist us; the white cells were not increased in hemorrhagic pancreatitis. He referred to the relation of a case by Dr. Eliot a short time ago, in which, on opening the abdomen, much fat was noticed in the mesentery and a bloody serum in the abdominal cavity; this latter point he believed to be an important sign because of the few conditions which might give rise to it outside of trauma, intense strangulation, or thrombosus. This was also to be found in hemorrhagic pancreatitis. In Eliot's case the fluid was found in the right flank high up and came through the foramen of Winslow. The treatment of acute pancreatitis was very unsatisfactory. He referred to the remarks of Mikulicz before the American Association of Surgeons held in Washington last year; he stated that out of forty-six cases operated upon only nine recovered. In four of these recovery was due to the sponging out of the bloody secretion; this secretion was an irritating and poisonous one. Drainage was accomplished either anteriorly or posteriorly with but little disturbance. During the past two years he had seen three cases which pointed to the passage of gallstones, but none were found; there was, however, an enlargement of the head of the pancreas. In four cases the condition was associated with the presence of gallstones; after extraction of these and the institution of drainage, the patients were relieved.

Dr. MORRIS MANGES again referred to the first case of acute pancreatitis operated upon in this city. One and a half years after the operation and discharge from the hospital, the patient developed diabetes. At the time of operation no sugar could be determined. This patient complained chiefly of constant pain, worse after eating. He said that Dr. Lilienthal had a case of supposed intestinal obstruction which proved to be one of pancreatitis. This patient gave a picture of intense pain, excessive vomiting, and collapse. He recalled a case of pancreatic fistula in which operation was declined, and the patient grew very much emaciated from loss of the pancreatic juice. Dr. Lilienthal was asked to see the case and advised the administration of pancreatin in large doses, and much surprise was expressed at the rapid recovery which followed.

Dr. E. LIBMAN spoke of an interesting observation made in which there was a perforation in the upper part of the duodenum, and about that perforation was found a fatty necrosis, particularly in the omentum. The secretions there, leaking out, had caused the necrosis. He did not consider the presence of bloody fluid of much diagnostic import unless it was of chocolate color.

SECTION ON PEDIATRICS.

Stated Meeting, Held January 14, 1904.

DAVID BOVAIRD, JR., M.D., CHAIRMAN.

A Case of Diabetes Insipidus in a Child.—Dr. E. H. M. SILL reported this case. The patient was a boy of nine and a half years, born in New York City of Austrian parents. The family history was negative. He was healthy up to eighteen months ago, when it was noticed that he was passing large quantities of pale urine, and that he was suffering from excessive thirst. This developed after a severe fright. He was nervous, irritable, and easily fatigued. He complained of pains in the lumbar region. Recently he had been passing from five to twelve quarts of urine in the twenty-four hours. There was very little sweating; the mouth was always dry. The urine was feebly acid, had a specific gravity of 1005, and contained neither albumin nor sugar. The quantity of urea varied between 18 and 30 grams in the twenty-four hours. He had been taking fifteen drops of the fluid extract of ergot, three times a day, and had had warm baths. The speaker said that this affection was very rare in children. A case had been reported by Dickinson, occurring in a new-born infant and it was by no means unknown in children of five years. Of thirty-five cases collected by one author twenty-one occurred under ten years of age, and nine under five years of age. The disease was noted chiefly after fright, sunstroke, lesions of the solar plexus and injury to some portion of the cerebrospinal axis. As a rule, the urine of these patients did not contain any abnormal ingredient. The disease was essentially chronic and of indefinite duration. Out of seventy-seven cases reported by Roberts, there were sixteen complete recoveries and fourteen fatalities, while in forty-seven there was an amelioration of the symptoms. Ergot, valerian, and electricity had been recommended in the treatment of this disease.

Dr. SARA WELT-KAKELS said she had seen two cases of this disease in children. One of them was a girl of nine and a half years, splendidly developed mentally, but of poor physique. The skin was dry and the appetite bad. The disease had existed for about three years before coming under her observation. The quantity of fluid taken had been restricted previously, but she was at once allowed to drink all the water she pleased, and this quickly improved the general condition. The child took between four and five quarts of fluid. The specific gravity of the urine varied between 1000 and 1003, and the quantity of urea was 0.1 per cent. The child remained under treatment about ten months, and gained about eight pounds during that time. Suddenly a paresis of the branches of the oculomotor nerve developed. The child was then lost sight of for a time, but it was learned that she became ill and died after a few days. She had tried various remedies, and obtained the best results from the administration of antipyrin.

The second case was that of a boy of six years, very well developed. He was passing from ten to twelve quarts of urine in the twenty-four hours, or about two-thirds of his weight. With the exception of the excessive thirst and the polyuria there were no symptoms. The quantity of urine was reduced to 8,640 c.c. under the influence of antipyrin. The reaction of the urine was faintly acid and the urine was almost colorless. No sugar was detected in the urine even by a number of tests. The quantity of urea excreted was about seven or eight grams above the normal. With regard to the differential diagnosis the speaker said that it was essential to exclude contracted kidney in making the diagnosis of diabetes insipidus.

Dr. JAMES J. WALSH reported a still younger case, that of a girl of sixteen months who fell out of bed. The mother told him that the child was urinating excessively, and although unable to speak, made noises indicating thirst. The child passed from four to six quarts of urine daily having a specific gravity of 1003. No treatment was given, and the child recovered. The disease had been present about three years ago.

Dr. C. HERRMAN said he had tried suprarenal extract in a case of diabetes insipidus, and it had had a marked effect on the quantity of urine secreted. Since then he had used this remedy in one or two cases with some success.

The Symptomatology, Differential Diagnosis, and Course of Bronchopneumonia in Children.—Dr. MATTHIAS NICOLL, Jr., read this paper. Bronchopneumonia was essentially a disease of the poor and unfortunate. This paper was based upon an analysis of 167 cases of so-called primary bronchopneumonia occurring during the past three years in the New York Foundling Hospital. It was exceptional at this institution to find at autopsy lungs free from pneumonic lesions.

Bronchopneumonia was essentially a secondary or complicating disease. Unlike lobar pneumonia, bronchopneumonia occurred at all seasons of the year; about two-thirds of the cases referred to occurred between December and May. Of one hundred and forty-seven cases in which the age was stated, 70 per cent. were in children under two years of age. The direct causes were exposure to cold, extension of the inflamma-

tion from the upper air passages downward, the acute infectious diseases, diarrhœa or anything which diminished the resisting powers of the child. There was no disease more uncertain in its course and outcome than bronchopneumonia. The onset was invariably sudden; the child became apathetic, refused to nurse or was irritable and restless. Vomiting was common; chills or convulsions were sometimes present. The skin was hot; the cry was curtailed and ended abruptly as though it caused pain. The temperature rose four or five degrees, and the respirations were usually forty or more per minute. The pulse-respiration was one to three or sometimes one to two. The alæ nasæ would be found to expand, and there might be more or less cyanosis. The cry would probably show unequal intensity on the two sides of the chest. Auscultation was by far the most important factor in arriving at a diagnosis in the early stages. Subcrepitant and fine râles should be diligently sought for, because taken in connection with the symptoms described they were conclusive proof of pulmonary congestion. Sometimes they were generally distributed; at other times, they were quite localized. Over areas of consolidation of considerable extent there might be bronchovesicular or bronchial breathing. Considerable areas of consolidation might be found at autopsy, of which during life there were no signs present except a few râles, and even these might be absent. It was not infrequent to note the physical signs of bronchopneumonia just before the occurrence of defervescence. In the mildest cases the average duration was about fourteen days. The disease might continue for one or two months with the development of changes in the lungs. In the cases which recovered the general tendency of the temperture was downward for the first two or three days. It was exceptional for the fever to terminate by crisis; it did so only nine times in the one hundred and sixty-seven cases. Cough might be entirely absent, but was often persistent or nagging. Suppression of the cough was seen in fatal cases. Vomiting was not frequently observed after the first few hours. The bowels were apt to be disturbed, the movements being green and slimy. Gaseous distention was often so severe as to embarass seriously the action of the diaphragm. Nervous symptoms were often very marked.

When a child under three years of age became suddenly and gravely ill, bronchopneumonia should always be thought of, and the same was true if, in the course of some other disease, there was a sudden rise of temperature and increase in the respirations. Fever alone in a young child was of but little diagnostic value. In measles, during the height of the fever the disturbance of the pulse-respiration ratio was the rule, and while this disturbance was noted in some other diseases of childhood, it was rare for it to persist for any length of time. The speaker did not think it was possible to distinguish clinically between disseminated bronchopneumonia and a capillary bronchitis. Fluid in the chest was commonly met with in children as a sequela of bronchopneumonia, and the fluid was apt to be pus. When bronchopneumonia occurred in the course of a laryngeal diphtheria, the diagnosis was sometimes difficult because of the transmission of the sounds by the trachea. Bronchopneumonia with exaggerated nervous phenomena might, at its onset, lead to an erroneous diagnosis of meningitis. Rigidity of the neck was not uncommon in pneumonia, and the apathetic expression bore some resemblance to the mask-like face of meningitis. In obscure acute febrile cases occurring in young children, the possibility of the existence of bronchopneumonia must never be overlooked.

The Treatment of Bronchopneumonia in Children.—Dr. WILLIAM P. NORTHRUP read this paper. He said that bronchopneumonia was a disease characterized by irregularities. The prognosis was uncertain because, in the secondary cases, the child was already exhausted by the previous disease. Given, a young tissue, mixed infection of pus-forming cocci, in a subject exhausted by previous disease, one had all the elements to account for all the irregularities of onset, course, ending, and pathological findings. At the autopsy, masses were found in one lobe, or masses in all of the lobes, or, perhaps, a whole lobe was involved. It was evident, therefore, that the pulmonary apparatus was the seat of what might be called a pulmonary erysipelas or cellulitis. He thought this view of the disease was advantageous in considering the treatment. With regard to prophylaxis, the speaker said that immunizing measles cases, when grouped in institutions, prevented diphtheria and the consequent pneumonia. In the treatment of bronchopneumonia it was most important to secure the free admission of fresh air. There was nothing remarkable about having a sick-room at a temperature anywhere from 65° F. to 40° F., or for the nurse to wear wraps and gloves. He saw no reason for fearing that the patient would "catch cold." No one "got cold" from fresh air entering the nostrils or striking the oval of the face. He had no fear of a fever patient "catching cold" in bed. The patient should be given an abundance of fresh, cool air, in small quantities at a time. It favored elimination, and was refreshing. The one thing in treatment easily forgotten was the need for tranquility and restfulness. Pneumonia patients were nervously susceptible to noise and confusion, and consequently a tearful grandmother must be removed and a congenial and tactful nurse placed in charge. It was also important to secure a free evacuation of the bowels. At the outset this should be effected by *full* doses of castor oil, with or without a preceding dose of calomel. Indigestion should be carefully avoided, and this was best secured by careful regulation of the diet. It was especially necessary to guard against intestinal distention, and when this was present it should be relieved by high irrigations of the colon with saline solution. Excessive fever should be reduced by measures which would not disturb or injure the child. The clinical thermometer was often an actual detriment in a case of pneumonia. Instead of relying upon this instrument it was far better to watch closely the patient's appearance and breathing and use good judgment. What the thermometer read made very little difference. The ice-cap was hardly to be recommended because of the non-conducting properties of the hair; it was better to apply a moistened cloth to the forehead. The nurse should be advised to feel of the feet and watch the respirations rather than take the temperature. If the feet were cold, and the pulse poor, give a hot foot bath under the bed clothes, as it would prove, under these conditions, an admirable cardiac stimulant. Constriction of the chest and the use of heavy poultices should be avoided. The garments should be changed often enough to avoid maceration of the skin. He avoided steam tents; they were good in spasmodic laryngitis, but not in pneumonia, as they robbed the patient of oxygen and macerated the little one. The speaker said he had never seen anything but good from giving plenty of water and fresh air to pneumonia patients, and any who had seen the manifest improvement following the opening of the windows, even in the coldest weather, must be impressed with the advantages of this treatment.

Dr. L. EMMETT HOLT opened the discussion. He said that he very heartily concurred in almost all that Dr. Northrup had said. He thought the greatest mistake in teaching and practice was in not giving enough attention to the hygienic treatment of disease. The average student of medicine was led to believe that the only method of getting well was by the administration of drugs. Perhaps in no other disease was the hygienic treatment so important as in pneumonia. He would place all of the cases of bronchopneumonia in the same class. In his opinion it would be a great mistake to have the impression go out that every case of bronchopneumonia was to be treated by the cold-air method advocated so vigorously by Dr. Northrup, although he was free to admit that a great many cases of this disease should be so treated. Personally

he believed that steam was useful in infants desperately ill with bronchopneumonia, and having only a moderate temperature.

Dr. FLOYD M. CRANDALL said he was very glad that the previous speakers had emphasized so well what not to do rather than what to do. If there was one thing to be taught the medical profession to-day it was that they were too strenuous in the treatment of pneumonia. It seemed to be the one disease which stirred the physician up to the point of wearing the patient out. The same thing might have been said a few years ago of diphtheria. He suspected that some of the results of the antitoxin treatment were due to the fact that we left our patients with diphtheria alone now, giving them an opportunity to get well, instead of wearing out their strength and preventing them from getting needful rest and sleep.

The Determining Factor in Lobar and Bronchopneumonia.—Dr. AUGUSTUS WADSWORTH referred to some animal experiments that he had made. At first, exudates of pneumonia cases of varying grades of virulence were injected subcutaneously, intravenously, or into the trachea or thorax. Of the various modes of inoculation, the most important proved to be tracheal injection. At first the inoculations were made in normal animals, and in most instances the virulent organisms caused a bacteriæmic type of infection without much lung lesion, or, if the organisms were not especially virulent, no lesions at all appeared in the lung. In a few instances bronchopneumonic types of lesion were found, but they were rarely diffused. The animals were subjected to trauma, to cold and to the injection of irritating substances, and it was found that the lesions of the lungs developed more freely and were usually bronchopneumonic; but if very virulent cultures were employed, the bacteriæmic type of infection, without lung lesion, was more apt to occur. Where lobar lesions developed, the animals appeared to be more resistant to infection. Continuing the investigation, it was found that bronchopneumonia was developed in susceptible animals when virulent cultures, or cultures of moderate virulence, were introduced, and that lobar pneumonia was extremely difficult to incite in an animal, this being possible only by obtaining a specially fine balancing of the virulence of the organism and of the susceptibility of the animal. The next step was to immunize the animals, injecting low-virulence and high-virulence micrococci. With the latter he obtained a lobar type of lesion when the animal was protected. If the resistance were not sufficient to prevent the organisms from producing the bacteriæmic type of infection, the lesions were more of the bronchopneumonic type. The bronchopneumonia of childhood, occurring after the infectious diseases, and the bronchopneumonias which develop in special races of men, were analogous to the bronchopneumonias developing in a more susceptible animal. The lobar pneumonia developing in a resistant and immunized animal was comparable with the lobar pneumonia which developed in the healthy and robust adult. The gravity of prognosis depended largely upon the likelihood of the development of a general infection rather than upon the extent of lesion, which was, after all, a conservative process.

Dr. S. A. KNOPF expressed his delight in learning that an acute pulmonary disease, such as pneumonia, was treated now by the hygienic and dietetic methods which had proved so useful for many years in a chronic disease of the lung—tuberculosis. He would say, however, that the cold-air treatment should not be given all at once, but rather gradually. He heartily approved of the plan of giving digitalis from the beginning of the pneumonia, thus anticipating the failure of the heart.

Dr. ANTHONY BASSLER said that in the past few years he had certainly seen cases which he would not like to classify as bronchopneumonia, and which were not ordinary bronchitis. For this reason he wished to retain the term, capillary bronchitis.

Dr. C. G. KERLEY said that there was no such thing as a simple or mild bronchitis in a very young child; in such a subject it should always be looked upon as dangerous. In the treatment of bronchopneumonia, our chief object should be to increase the powers of resistance as much as possible.

Dr. WALTER LESTER CARR emphasized this point, that some cases of infantile bronchitis showed a distinct respiratory spasm and demanded steam inhalations. In cases of bronchopneumonia in which there was a creeping process, counter-irritation should be made by the application of one part of mustard to six or eight of flour. Some of these cases did very well by the application of a hot water bottle to the feet. Others did well by raising the foot of the bed and so favoring the evacuation of the free secretion. The distention of the abdomen was no doubt at times due to toxæmia, but sometimes to an interference with the emptying of the veins and a disturbance of the usual action of the diaphragm.

Dr. NICOLL said that a number of cases analyzed by him, occurring in nursing children at the Foundling Hospital, gave a mortality of 40 per cent. The treatment in the institution was intelligent, but there was not nearly as much fresh air admitted as there should be. A case of disseminated bronchitis in the finer bronchi might just as well be considered clinically as a bronchopneumonia, for, to all intents and purposes, it was a bronchopneumonia, and could kill just as readily as one presenting a good deal of consolidation.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held January 18, 1904.

ALEXANDER LAMBERT, M.D., PRESIDENT.

Thrombosis of the Mesenteric Vessels.—Dr. FREDERICK HOLME WIGGIN presented a specimen removed from a woman, thirty-five years of age, upon whom he had operated a year ago for multiple fibromata of the uterus. At the time of that operation considerable difficulty was experienced because of the firm and extensive intestinal adhesions. These had been produced by a peritonitis that had followed an abortion some years previously. The left ovary was found to be cystic, so the cyst and a portion of the ovary were removed. The patient's condition was such that he had not stopped to examine the cæcum. Undoubtedly the appendix was disturbed by the separation of the adhesions, as shown by the fact that convalescence was interfered with by the occurrence of an attack of appendicitis. Within three months of this operation, an examination showed a cyst developing from the stump of the ovary, thus affording another argument against the so-called conservative surgery of the ovary. Some time afterward there was another attack of appendicitis, and she was urged to have an interval operation. She delayed, however, and did not come again under observation until January 4. She then stated that on December 31 she suffered from a slight attack of indigestion. On January 3 there were present symptoms of intestinal obstruction, and although her condition was very bad, operation was undertaken after two quarts of saline solution had been infused and she had been revived somewhat by the hypodermic administration of ergot and strychnine. On opening the abdomen, about one gallon of liquid fæces was found, and to the left of the median line, at the point of the greatest pain, the intestine was perfectly black, and there was a perforation, about half an inch in diameter. This portion of the bowel was excised, and an end-to-end anastomosis effected. The appendix was found to be adherent in the neighborhood of this mesentery, its tip being of a very bright scarlet color. The operation lasted about fifty-five minutes, and at the close the pulse appeared to be better than at the beginning, although still very feeble. About five hours after the operation she began to vomit, and during this effort the heart ceased to beat, and she could not be resuscitated. The pathologist, Dr. Oertel, reported that the intestine showed deep

hemorrhagic infiltration with œdematous swelling and increase of all the tissues. The vessels were much dilated and thromboses. Probably the thrombus formed there on January 2, although associated with but little serious constitutional disturbance. The speaker thought this case was an argument in favor of prompt surgical interference in cases of appendicitis. It was worthy of note, he said, that at the first operations the adhesions were broken up and the abdomen left full of salt solution, and that the second operation afforded an opportunity to demonstrate that adhesions did not necessarily re-form when broken and this line of treatment adopted.

Dr. HENRY GRISWOLD said that he had seen this patient last June, at which time there was considerable inflammatory reaction, and also much pain over the same side. On January 2 there were pain in the hypogastrium, vomiting, and diarrhœa. She was examined by him for appendicitis, but he could not find any evidence of this condition. The pain persisted on the left side. Her pulse was 62 and temperature 98.5° F. in the vagina. The next afternoon her condition was about the same, but twenty-four hours later she was in collapse, as had been already stated. Her condition seemed to him almost hopeless at the time she came under Dr. Wiggin's care.

Dr. JAMES T. GWATHMEY said that he gave the anæsthetic for this operation, beginning with the nitrous oxide and following this by oxygen and ether. Her pulse was 160 when she was placed on the table, and the radial pulse was imperceptible. After about twenty minutes the radial pulse could be felt, but only for a short time. At the end of the operation the pulsation in the carotid was rather stronger and fuller, and the beats about 140 to the minute.

Dr. ALEXANDER LAMBERT said he had seen two cases, one in hospital and the other in private practice. These presented a puzzling picture, and differed from all other forms of intestinal obstruction. The chief feature that impressed him was the peculiarity of the pain. One of the patients, a very intelligent physician, stated that each individual capillary appeared to be throbbing with pain. This man had appendicitis, and readily appreciated the different character of the pain. The speaker said that he had been unable to find on record a case of thrombosis or embolism of the mesentery that had been correctly diagnosticated before operation. Most of the patients suffering from this condition were those having cardiac or nephritic disease, but there was a certain number of young and apparently healthy persons in whom it had occurred, apparently primarily.

Dr. ROBERT T. MORRIS said that thrombosis of the vessels of the mesoappendix was fairly common. It was rather surprising that one did not more frequently meet with portal embolism.

The Treatment of Gunshot Wounds by the British Surgeons During the War of the Revolution.—Dr. STEPHEN SMITH read this paper (to be published later).

The Treatment of Gunshot Wounds During the Civil War.—Dr. ROBERT F. WEIR read this paper. He said that he was assistant surgeon in this war, and spent part of the time in charge of the base hospital of the campaigns in the Shenandoah valley. The capacity of this hospital in 1861 was 150 beds, but at the close of the war in 1865 its capacity was 3,000 beds. There were thirty thousand treated there, two-thirds of whom were wounded. It was interesting to note that only 0.37 per cent. were not gunshot wounds. The smallest projectile in general use at that time was the Colt's pistol bullet, weighing 207 grains. Rarely did wounds result from cannon balls, and no wounds from windage of cannon balls were recorded. Out of 245,000 gunshot wounds, there were but 359 from solid shot; 12,250 were from fragments of shells and 1,153 from grape and canister shot, while the balance was made up of wounds from various kinds of bullets. The conical ball did not always hold true to the direction of its axis. For the detection of bullets, the surgeons in this war made use of the porcelain-tipped probe of Nelaton, or, when this was not at hand, they used a piece of clay pipe or a clean sliver of Georgia pine. The best results in treatment were obtained by cleanliness, the use of plenty of water, and good ventilation. The wounds were smeared with simple cerate, a mixture of lard and wax, or else with some compound containing balsam of Peru. In the treatment of hospital gangrene, in the last years of the war, the best results were secured by the application of pure nitric acid. Dr. Weir said that the surviving surgeons must admit that death followed in the path of the surgeon. In those days the sponges were washed repeatedly in water, but were germ-laden, and were kept soaking in water, thus causing swarms of germs to develop. Pyæmia and secondary hemorrhage were among the most formidable complications encountered by the surgeons. In over 300 major amputations at this hospital, in only one case was total primary union obtained. What a contrast with our present results from aseptic treatment! The mortality from amputations of all kinds was 26 per cent., but of the major amputations it was about 42 per cent. The amputations in our civil hospitals shortly after the war, or before the advent of antiseptic surgery, was even greater than this. It was not until the last years of the war that any attempt was made to employ antiseptics. Then there was furnished to the hospitals a mixture of dry earth and cresylic acid, but it was not well received, and the results from its use did not counterbalance the dirt and annoyance attendant upon its employment. For fractures of the thigh, the extension treatment of Ruck, or the anterior extension splint of Nathan R. Smith was employed, and and for fractures of the upper extremity the recently introduced plaster-of-Paris bandage was employed. This method was first brought to New York by Gurdon Buck. Later, it was improved by Dr. James L. Little, and introduced into general military use. There existed among the lesser trials of the medical officer the difficulty of successfully carrying out the proper treatment of the medical or surgical malingerer; he was worse than a wounded man, for he was a bad example and a fraud upon the government. Chronic rheumatism was the favorite trouble feigned, but, perhaps, the affection most difficult to detect was feigned loss of voice.

Some Features in the Modern Treatment of Gunshot Wounds.—Major LOUIS A. LAGARDE, of the U. S. A., Washington, D. C., read a paper with this title. He said that the treatment of gunshot wounds to-day presented itself: (1) from experimental evidence; (2) from the *x*-ray evidence, and (3) from the local and general symptoms. The first proposition was that a gunshot wound was unclean and infected. Experiments on rabbits showed that the animals treated by simple dressings did the best of all, whereas those treated by such radical measures as swabbing with iodine or the application of the actual cautery, suppurated in every instance. In some recent tests it had been found that when the carbon particles were rubbed upon the skin of rabbits these particles were driven as far as 17 mm. into the track of the gunshot wounds, and that the distance these particles could be so driven inward depended upon the velocity and the sectional area of the bullet. It might be assumed that infectious matter on the skin or clothing would similarly penetrate the tissues. We should be content to treat gunshot wounds by cleansing the part and applying a clean dressing as soon as possible after the injury. Of course, the surgeon would refrain from using a probe of any kind, or even his clean finger, because the *x*-ray had supplanted all other methods of exploration.

Tetanus and the Toy Pistol.—Some gunshot wounds demanded treatment of a radical kind, but such could be given in civil or in military hospitals in time of peace only. Gunshot wounds produced at short range were of this class. The toy pistol was responsible for many such wounds in this country. In such cases the surgeon should at once resort to the use of tetanus antitoxin, after which he

should proceed to dress and clean the wound as he would an infected, contused, and lacerated wound from any other cause. These wounds were especially prone to suppuration. Of the virulent infections the tetanus was especially prone to develop. It was estimated that 400 cases of tetanus developed after toy-pistol injuries in this country last July. There was no question of the prophylactic value of the tetanus antitoxin in the laboratory, and recent cases were encouraging with regard to its action in private practice. Hæmatomata seemed to predispose especially to tetanus, and it had been demonstrated that burns increase this susceptibility to tetanus infection. Gunshot wounds were very apt to show hæmatomata in the track of the bullet. When the injury occurred from powder burns at close range, or from the toy pistol, the wound was one mass of contusion, and hæmatomata might be found, on microscopical examination, disposed around each powder grain. The influence of smokeless powder was probably the same, since seventeen cases of tetanus had been reported as having been produced by wounds from blank cartridges made with smokeless powder. It should be remembered that gunshot wounds favored the development of all infections, although tetanus was perhaps the most common infection. If infection with the bacillus aerogenes capsulatus occurred, the treatment must be very prompt. Welch had pointed out that this form of infection was most commonly met with in compound fractures, and next most frequently in gunshot wounds. When the entrance of a poisoned missile was suspected, a thorough examination of the weapon and of the ammunition should be made, culture and cover-slip preparations being made from the wounds of entrance and exit, and the ball, when removed, should be dropped into culture media. The treatment, if any, should be governed by the results of such bacteriological examination.

Influence of the Projectile on the Results.—The small steel-clad bullet was responsible for the favorable results secured at the present time in gunshot injuries of joints. Penetration, with little or no fracture, was more often noticed in gunshot wounds of joints in civil practice now than formerly; in other words, the harder lead bullet of revolvers of to-day made a more humane wound than did the weapon of a generation ago. The lead used forty years ago or so was so soft that when the bullet struck a resistant bone—as, for example, the tibia or femur—the ball was apt to flatten against the bone. In some extensive tests that Major LaGarde was now making with revolvers and pistols of all kinds and calibers, the projectile was found to make a perforation in the joint-ends of bones very much like that produced by the bullet now used in the military rifle. A great deal of the favorable outcome from joint wounds, especially, came from the hardening of the lead by the admixture of 5 per cent. of antimony. We were apt to say to-day that everything depended upon antisepsis; a great deal certainly did depend upon this, but a great deal also depended upon the difference in the lesions. The three important factors to be considered in gunshot wounds of the diaphyses and epiphyses of bones were: (1) resistance of impact; (2) sectional area of the bullet, and (3) the velocity of the bullet at the time of the impact.

Wounds of the Chest.—Chest wounds were classed among the humane wounds to-day. Penetrating gunshot wounds of the chest gave a mortality of 62.5 per cent. in the Civil War as against 27 per cent. in the Spanish-American War, and the reports from South Africa showed that these injuries were the most hopeful of the whole series of trunk and visceral injuries. The treatment consisted in removing loose fragments of bone, the application of a clean dressing and the securing of quiet. The value of the latter was especially shown in military practice, where often the exigencies of a campaign demanded the transport of the wounded before the wounds had fully healed. Under such circumstances hæmothorax and pyothorax were noted in as many as 90 per cent. of cases in some of the recent wars. As long as the men were near the base hospitals, and it was not necessary to transport them very far, they did beautifully, but as the distance over which the wounded had to be transported increased the results became poorer, until finally, as before stated, 90 per cent. showed these complications.

Wounds of the Abdomen.—Under the best conditions the mortality from gunshot wounds of the abdomen in civil practice was 53.8 per cent., whereas in military practice this mortality varied between 70 and 100 per cent. When laparotomy was attempted in military practice the result was nearly always fatal. Of three cases operated upon in the Santiago campaign the mortality was 100 per cent. The greatest difficulty in field practice was the environment. At present the policy of non-interference was preferred by military surgeons during an active campaign. Some remarkable recoveries occurred in the Spanish-American War from penetrating wounds of the abdomen, and these were attributed to the fact that the men had been fasting for a long time before. Commenting upon this, the speaker said that when there was much fluid in the alimentary tract the destructive effects of penetrating gunshot wounds were very great indeed.

In military practice the removal of lodged missiles was forbidden during the stress of an active campaign. An operative wound to remove a ball at such times meant additional risks from sepsis. It was far different in civil practice, and, hence, it was wise to remove the ball as soon as it had been accurately located by the Röntgen ray. Thanks to antisepsis and the Röntgen ray, the remote and ulterior consequences of gunshot wounds had been reduced to a minimum. Formerly, one-half of the misery and suffering after injuries in war were due to the dead bone or the lodgment of various extraneous matter in the wounds. The absence of sepsis precluded necrosis, so that the only remote effects now were in connection with parts, the injury of which produced a loss of function.

Special Factors in the Civil War.—Dr. ENOCH V. STODDARD of Rochester, N. Y., opened the discussion. He said that the changes in military arms had given rise to certain definite eras in military surgery. During the War of the Revolution there was very little time spent in malarious sections, whereas during the Civil War a very large proportion of certain campaigns was spent in and about sections of the country in which the land was water-soaked and miasmatic influences were common and potent. Little or no reference had been made to this in Dr. Stephen Smith's paper. His own experience in the war covered three years, from 1862 to 1864. During the first part of this time he was in the hospital service; hence, the conditions observed at that time were secondary, and the operations were likewise secondary. There were many cases of hospital gangrene, and this he attributed not alone to lack of cleanliness and to imperfect methods, but to the fact that the men first going into the field were raw recruits, coming directly from civil life without previous training. As the troops became seasoned, it was the common experience of the surgeons that the wounded men did better. In 1863 and 1864 he saw only active service in the field. He had been struck by the absence of all reference to the materia medica, except in the first paper. Quinine was used very largely in the campaign of 1863 and he wished to say a strong word in favor of the British surgeons' advocacy of Peruvian bark. This was a complex substance, and he had used preparations of this bark very freely. He had found a tincture of this bark, combined with aromatics, much better than quinine itself. He would not be willing to go into the field without Peruvian bark, opium, and similar standard drugs, no matter how excellent the purely surgical equipment.

Use of Tetanus Antitoxin.—Dr. ALEXANDER LAMBERT said that in 1900, just before the Fourth of July, tetanus antitoxin had been sent by the Board of Health to the dispensaries, with the recommendation that 10 c.c. should

be given to every one coming in with a toy-pistol wound. The result was that no case of tetanus was reported as having developed at that time from these injuries. The dose should be 10 c.c. in ordinary cases, and this should be administered as soon as possible after the receipt of the wound. In a part of France in which tetanus was very common, all persons presenting sloughy wounds were injected with the tetanus antitoxin, with the result that the disease was wholly prevented. When the symptoms of trismus developed it was not the beginning of tetanus, but the beginning of death, and consequently this was too late to give the tetanus antitoxin with any hope of very good results.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending February 13, 1904:

	Cases.	Deaths.
Measles	721	14
Diphtheria and croup	327	56
Scarlet fever	346	30
Smallpox	...	...
Varicella	110	...
Tuberculosis	264	142
Typhoid fever	24	4
Cerebrospinal meningitis	2	...

The Influence of Oxygen Taken by Full Normal Respiration, or Chemically Pure, as a Means of Sustaining and Increasing Mental, Nervous, and Physical Energy.—Cordelia A. Greene declares that there is no more valuable means of stimulating the flagging nervous energies than by the use of oxygen. One of its first effects is to make the brain and arterial pulsations more full and normal. It has proved very useful in enfeebled heart action, in hysteriform seizures, in cases of ordinary or very serious forms of lobular pneumonia, also in certain nervous types of asthmatic difficulty when no organic change exists. One of the most important effects of oxygen is to stimulate the vasomotor nerve centers and acting through the pneumogastrics to their peripheral terminals, to have direct mechanical and functional influence upon the air cells. In the inhaling room the air should be perfectly fresh and not above 65°. After each inhalation the patient should be directed to make ten full, strenuous, nasal respirations, as in smelling, breathing noiselessly but more deeply each time. The effort of inhalation of oxygen should be made a little more intently, until from ten to fifteen full inhalations are taken. After the patient can fill the air vesicles fairly well, ten or twelve inhalations will be quite sufficient at one sitting. The patient should spend the best strength possible to secure full nasal respiration, whether in exercise or rest. Oxygen quiets the nerves and puts the patient into a restful condition. Enforced nasal respiration, from two to four hours of the day, sitting or lying in the open air, should be earnestly enjoined upon all patients showing pulmonary or nervous weakness. In any case of respiratory obstruction, the value of oxygen is far greater than that of any form of alcohol, for it stimulates the brain and respiratory functions normally. In those leading a sedentary life, there is generally a partial suspension of respiration from nervous preoccupation, resulting in scanty brain oxygenation. This gradually leads to neurasthenic conditions. The inhalation of oxygen in the pure air, by normal respiration or its medical administration, promotes sleep and compels equilibrium of the nerve currents. In cases of hyperæmia, oxygen is valuable. In treating alcohol and opium habitués, oxygen is most beneficial. Oxygen quickens the functions of waste and enters largely into the healthful building of all the bodily tissues.—*The Woman's Medical Journal.*

Honors for a Country Doctor in England.—Among the recipients of the King's birthday honors in England, occurs the name of Dr. Alan Reeves Manby of East Rudham, Norfolk, who was knighted. Sir Alan Manby's career has been one of much interest, and something of an inspiration to country medical practitioners in Great Britain. The new knight has been during his whole professional life a country doctor, living in a village in a purely rural district. For about twenty years Sir Alan Manby occupied the position of surgeon-apothecary to the Prince of Wales, whose country seat was in Norfolk, and when the Prince became King, the Norfolk general practitioner was given the same post in the royal household, as well as being made surgeon-apothecary to the present Prince of Wales. Sir Alan Manby accompanied the Prince of Wales on his extended tour to the British colonies and possessions in the capacity of medical attendant.

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended February 13, 1904:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
California, San Francisco	Jan.	24–31	3	..
Illinois, Danville	Jan.	30–Feb. 6	1	..
Louisiana, New Orleans	Jan.	30–Feb. 6	5	..
Maine, Calais	Feb.	7	5	..
Madison	Jan.	28	1	..
Maryland, Baltimore	Jan.	30–Feb. 6	1	..
Michigan	Jan.	23–30	88 places.	
Detroit	Jan.	30–Feb. 6	3 cases.	..
Flint	Jan.	30–Feb. 6	1	..
New Hampshire, Manchester	Jan.	30–Feb. 6	9	..
New Jersey, Newark	Jan.	30–Feb. 6	1	..
Trenton	Jan.	30–Feb. 6	3	1
New York, Niagara Falls	Jan.	30–Feb. 6	1	..
New York	Jan.	30–Feb. 6	5	..
Ohio, Bucyrus	Jan.	30–Feb. 6	9	..
Cincinnati	Jan.	22–Feb. 5	6	..
Dayton	Jan.	30–Feb. 6	12	..
Pennsylvania, Allentown	Jan.	30–Feb. 6	2	..
Butler	Jan.	30–Feb. 6	1	..
Johnstown	Jan.	30–Feb. 6	5	..
McKeesport	Jan.	30–Feb. 6	2	..
Philadelphia	Jan.	30–Feb. 6	54	16
Pittsburgh	Jan.	30–Feb. 6	5	1
Warren	Jan.	1–Feb. 1	10	2
Tennessee, Nashville	Jan.	30–Feb. 6	8	..
Utah, Ogden	Jan.	1–31	1	..
Salt Lake City	Jan.	30–Feb. 6	2	..

SMALLPOX—INSULAR.

Philippine Islands, Manila	Dec.	12–Jan. 2	2	2

SMALLPOX—FOREIGN.

Austria, Prague	Jan.	9–16	5	..
Belgium, Liege	Jan.	9–16	1	1
Brazil, Rio de Janeiro	Jan.	3–10	34	22
Canada, Ontario	Dec.	1–31	13	..
Chile, Antofogasta	Dec.	1–31	..	3
China, Shanghai	Dec.	19–26	..	6
Colombia, Barranquilla	Jan.	12–18	..	1
France, Paris	Jan.	16–23	17	9
Great Britain, Glasgow	Jan.	22–29	71	2
Hull	Jan.	16–23	1	..
Liverpool	Jan.	16–23	1	..
London	Jan.	16–23	3	..
Manchester	Jan.	16–23	2	..
New Castle on Tyne	Jan.	16–23	3	..
Nottingham	Jan.	9–16	5	1
Sheffield	Jan.	9–16	1	..
India, Bombay	Jan.	5–12	..	6
Karachi	Jan.	3–10	2	..
Mexico, Tampico	Jan.	24–31	..	1
Netherlands, Rotterdam	Jan.	16–23	1	..
Russia, Moscow	Jan.	2– 9	2	2
Odessa	Jan.	9–16	..	1
St. Petersburg	Jan.	9–16	18	3
Spain, Barcelona	Jan.	10–20	..	5
Santander	Jan.	18–25	4	2
Turkey, Smyrna	Jan.	3–18	..	9

YELLOW FEVER—FOREIGN.

Brazil, Rio de Janeiro	Jan.	2– 9	1	..
Mexico, Merida	Jan.	17–30	1	1
Tehuantepec	Jan.	17–30	2	2
Vera Cruz	Jan.	23–30	1	1

CHOLERA—INSULAR.

Philippine Islands, Manila	Dec.	12–Jan. 2	9	8
Provinces	Dec.	12–Jan. 2	44	33

CHOLERA—FOREIGN.

India, Calcutta	Dec.	26–Jan. 9	..	30
Turkey in Asia, Dindieh	Dec.	18–19	..	2
Kerbela	Dec.	11–22	..	422
Messieb	Dec.	18–20	..	32

PLAGUE—INSULAR.

Philippine Islands, Manila	Dec.	12–Jan. 2	1	1

PLAGUE—FOREIGN.

Australia, Queensland, Cairns	Dec.	5	2	..
Rio de Janeiro	Jan.	3–10	10	5
India, Bombay	Jan.	5–12	..	186
Calcutta	Dec.	26–Jan. 9	..	33
Karachi	Jan.	3–10	8	5
Mauritius	Dec.	31–Jan. 7	55	37
South Africa, Natal	Dec.	5–12	2	..

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Original Articles.

THE SURGICAL TREATMENT OF FACIAL PALSY, WITH THE TECHNIQUE OF FACIO-HYPOGLOSSAL NERVE ANASTOMOSIS.*

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THE nature of the lesions of the facial nerve causing its paralysis are so generally and well understood, that it is not necessary to make extended comment upon them.

The painful deformity resulting from chronic palsy; the liability of injury to the eye of the corresponding side; the interference with the usefulness of the mouth from the early paralysis or from the late contracture and spasm of the face muscles, should warrant any reasonable attempt to mitigate or cure the condition by surgical procedure.

During the last decade much experimental and some clinical work in nerve suture and anastomosis has been done by Kennedy, Faure, Manasse, Barrago-Ciarella and Breavoine, in which it has been demonstrated that when the peripheral end of a divided motor nerve is sutured to the proximal end of a neighboring motor nerve, the paralyzed muscles ultimately regain their coördinated function. A similar result follows the lateral implantation of the peripheral end of the nerve into the trunk of a neighboring motor nerve. Upon these facts is based the surgical treatment of chronic facial palsy.

The first method attempted was that of faciospinal accessory anastomosis, in which a portion or the whole of the spinal accessory nerve was divided at its entrance into the sternomastoid muscle, turned upward and sutured to the peripheral end of the divided facial nerve. There were developed four modifications of the faciospinal accessory anastomosis. (1) The division of a part or the whole of the spinal accessory and the making of an end-to-end anastomosis with the facial. (2) The implanting of the facial into the side of the spinal accessory which was split longitudinally. (3) The implanting of the facial into the spinal accessory, the latter partially cut transversely. (4) The implanting of the part of the accessory into the facial, end to side. The operation of faciospinal accessory anastomosis was first performed on man by Ballance[1] in 1895, three years later by Faure[2] (Hopital Laennec), still later, in 1899, by Kennedy[3] at Glasgow,† and finally by Cushing[9] of Baltimore, in 1902. In the same year Hackenbruch[8] (Wiesbaden) implanted two-thirds of the spinal accessory into a slit in the facial trunk after a palsy of seven and three-quarter years' duration, with marked improvement as a result.

This operation in itself is comparatively simple, but a more or less permanent paralysis of the trapezius and sternomastoid muscles results, which is proportionate to the amount of division of the spinal accessory nerve. As nerve regeneration takes place the face becomes symmetrical and its muscles move once more with good coördination. However, a sudden voluntary movement of the face is nearly always accompanied by a distressing and unsightly involuntary movement of the shoulder, and vice versa, as shown in Cushing's series of illustrations in the *Annals of Surgery*, May, 1903. Inasmuch as the accessory non-volitional movements were so undesirable, search was made for some other convenient source of motor supply for the palsied facial nerve. The hypoglossal was then selected, as it was a pure motor nerve, running near the facial and supplying groups of muscles intimately associated anatomically and physiologically with those supplied by the facial. Cases of this type have been reported by Ballance and Stewart,[1] Körte[10] and Frazier.[11]

The operation is indicated in all cases of palsy of the facial nerve from a lesion of the nucleus within the brain or of the nerve trunk on the base of the brain and in lesions of the nerve following operation for mastoid disease, as recovery from these affections is rare. It is justifiable in Bell's palsy when there is complete reaction of degeneration of the facial nerve after several months of faithful treatment, and there is no indication of volitional return of nerve power.

We now know definitely that a paralysis which affects all the branches of any peripheral nerve must be due to an affection of the trunk of that nerve. There is no evidence at any rate that cold ever paralyzes the intramuscular nerve-endings. The lesion in Bell's palsy is a neuritis, and is situated in all probability within the fallopian canal. In such cases existing for several months, recovery occurs in part only, if at all, especially in advanced life. Even in nerve degeneration lasting a month, some trace of the palsy and some atrophy usually remains permanently (Gowers).

In all severe cases contractures of the muscles occur and, in some, spasm is superadded when there is only a slight return of power. The possibility of a return of power in long-standing cases should not be judged solely by the muscle movements about the eye or angle of the mouth, as the muscles responsible for the former are probably supplied by the third nucleus, and the latter by the twelfth nucleus. The facial (seventh) extends down nearly to the level of the hypoglossal (twelfth) nucleus. The very close physiological relationship between the muscles of the lips and tongue is probably due in no small part to the anatomic fact of the close connection of the two nuclei. Fibers have, indeed, been traced from one nucleus to the other by way of the posterior longitudinal bundle. If the nerve fibers supplying the angle of the mouth do not originate from the twelfth nucleus, movements of the tongue and the orbicularis oris are at least coör-

*Presented to the Surgical Section of the New York Academy of Medicine, January 8, 1904.

†Hartley of New York did one operation of this character in 1900 (oral communication)

dinated through the agency of the hypoglossal nucleus, as has been suggested by Mendel, Tooth, and Turner. Moreover the nerve fibers supplying the orbicularis palpebrarum originate in the third nucleus and course in the trunk of the seventh nerve to their destination in the muscles. Therefore the best test of the degree of recovery is the amount of return of power in the zygomaticus major muscle, which elevates the angle of the mouth, and which is innervated only from the seventh nucleus.

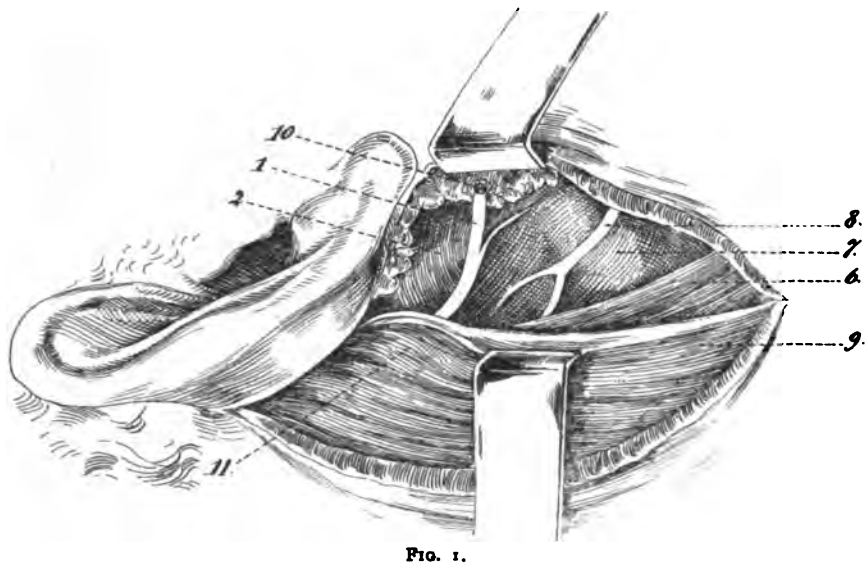

FIG. 1.

1. Facial nerve; 2. styloid process; 3. internal jugular vein; 4. hypoglossal nerve; 5. pneumogastric nerve; 6. posterior belly of digastric muscle; 7. transverse process of atlas; 8. occipital artery; 9. sternomastoid muscle; 10. parotid gland; 11. mastoid process.

With the foregoing in view the following three cases of facial palsy were selected:

CASE I.—Jerry M., six and one-half years old, had scarlet fever in the early summer of 1903, followed by otitis media and mastoiditis, for which operation was done July 13, at Randall's Island Hospital. Three days later, facial palsy appeared and rapidly progressed to complete paralysis. October 24, 1903, three and one-half months later, complete R. D. was found on electrical examination. Facio-hypoglossal suture was at once done under chloroform anæsthesia. The facial nerve was soft, friable, and gray in appearance. But one suture could be made to hold it to the hypoglossal, which in turn was under such tension that a fine suture was passed through the hypoglossal sheath to anchor the nerve to neighboring fascia and so prevent tension on the anastomosis as far as possible. Primary union of the wound was obtained. There was almost complete palsy of the muscles supplied by the hypoglossal immediately after operation. Ten weeks after operation some difficulty of speech remains, owing to imperfect use of the tongue. Difficulty in swallowing, mastication, and a unilateral furring of the tongue, all of which were present for some weeks after the operation, have disappeared (operative injury to twelfth nerve). The face is far less asymmetrical and the eye can be partly closed, but the patient has no power over the face; R. D. persists unchanged as yet The prognosis as to complete recovery in this case is doubtful; the nerve had, at the time of operation, already undergone marked degeneration. It must have atrophied nearly down to the muscles. We look, however, for a decided return of power after six months or a year, which is approximately the amount of time necessary to bridge the gap between the good nerve-ending at the muscle and the hypoglossal implantation.

CASE II.—Betsy G., forty-five years old, married, three children, no miscarriages. In August, 1903, she had severe pain in the right ear for two days preceding sudden complete paralysis of the right side of the face. Under electrical, massage, and bath treatment for three months there were no signs of spontaneous recovery. Electrical examination showed reaction of degeneration from the beginning. November 28, 1903, ether was given and the operation was performed; primary union resulted. In this case the anastomosis was readily made without tension on the nerves. From manipulation of the hypoglossal nerve, however, considerable temporary paralysis resulted. There was some interference with swallowing, mastication and speech for several weeks. Now, six weeks after operation, these difficulties have entirely gone and the changed electrical reactions show beginning union at the nerve anastomosis and regeneration in the facial. The patient still complains of some pain in the shoulder, side of the neck, and in the external ear, the cause for which is difficult to explain.

The prognosis as to ultimate complete return of power in this case would seem to be good. The amount of constant current necessary to awaken

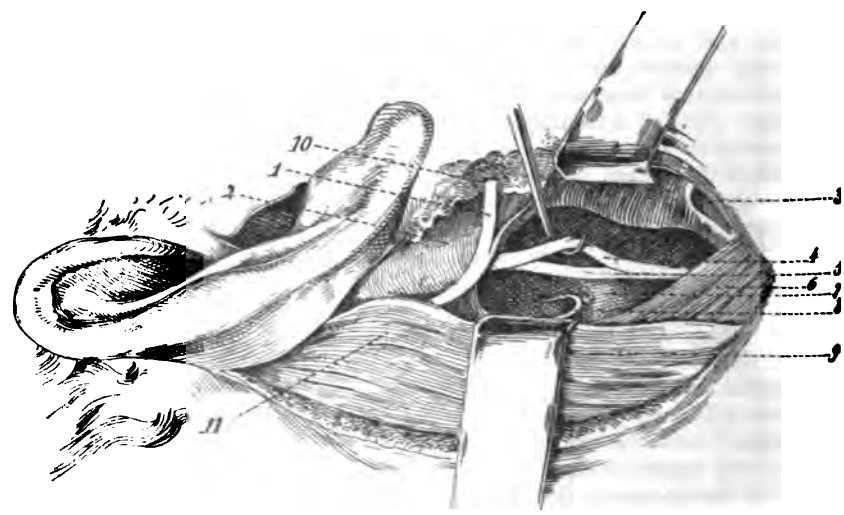

FIG. 2. The structures are numbered the same as in Fig. 1.

movements in the face through the hypoglossal facial trunk is steadily decreasing, although reaction of degeneration still remains. The latter will, however, begin to change after several months of repair and treatment. The early electrical test of nerve repair at the point of suture is of great practical importance.

CASE III (by courtesy of Dr. Weir).—Lillian M., aged twenty-six years, married, no children and no miscarriages. Facial palsy followed a mastoid operation eighteen months ago. There

was no return of power. The faciohypoglossal anastomosis was done by Dr. Weir at Roosevelt Hospital, December 22, 1903, by the method described below. Considerable palsy of the hypoglossal resulted from operative trauma, but at the date of the present report (January 20) it is much diminished and bids fair to decrease as rapidly as that in Case II.

This method of faciohypoglossal nerve anastomosis is the result of numerous dissections on the cadaver, and has been applied very satisfactorily in the three cases detailed in this paper.

The operation involves the following steps: (1) the incision; (2) the isolation and section of the facial nerve; (3) the exposure of the hypoglossal nerve; (4) the implantation; (5) the closure of the wound; (6) the after-treatment.

1. The patient is etherized; a firm cushion is placed behind the head and neck; the head is turned slightly to the opposite side and extended a little upon the neck; the operative field is thoroughly cleaned. The incision involving the skin and subcutaneous tissues passes along the anterior margin of the mastoid process and the sternomastoid muscle for about 5 cm. (2 in.), starting at the level of the external auditory meatus. The temporofacial veins may or may not be disturbed.

2. The deep facia is divided in the same line with special care to keep close to the anterior border of the mastoid process to avoid damage to the parotid gland. This gland, covered by its capsule, is separated from the mastoid by an elevator and held forward by a blunt retractor, exposing the posterior belly of the digastric muscle, which is often pulled downward and backward. When the digastric is large it may be necessary to divide its upper border transversely to its long axis to allow the retractor to give a proper exposure of the field.

In cases in which the mastoid has previously been operated upon the bony landmarks are often confused and the scar tissue interferes somewhat with the easy performance of the first stage of the operation. Under such circumstances the incision is made along the anterior border of the bony remnant of the mastoid, and, keeping just behind the parotid gland, the dissection is carried through the scar tissue till the deeper landmarks (the digastric muscle and the styloid process) are identified, when the operation proceeds as before.

3. The isolation of the hypoglossal nerve is the most difficult and tedious step and involves whatever danger there is in the operation. The finger in the wound readily identifies the prominent smooth transverse process of the atlas. (Fig. 2, No. 7.) Not infrequently the occipital artery runs upward and outward across the anterior surface of this prominence. It should always be looked for, and when present, either displaced outward, or divided between two ligatures, as an unexpected division of it gives rise to annoying hemorrhage and blurs the anatomical field.

Lest they be inadvertently damaged in the following steps of the operation it should also be remembered that over this same transverse process, but more toward the median line, the spinal accessory nerve runs obliquely downward and outward (sometimes in front of, sometimes behind the internal jugular vein), while the internal jugular vein runs vertically in front of it. These two structures are covered by a layer of deep cervical fascia, through which a vertical incision is made over the outer border of the transverse process and is continued upward and downward till it is about 4 cm. (1½ inches) long. Through this slit in the fascia the internal jugular vein is exposed and is separated posteriorly by blunt dissection. The spinal accessory nerve should not be disturbed during the operation. The fascia and vein are then retracted forward and inward by a blunt retractor. Imbedded in the connective tissue thus exposed in the depth of the wound are seen two white cords, the hypoglossal and pneumogastric nerves, with the internal carotid artery pulsating just to their inner side. (See Fig. 2.)

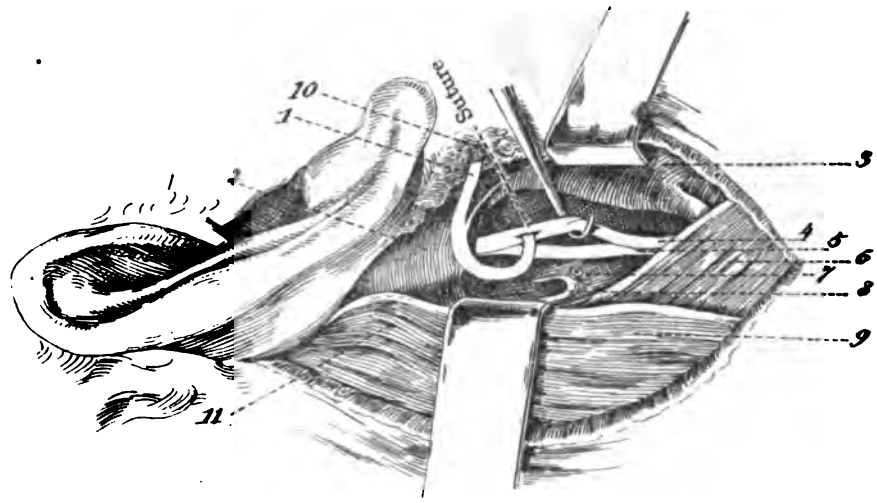

FIG. 3. The structures are numbered the same as in Fig. 1.

The index-finger pushed into the depth of the wound and slightly forward, readily identifies the styloid process. Near the base of this process the trunk of the facial nerve passes almost directly forward to enter the parotid gland, and it can usually be felt to roll as a distinct small cord, surrounded by connective tissue, between the finger and the styloid process. (Fig. 1.) When there is difficulty in identifying it in this manner one should remember that it emerges from the stylomastoid foramen, which is just behind the base of the styloid process.

The nerve once identified is enucleated from the surrounding connective tissue, and is divided as far up the stylomastoid foramen as a narrow-bladed sharp knife will allow. Usually one can get from 1 to 2 cm. (½ to 1 inch) of free nerve trunk.

At this point it is desirable to prepare the nerve for the final suture. About a quarter of a centimeter (⅛-inch) from its free end, two fine silk sutures are passed through the nerve sheath on opposite sides of the nerve and each tied in a square knot. The ends are left long (15 to 20 cm., 6 to 8 inches). (Fig. 4—A.) The nerve end is trimmed to a wedge shape with a sharp scalpel. The sutures and nerves are protected from damage during the next step.

Usually the more superficial of the two nerves is the one sought. It must be positively identified however. Mechanical or electrical stimulation will cause its proper muscles to contract (styloglossus, hyoglossus, geniohyoid, geniohyoglossus, thyrohyoid, sternothyroid, sternohyoid) or one may follow its course anatomically downward, to the point where it turns forward, around the occipital

artery and gives off the descendens hypoglossi nerve.

Once identified, it is dissected upward till the stump of the facial can be approximated to it without tension. This must be done with care not to divide the communicating branches from the pneumogastric, upper ganglion of the sympathetic and the two upper cervical nerves, all of which are in the immediate neighborhood.

4. While the nerve is supported on a blunt hook

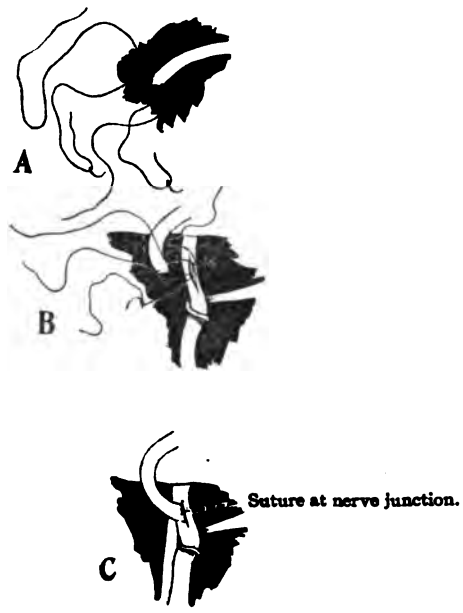

FIG. 4.

a longitudinal slit ½-cm. (¼-inch) long is made well into the nerve trunk. A fine curved needle is threaded on to one of each pair of long silk ends previously left tied to the stump of the facial nerve. One suture is passed through the inner and the other through the outer margin of the wound in the hypoglossal nerve. When the sutures are tied the wedge-shaped end of the facial is snugly held in the cleft in the hypoglossal nerve and is usually best turned slightly upward by means of a probe, a procedure suggested by Dr. Weir. These sutures must not be tied too tightly lest they injure the fibers of the hypoglossal nerve, a few of which are almost surely included in their grasp. (Fig. 3 and Fig. 4—A, B, and C.)

To prevent the ingrowth of connective tissue elements, Cargile membrane is wrapped about the nerve junction. The hypoglossal is dropped back to its normal position, and there is usually no tension on the sutures.

5. If the digastric muscle has been partly divided it should be sutured with catgut. No other deep sutures are required, since the parts naturally fall back into position. The skin is closed with silk sutures. No drainage is used. Sterile dressings are applied. Fixation of the head and neck are, as a rule, not necessary.

6. The after-treatment is a most important factor in obtaining the desired result. Massage, electricity and, later, coördinated muscular movements, based upon certain principles, must be persistently and systematically resorted to for months. It is now well recognized that after any nerve transplantation, the return of coördinated power involves a reëducation of the nerve centers, both in the spinal cord and in the cerebral cortex.

The education of the spinal centers progresses fairly rapidly, while that of the cortex requires long periods of time, often years, for its completion.

Experimental work on animals has shown steady progress in return of function for periods of five to ten years.

As soon as voluntary power over the muscles begins to return, the patient should be taught systematic exercises for the development of muscle power and coördination. The cortical volitional impulses thus sent down, far surpass in value either electricity or massage as a stimulus to nerve and muscle regeneration.

The result of the operation will depend upon a number of conditions.

1. The best results follow in those cases in which the cause of the paralysis has been a traumatic division of the nerve. Less hopeful of complete recovery are those cases due to neuritis, especially when suppurative in character, *i.e.* in suppurative mastoiditis.

2. The longer the time between the paralysis and the anastomosis, the slower and less complete is apt to be the recovery. In cases of traumatic paralysis anastomosis should be immediate. In interstitial neuritis (Bell's Palsy) it is necessary to wait a few months for signs of spontaneous recovery which often occurs. At the end of three to six months' treatment the neurologist can decide the propriety of operating. In the suppurative forms operation should be done as soon as the danger of infection in the wound is passed, as there is small likelihood of spontaneous recovery.

3. The condition of the paralyzed muscles, flaccidity, contracture, spasm, changes in electric reaction, and, most particularly, the degree of atrophy, is important. The more atrophy the less hope. Therefore massage and electricity must be systematically used from the onset of the paralysis to keep the muscles in good condition in case either spontaneous regeneration of the nerve occurs, or operation becomes necessary.

4. The technique must be precise and delicate

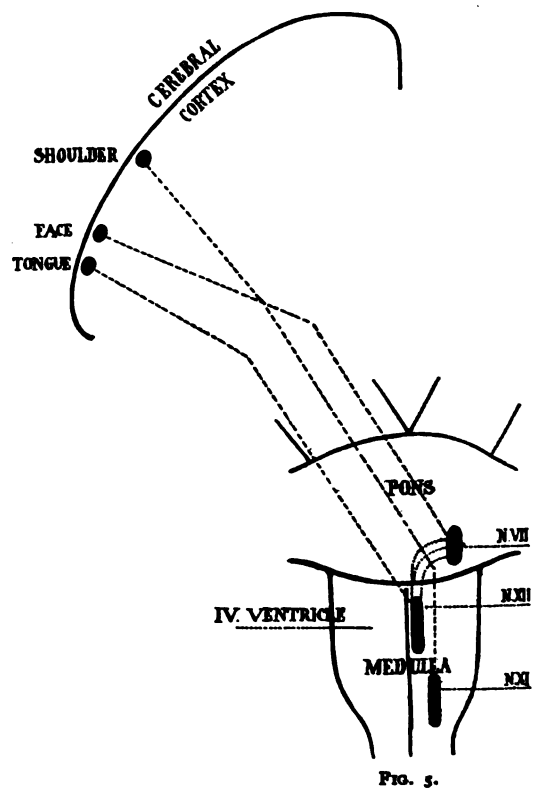

FIG. 5.

The nerves must not be pinched or unduly handled the sutures must be fine, and involve only the nerve sheaths. The importance of these details is accentuated by the postoperative appearance, in each of the three cases cited above, of temporary interference with the functions of the hypoglossal nerve. The degree and duration of this interference was directly proportionate to the traumatism inflicted on

rve during operation. There must be the least sible amount of scar tissue. Asepsis is essential, suppuration, aside from being dangerous in itself, uld reduce the probability of nerve union to minimum and there would later be pressure the nerve due to contraction of the cicatrix.

. The importance of the after-treatment has been icated above. The first degree of recovery con- s in symmetry of the face during quiescence, but hout volitional control over the muscles. The t degree consists in the return of volitional con- of the muscles, but with the paralyzed side of the uninfluenced by the emotions (laughing, cry- etc.). The third and complete degree consists he return of emotional control of the face.

his was acquired to a certain extent in Körte's e." The reasons, referred to early in the paper, preferring the hypoglossal to the spinal-accessory ve as a medium for anastomosis, are rendered e intelligible by Fig. 5, which represents schem- ally the sharp contrast between the close rela- ship of the nuclei of the facial (seventh) and oglossal (twelfth) nerves, and the wide interval ween the facial and spinal accessory nuclei. in the face and tongue centers in the cortex are ely associated, indeed overlap, while the face shoulder centers are widely separated, a fact hasized by Ballance and Stewart.

he physiological association of the two nuclei he medulla is strikingly shown in the frequent ction of both in disease, as labioglossal palsy, by the fact that the transverse fibers of the ue and the orbicularis oris can contract only ther. The close anatomical connection of all cranial nerves through the posterior longitudinal ile should be considered in the light of a rudi- tary plexiform arrangement analogous to that he cervical, brachial, and crural plexuses.

his close association of the cortical and medullary ers of the facial and hypoglossal nerves renders process of reëducation (previously discussed) ter and simpler than in the case of the spinal ssory.

it be granted that the hypoglossal is the pre- d nerve, there arises the further question as hether it should be completely divided and then ed end to end with the facial, or whether the al should be implanted laterally into it.

razier[11] divided the nerve below the posterior y of the digastric, over which he turned it up did an end-to-end suture with the facial.

he reasons for the method were that:

. The operation (end-to-end suture) is easier.

. The reëducation of the cortical center is easier has only the new group of muscles to work on.

. End-to-end suture causes more active nerve neration.

. If the result will probably be more complete, the nerve should be divided, because "paralysis he tongue and other muscles supplied by the oglossal is, relatively speaking, trifling."

hile the end-to-end suture undoubtedly gives the t active and complete nerve regeneration, yet felt scarcely justified in causing a permanent alysis and atrophy of its muscles, by complete ision of the hypoglossal.

The difficulties in mastication, deglutition, and onation, present for the first few weeks in our ree cases were of sufficiently marked degree to use us to feel that the complete and permanent ralysis following transverse division of the nerve ould be a serious drawback to the comfort and ppiness of the patient. Case II could swallow ly liquid food for three weeks after operation.

In Case No. I the boy's voice for several weeks sounded like that of a cleft palate, and many of the guttural words could scarcely be enunciated. Only three cases besides those in this paper are recorded, and they are all of such recent date, that the ultimate results are still problematical. A larger number of cases and a sufficient lapse of time, so that final results can be compared, will give us a reasonable basis for determining whether the patient is better off with a more complete return of power in the facial supply with permanent paralysis of the hypoglossal, or whether, on the whole, he is better off with a somewhat less complete control of the facial and only a temporary disturbance of the hypoglossal.

It seemed to us, meanwhile, the part of conservative surgery to approach the subject from the standpoint of doing as little additional damage to the patient as possible until we could see what was to be the result.

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QUESTIONS OF URANALYSIS BEARING UPON THE DIAGNOSIS OF CONTRACTED KIDNEY*

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For many years past I have been especially anxious at times about:

First, patients whom I *believed* were suffering from symptoms of uncomplicated contracted kidney.

Second, patients whom I *suspected* had contracted kidney, adjoined to neurasthenia or other disease.

Third, patients, women particularly, whose uranalysis has not shown other evidences of contracted kidney than continued low specific gravity and deficient excretion of urea.

In the first category, I place patients over forty years of age who, with manifest changes in heart and arteries, show urine in large quantity, of very pale color, low specific gravity, with deficient elimination of urinary solids (mainly urea), and traces or small amount of albumin, and few or many granular and hyaline casts. Whenever these patients take cold and begin to void a relatively small quantity of urine, or if after exposure, fatigue, or imprudences in diet, they suffer from nervous disturbances, nausea, vomiting, etc., I have considerable anxiety until these symptoms disappear, not knowing whether an explosion of threatening nature might proceed from the kidney at any moment by reason of its functional inadequacy.

*Read at a meeting of the Practitioners' Society of New York, January 8, 1904.

In those instances in which I am doubtful in regard to the renal condition present, viz., women of full or spare habits, near the menopause, who have born several children, or who from other causes have had a life full of worry, fatigue, hardship, etc., nevertheless show no cardiac enlargement and no tactile arterial thickening, and who occasionally, with constipated bowels or nervous break-down, have increased arterial tension, accentuation of second aortic sound, some uræmic symptoms with rapid dimunition in quantity of urine, which with low specific gravity and low output of urea does not contain albumin or casts. The diagnosis in these women remains doubtful as to what should be assigned to neurasthenia, and what to contracted kidney; and during twenty-four or forty-eight hours I have occasionally been much worried as to the outcome of morbid symptoms. With rest in bed during a few days, free movements from the bowels, liquid diet, and later or at the time of the attack an appropriate cardiac tonic or stimulant, such instances have cleared up, and anxiety is relieved until another outbreak occurs, which may not be in months or in years. Such attacks are caused by renal inadequacy—but behind the mere functional loss of power probably exists the contracted kidney.

In the third class it is almost impossible at times to say whether or not the patient is merely a sufferer from nervous functional disorder, inasmuch as anæmia or irregular gout may be present. Usually there are practically no characteristic features shown by careful examination of the urine. There may be, however, from one cause or another almost complete suppression of urine during twenty-four or forty-eight hours, with or without uræmic symptoms, such as twitchings, headache, nausea, etc. Such cases are on the border line, so to speak, of functional and organic disease. If the kidneys could be examined they might show interstitial changes.

On the other hand, during life they give no more evidence of them than may be discovered in many a girl of twenty who is simply nervously tired and anæmic owing to late hours and too many social engagements. The difference of age is what in the one case gives anxiety, and in the other brings relief to the mind, for after all it is most exceptional to have contracted kidney in youth under the conditions referred to.

In cases of undoubted contracted kidney we may have had urine which is thoroughly characteristic of this form of disease, and with the urine we may have had other typical signs and symptoms. Subsequently, while heart and arteries show interstitial changes unquestionably, the urine may become so modified from its examination alone it would be impossible to make an accurate diagnosis of the case. For example, the urine may be of normal or high specific gravity, eliminated in fair quantity, with abundant urinary solids and containing no albumin and no casts. In some of these cases at this period the deposit of urates or uric acid is very considerable and despite the fact that the diet has been carefully regulated. Such cases, usually, are gouty or lithæmic in origin, and such dyscrasia we can rarely, if ever, wholly eliminate.

To sum up what I would say about the classes of cases described, I would add that in certain instances *urinary analysis* alone will not enable us to make an exact diagnosis, and in every case, almost, it is desirable fairly and exhaustively to consider *all other clinical signs and symptoms*, and even then at times we shall find it difficult or impossible to pronounce ourselves in exact and positive terms about a given case.

I would like also to say a few words about cases of contracted kidney complicated with acute disease. In some of these the outlook seems very serious occasionally, if mere laboratory reports of uranalysis be considered. But if with these grave reports the general symptoms are relatively favorable, I have reached the conclusion that the prognosis is not invariably very threatening from the renal standpoint, and that eventually the patients will recover or return at least to the condition of kidneys which existed prior to the acute disease.

This statement I have verified very lately in typhoid fever. If the quantity of urine voided in the twenty-four hours is sufficient, and if we are looking after the primary acute disease rationally and with due consideration for the individual factors in each separate case, we shall have rarely occasion to dread the immediate renal condition. And while it is true in cases of contracted kidney that a low output of urea with some persons is always to be regarded as a danger signal, on the other hand, such condition may occur to an excessive degree at times and not be followed necessarily with acute manifestations of grave import, and may indeed be compatible in less degree, with many years of life, if carefully and judiciously watched and treated.

The foregoing remarks are the outcome of continued observations of numerous cases in which I have had the expert help of well-known and reliable chemists and microscopists.

Finally, I would say that I am of the opinion that not infrequently the primary form and the arteriosclerotic form of contracted kidney described by authors are essentially one and the same anatomically, and satisfactory explanation of different urinary signs at various stages of the disease remain to be given.

THE HOT FULL-BATH.*

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THE hot full-bath, as a well-defined conception, was introduced into the physician's armamentarium by Baelz,[1] in a paper read at the Twelfth Congress for Internal Medicine, held in Wiesbaden in 18[illegible]. Though hot baths had been applied before, such instances occurred without any positive indication; in fact, it was often merely by accident. Even to-day the terms "warm" and "hot" are used indiscriminately, not only by laymen and physicians, but even by specialists in hydrotherapeutics, when the full-bath is in question. In former days even experimental efforts ceased at 104°, so that most of the data in regard to "hot" baths, when they are not accompanied by more definite statements in regard to duration of the bath and the degrees of temperature, are not always useful. Following Baelz's suggestions numerous authors have discussed the question, but the results of their labors are widely scattered in the literature of medicine. For this reason a certain confusion has arisen within this domain, so that even textbooks on hydrotherapy often treat of the warm and the hot full-bath in the same chapter, and then it happens that an assertion relating to the one is made to apply to the other without sharp discriminating, and yet the same distinction should be made as sharply as between a neutral and a cold bath.

While the limits for the neutral or indifferent bath are everywhere positively announced as lying between 93 and 98.5° we find absolute anarchy prevailing beyond blood temperature.

Kellogg,[2] in his excellent textbook, calls a bath 98.5°-104° F. hot; Matthes,[18] and Raymond (Phy-

*Read before the German Medical Society of New Yo[illegible]

ology) call one of 98.5°-113° F. hot, and Bottey[1] calls from 98.5° up *très chaud*. Baruch[2] sums up all these baths under the general title warm baths, while calling those above 104° hot. Kellogg terms these very hot. Baelz defines a bath of 104° F. moderately hot, and from 108° up very hot. It must be clear also that when one refers to a duration of 2 to 10 minutes, another one of 5 to 15, and still a third one up to 60 minutes, the results must be widely different.

It may be granted that in some respects we attain the same effects with a bath of longer duration and lower temperature as we do with one of higher temperature and shorter duration, but nevertheless there is a long series of phenomena to be considered in the hot bath that are not observable in the less warm bath.

If we further remember how difficult it is for those less experienced properly to choose, for any special case, the duration of the bath from the data contained in the literature on this subject, it would seem desirable to define the conceptions more simply.

Baths from 98°-102° may be of moderately long duration before inducing heart troubles, but a bath of 106°-107° should not last longer than fifteen minutes, and those above that not longer than ten minutes.

Baths from 98°-102° approach the neutral in their effects, inasmuch as they still exert a certain sedative influence, while the second group produces entirely different phenomena, the result there being positively exciting. Therefore, it might be well to define 98°-100°, and perhaps even 102°, simply as warm, and those ranging from a temperature of 106° upward unqualifiedly as hot. If these terms were adopted the very name of the bath would at once suggest the boundary to be set for the duration and the physiological effects that would become pronounced. To differentiate according to Baelz, "moderately hot" and "very hot" has already been proven impracticable, because these terms have not become established in the literature.

Baelz, in his data, has reference always to baths as hot as possible, such as are customary among the Japanese, but the limit of endurance with us seems to lie between 109°-110° and a duration of 6, 8 to 10 minutes, which on the one hand should always suffice to produce the desirable effect and on the other, with some care, should never bring about undesirable eventualities. Therefore, we may use the term "hot bath" as denoting a bath of 107° or more and of a duration of 6 to 10 minutes, and such a bath deserves much more careful attention on the part of physicians than has been the case hitherto. Baelz has already given utterance to this thought, and the writings that have appeared since then confirm it. Whoever has once become familiar with this bath will often resort to it not in vain, when other means fail. Since 1893 I have recommended it in thousands of cases, and owe to it many a gratifying success. In fact, I think it may be classed among the most potent therapeutic agents of all.

Technique.—The bath, as a full-bath, should cover the body to the jugular fossa. The temperature should be 107 to 108°. The patient enters it slowly, so that one or two minutes elapse until he is fully immersed, for many experience pain from even this temperature and become timid. The bather should lie down comfortably on his back, but should not wash himself or make any unnecessary movements, for thus the water will be made less hot to the feel. He is to stay in the bath as long as it is agreeable to him, but the moment his temples pulse disagreeably, or a feeling of apprehension makes itself manifest, he must leave it. Under no circumstances must he remain in the first bath longer than eight minutes, even if he feels well. There should be no cooling by means of a douche, cold sponging, or addition of cold water unless in the eventuality of an attack of faintness. The arising also should be slow, and the drying off process is best done in a sitting posture, precautions which both tend to prevent swooning.

By a strict observance of these rules I have never had to record an untoward accident, and even special precautions for the head, such as a cold compress or a preliminary washing of the head with hot water, are, as a rule, unnecessary, but may be adopted if the bath is to be of longer duration. With babies and children I let the bath begin at 102-106°, filling the tub about three-quarters full. After a minute the child will have become reconciled to the heat, so that the temperature may be raised to 107° or 108° by adding hot water without exciting any particular protest on the part of the little one. At this temperature it is to remain in the bath four or five minutes longer without being rubbed. Then, undried, it is loosely wrapped in a dry sheet and taken to bed to perspire from one to three hours. Most of the children fall asleep at once. Adults who bathe at home may also thus undergo perspiration without being dried. The number of baths should be one or two per day, in special cases even four to six. If the patient stands the bath well the temperature may be raised to 113°, or the time protracted a few minutes; still I have never had occasion to give more than 108° or to extend the time beyond ten minutes, and I regard a more radical procedure as unnecessary in general, at least as being required only in very special cases.

Physiology.—In the act of entering the tub, incident to the intense irritation of the cutaneous nerves, a contraction of the vessels and muscles of the skin causes paleness and cutis anserina. Both will be relieved in a very short while by dilatation of the superficial vessels, so that after the bath the skin appears more or less scarlet. This dilatation is a passive one, the result of a temporary paresis of the constrictors, and therefore to be distinguished from the reactive dilatation of cold irritation. For this reason a cooling process after the hot bath, such as after a neutral or warm one, is nonsensical.

For the same reason no cold can be contracted for some time afterward, for the origin of a cold we assume to be a contraction of the vessels of the skin with an enforced return of the blood to the inner organs; therefore the baths may be taken outside of the home, even in stormy weather, so long as the patient returns, within the next quarter or half an hour, to a shelter where he no longer can catch cold. This constitutes an enormous distinction between, and advantage over, other heat-inducing baths. The arteries are dilated. The sphygmogram is rather dicrotic and the percussion wave is missing. The hyperæmia of the skin means anæmia of the internal parts. This is proved by the suppression of hemorrhage, by Schueller's[3] known experiments on the brain, and by the distinct contraction of the radialis seen by Oliver. Further, Leared, Wordsworth, and Allport[4] have noted a decided and marked paleness of the optic nerve and a diminution in the size of the retinal vessels after a Turkish bath, and have assumed from these phenomena that there is a reduction of the circulation in the brain. I think there can be no reason why this should not be the case in the hot bath. In cases of venous stagnation in internal

organs, the stagnation is temporarily removed, and a more rapid circulation is made possible, which may restore tissues that are not too deeply affected —as, for instance, is evidenced by the immediate success experienced in the case of catarrhal lesions of the upper-air passages.

The changes in the composition of the blood, so much discussed in late years, have not proved essential, and are merely changes in the blood distribution. Only the number of the leucocytes is increased, a state that is sometimes said to be demonstrable even after the elapse of twenty-four hours.[9] The diminution of red corpuscles in the greater arteries is to be explained by their gathering in the dilated small and smallest vessels and, perhaps, by stagnation in inner organs, *e.g.* the liver. An inspissation of the blood occurs only in the minutest degree, even when the bath is radical in temperature and duration, because serum flows back from the tissues into the vessels. Then the muscles are poorer in water and the blood serum is of a higher specific gravity.[10] With short exposures the density of the serum remains stationary, and this may be said to apply to the hot bath. However, these phenomena observed by earlier investigators are entirely refused recognition by Krebs and Martin.[11]

The heart's action is accelerated and the pulse rises rapidly to 100, 120, and over. It is full and large but smooth. When the duration is short the bath acts as a stimulant to the heart, but may, when protracted, lead to heart failure.

If certain authors advise that these baths be extended over a period of 20, and even 60, minutes, I can explain this only on the basis that the water must have cooled very rapidly. My tub, for instance, will lose in 10 minutes 3; in 15, 4, and in 25 minutes, 7 degrees. In my opinion very few minutes will accomplish the desired purpose. The acceleration of the pulse will continue after the bath for about three hours before the normal rate is regained. In cases of retardation of the pulse on account of autotoxic influences this acceleration may restore a normal rate. The respiration is quickened and deepened, the change of gas augmented.

The diuresis is markedly reduced, the urine is more acid, the sweat production enormously enhanced. According to Ries, and contrary to the commonly accepted view, sweat is secreted also during the bath and afterward pours out profusely, especially when the patient is wrapped in blankets. Comparative experiments by Hess, Zelenetsky,[12] and others showed that the quantity of sweat secreted is far more abundant after this application than after any other procedure. The temperature of the body rises quickly, more rapidly than in any other form of bath. With a bath temperature of 107°-108° and a duration of eight minutes, a rectal rise of two degrees and more is observed, and this is achieved mainly through the circulation, a little by direct conduction, and somewhat by increased production.

During the first moments of the hot bath many experience a sense of pain rather than one of heat, but a sensation of utmost comfort will soon set in. The entire nervous system undergoes a local and general temporary stimulation, which also invigorates the protoplasmic activity of every cell of the organism.

According to Maggiora and Vinaj,[13] the amount of work capable of being done by a muscle is reduced after baths of 104°, but heightened after douches of 106°. Baths of 107°, especially when short, may act like the douche. However, the data of the 104° bath are not in accordance with the experience of Bælz and Determann, who, regarding hot baths as a reliable means of invigoration, recommend them without reserve as a restorative when fatigued. My experience confirms that. Certain persons, unaccustomed to the hot bath, feel some weakness or exhaustion after the first or second bath, but there is later on always a marked stimulating effect upon mind and body.

As Winternitz, Jr.,[14] established the CO_2-excretion and O_2-absorption are positively augmented, the decomposition of non-albuminoids markedly increased. After a long dispute the fact has been settled beyond question that the nitrogen metabolism is raised by a hot bath and the destruction is more speedy than even in fever.

However, in my opinion, the influence of the hot bath of 107° to 108° and 8 minutes' duration, as recommended here, is certainly not very potent and, therefore, I do not rely upon it as a means of reducing obesity, as advocated by others. On the contrary, many observers have seen the bather gain in weight after a number of baths.

An absorption of drugs added to the water takes place exclusively with keratolytic substances.[15] Generally the action of the hot bath, which by the way is still far from being absolutely clear, resembles that of steam, hot air, and electric-light baths, but it has this advantage over all these that the rise of temperature and quantity of perspiration is much more marked, and the hot bath should be preferred also when the nervous system is to be spared.

There is no doubt that the success of quite a number of thermal springs and baths with artificial additions, as tan, salts, etc., must be attributed to the high temperature, and I think Baelz's note very appropriate in which he says that, if all these baths were given as a technically proper hot bath, there would be still better results than now.

It is often observed that during longer treatments the pulse by degrees becomes less frequent and the quantity of sweat less abundant. That would argue in favor of an accommodation of the organism, which, in view of the Japanese custom, I do not regard improbable.

Here would be the place to mention the statement of Foss[16] that the unlooked-for incidents of a too far protracted bath with reference to the heart, brain, and respiration can be avoided and removed by the inhalation of pure oxygen, and in this way the bath, if deemed beneficial, may be prolonged at will, especially if the precautions for the head above mentioned are observed.

Therefore the action of the hot bath may be said to be based upon: (1) a powerful stimulation of the entire nerve system for a brief period; (2) an intense revulsion of circulation leading to hyperemisize the skin and unburden inner organs; (3) a perspiration more abundant than after any other form of bath; (4) a raising of metabolism, and (5) the creation of a sometimes valuable leucocytosis. Accordingly, the hot bath is indicated:

(*a*) Whenever we intend to incite energetically the metabolism during a given moment, or, in other words, when we wish to create a "curative fever." For, as Virchow once said, "it may be that a fever has salutary effects, that a fault existing in the organism may be consumed by the grand metabolism of fever." or, to cite Liebermeister, in Leyden's *Zeitschrift für physicalische und diätetische Therapie:* "We may assume that obnoxious organic substances, poisoning the organism, are oxydized and turned into non-perilous combinations, the more so, the more active is the metabolism, the oxidation in the body." Besides, according to Emmerich and Trubois, the activity of Buechner's alexins is said to be enhanced.

(*b*) The hot bath will be indicated where there are toxic substances to be eliminated, either chemicals, as mercury, arsenic, potassium, iodide, etc., or autotoxins. The greater toxic coefficient of sweat produced by physical over that produced by chemical means has been repeatedly demonstrated in medical literature, and it was Brunner[23] who elucidated that even bacteria, such as Staphylococcus albus and aureus, the anthrax germ, and B. prodigiosus are eliminated by way of the perspiration. In consequence of this, Kabierske went so far as to speak of a disinfection of the human body.

(*c*) A third indication exists when we wish to remove exudations and stagnations in internal organs.

(*d*) And fourthly, we may resort to the hot bath, when an energetic incitation of the entire vital cell activity is the purpose, for, to cite Bosanyi, "the mobility of protoplasm is enhanced, and the activity of the vessels and the amount of labor produced by the nerve system are multiplied."

Coming now to special indications, the hot bath is the sovereign weapon, as all writers on this subject agree, against the acute maladies of the upper-air passages. Three baths, given at intervals of twelve hours, will cure the rhinitis of the new-born, often so unpleasant, and that of the adult. The results in cases of laryngitis, tracheitis, bronchitis, and bronchopneumonia are equally excellent, according to Rix, Lasègue, Baelz, Baruch, Matthes, Kellogg, and others. At the Berlin Balneological Congress, Putzer[10] praised it highly for the laryngeal stenosis of measles.

Juergensen[12] and others use baths of only 104°, but of longer duration. According to my experience, the hot bath, as defined above, is more effective and less exacting upon the nervous system. In pseudocroup no other means secures prompter results in my estimation. Further, asthmatic attacks of various origin yield readily, but, of course, when they are of cardiac origin, care must be taken. Emphysema and dry pleurisy should also be mentioned here.

As many believe hay-fever to rest upon a gouty or nervous basis, a trial of the hot bath with this disease and nasal hydrorrhœa is certainly advisable.

Heart disturbances, when the organ itself is not defective, afford no contraindication in view of the short duration of the application, nor do compensated heart troubles or, according to Rosenthal[20] and others, valvular diseases and even angina pectoris. In asthma cardiale I have seen the hot bath act excellently in a case of mitral insufficiency, and other observers record similar cases. Still I wish to emphasize that the physician himself should watch the first bath, and also that he should be thoroughly conversant with hydrotherapeutics.

In kidney troubles, warm and hot baths have long been in use. It is not always easy to decide when cooler, or even cold, warm or heat-producing procedures are indicated, but whenever the last mentioned are deemed the best, hot baths should have the preference, because they are productive of more perspiration and are less exacting in their influence on the heart. It is repeatedly and explicitly stated in the literature that patients prefer this form of bath to any other. Whenever the nature of the case in question will permit it, dropsy and albuminuria often vanish with unexpected rapidity. Even uræmic symptoms hardly form a contraindication, especially when the loss of water is carefully compensated by copious drinks. I wish to emphasize, however, that in all these cases the technique as given above must be strictly followed. When, for example, Liebermeister quickly raises the temperature from 100° to 106° and leaves the patient in the tub up to thirty minutes, I would not regard this procedure as commending itself to imitation; at least such a policy would be adapted only to certain very special cases. In any event it would be more rational to give more and shorter baths.

The results are furthermore excellent in rheumatic diseases of all forms, especially those of a chronic nature. I have often seen workingmen, who every year were unable to work during periods extending over several weeks, restored by the regular use of these baths and now are able to work continuously. Kellogg and Moritz[11] apply two to three baths daily in acute rheumatism in combination with salicylic preparations, and state that thus the doses of the drug can be considerably diminished. Baelz and others recommend baths also in gout, and I believe that a hot bath in all cases of rheumatic or gouty ailments should be tried in the first instance. In the majority of cases the results are satisfactory sometimes not in subacute ones, however, until after a transient exacerbation.

Contrary to Baelz's opinion, Rosin praised the bath in chlorosis in a paper, read at the Sixteenth Congress for Inner Medicine, and I also have seen that often when medicaments failed the baths were successful.

Schmidt[18] observed favorable effects in osteomalacia after hot-air baths, and attributed this to the action on the periosteum and marrow, and, possibly, to an augmented excretion of acids. I would prefer the hot bath in this case. In scrofulosis and rachitis I have used it for years, at weekly intervals or oftener, for the purpose of revulsion and stimulation.

Female diseases comprise an important chapter. Gottschalk[6] extols the hot bath in climacteric troubles and after ovariotomy when the women are suffering from flushes, etc. The effect is, he says, due to lowering of the arterial pressure. If that is true, I wonder why he adds, as he does, Stassfurt salt, and the duration advised by him also seems to me too long. Engelmann,[17] Duehrssen, and others advise warm baths with additions of various salts in chronic, feverless affections of the pelvic organs. Very often, I am sure, a hot bath would be more rational. Almost brilliant results are shown with the host of menstrual grievances. If dysmenorrhœic pains do not stop in all cases, at least they will be alleviated. Profuse hemorrhages, even occurring with myomata, are lessened, and the period is abbreviated.

In the treatment of syphilis the hot bath can properly replace other sweat-producing baths. I have always had satisfaction when using this treatment for inveterate cases of psoriasis, exhibiting large indurated areas. Gokielow[24] recommends it in acute and even moist eczemata caused by local irritants, and in such cases it is said to be astonishingly effective. I do not doubt that in many old and hitherto obstinate skin diseases the hot bath would yield almost unhoped-for results. Rosenthal lauds it in stubborn cases of chancroid. As a rule, torpid ulcers will change their character as they do when local hot applications are resorted to.

To encroach upon the ophthalmological realm, Koch[7] wrote on the hot-air-box treatment for affection of the lids, conjunctiva, sclera, retina, and choroid based on defective metabolism and of gouty, rheumatic, and specific origin. Hot baths may also be given here, instead of the above mentioned treatment, as I have experienced in my own practice; of my cases I will mention only scrofulous corneal affections, and some cases of severe iritis that could not be controlled by the previous

treatment of a well-known specialist and had relapsed again and again.

Another field for the hot bath is in cases of neuritis and neuralgia, which hitherto have been combated with other forms of sweat production. When there is no anatomical lesion present, especially when the case is of rheumatic origin, satisfaction seems inevitable.

In maladies of the central nervous system hot baths are regarded as strictly contraindicated. Most authors, including Baelz, warn explicitly against them. Sometimes lack of success and even damage may be attributed to a defective technique, the bath not being hot enough or too protracted. That good results may be obtained, however, the publications of Schuster,[22] Bouchard, and other French neurologists demonstrate. They report satisfactory results in cases of myelitis lumbodorsalis, hemiplegia, progressive pseudoparalysis, etc. Schuster found that patients not only bore the baths splendidly, but that it proved effective, and he commends them strongly, whenever other methods of treatment prove useless, but, it must always be remembered, strictly as outlined above. Only once, in a tiresome case of locomotor ataxia, I advised the hot bath hestitatingly against the painful neuralgias of the legs, with the result that I had trouble afterward to stop the treatment, for the patient began to regard them as a panacea for all his numerous ailments.

Then again, in the daily routine of practice, there are disorders and rather harmless indispositions, local and general in nature, which, as a rule, are not to be classified either as to diagnosis or as to etiology. Colds, over-exertion, perhaps also autotoxæmia or local defects in circulation, may play their rôle, but no fixed pathological basis can be made out. All these ailments are relieved by a hot bath, which certainly, according to the above outlined indications, is more rational than the multitude of drugs which are picked out often merely by chance, *ut aliquid fiat*.

Finally, the hot bath has been applied in a number of acute infectious diseases with partly unexpected results. Lanaras and Rumpf combated by it the algid and asphyctic stages of Asiatic cholera. Others did not obtain satisfactory results, perhaps on account of defective technique. For a temperature of 108° to 113° and a duration of fifteen minutes are a little too much. Kellogg and others praise it in cases of typhus and similar infections, without regard to the temperature, whenever the circulation is dormant, the nervous system deeply depressed, and the skin cool and inactive. Under the same conditions, in cases of scarlatina, v. Juergensen commends baths at a temperature of 104° and with a duration up to 60 minutes. I do not agree with this advice and insist upon the technique mentioned. The shorter and hotter the bath the more accentuated the stimulation will be. Also in puerperal eclampsia, as Kellogg cites, it proves very satisfactory, and so has it, in my experience, in the stage of collapse in babies with cholera infantum.

Aufrecht, Woroschilsky, Wollisch, and Ewnin report altogether 15 cases of well-defined cerebrospinal meningitis in which the result was brilliant. In all cases of this pyretic affection the temperature fell very decidedly after the bath.

With influenza in the beginning, a bath may be tried. Often its action will cut short the onset, but even if this does not occur, the bath is sovereign in resulting neuralgias and to shorten the term of convalescence.

Finally, hot baths are recommended in infantile convulsions, delirium, and in colics of various origin, and for some time the bath, alternating with cold plunges, has been given to reanimate the asphyctic new-born.

The hot bath is to be avoided positively in marasmus, cases of myocarditis and uncompensated heart troubles, in cases of nervous irritation, with atheroma, when there are fetid masses present in the intestines, in cases of pus collection anywhere in the body, and whenever by inspissation of secretions pus could be retained, *e.g.* in fetid otitis media, epididymitis, and all highly febrile conditions, so long as the factors cited by Kellogg are out of consideration.

All these indications illustrate the range of action of the hot bath. Whoever will handle it properly as to the technique will soon be convinced that it is a most valuable weapon in the physician's armamentarium.

As one speaks of a Brand bath, or of Ziemssen's, the hot bath should be named the "Baelz" bath, in gratitude to him who brought it to us from the far East.

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A Sanitarian Duty.—For our own sake, to say nothing of the rest of the world, it is our duty to stamp out yellow fever on the isthmus. That we can do it is proven by what we have done in Havana and Santiago. The isthmus is a much greater proposition, yet we doubt not that American sanitarians will yet accomplish on the Isthmus of Panama, at least so far as the canal belt is concerned, exactly what has been done in Havana and Santiago—reduce the danger from yellow fever to a minimum.—*Montgomery (Ala.) Advertiser.*

THE ORDINARY "X" AND ULTRAVIOLET RAYS IN THE TREATMENT OF TUBERCULOSIS.*

By J. B. RANSOM, M.D.,
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ALTHOUGH so short a time has elapsed since the Röntgen or *x*-ray began to be used as a therapeutic measure, it is fast coming to the fore among therapeutic questions. On every hand there are evidences of increasing interest in this subject, and many of the very best men of our time are devoting their energies to its study and development.

A vast amount of experimentation is going on, and careful observation and painstaking work are giving absolutely positive results in the cure of heretofore if not absolutely incurable, certainly very stubborn, lesions. Notwithstanding this, however, the subject is still an open one. Comparatively little is known as to just how wide a field of application it may have, nor is it yet possible to fix its status in the treatment of disease. The use of this agency is in its infancy, and is restricted largely to the specialist, and is not, I believe, in any large sense, used by the general practitioner.

Like many another great physical force, the use of the "*x*" and light rays in the treatment of disease is, as a whole, little understood. We are all apt to look upon these great forces of nature—because we cannot see with the naked eye their operations and powers—with skeptical indifference; in other words, we do not believe what we cannot see. Because these forces are so much our every-day companions and constitute so entirely our environment from childhood to old age, we overlook their true significance, and their tremendous potency, even in the mechanical and commercial world. We breathe the air, drink the water, feel the warmth, see the light, and use for many purposes electricity, and even see an electric wave shot across 3,000 miles of ocean unchanged, by the Marconi transmitter, but yet, we do not look upon them as presenting therapeutic possibilities.

It is true that, for centuries, more or less has been known of the beneficial and curative effects of these elements. We know that hydropathy has for a long time formed a system of medicine; electricity has been extensively used; the administration of oxygen, heated air, and light have all, to some degree, been developed, and have produced a measure of results. It remained, however, for the discovery of the *x*-ray and radioactive bodies to open our eyes more fully to the great possibilities and almost limitless field of exploration beyond our ordinary vision. If we concede that there is no such thing as solid or stable matter, we then realize that all substance is in motion, and capable, by increased motion, of changing form and shape, and, by a species of harmony in motion, of producing marvelous changes in form and effect.

More especially is this true of the phenomena of light. Vision begins at about 450 billions of vibrations per second, and ceases at 700 billions. In this we catch a glimpse of the stupendous variations of light. At the juncture of 700 billions of vibrations, human vision ceases, and the violet ray begins. Beyond this, these vibrations can only be interpreted by the photographic plate, or the fluorescent screen, when illuminated by the *x*-ray. Thus it is that the *x*-ray, by its penetrating power, lengthens vision, and admits us to a realm of observation heretofore absolutely impenetrable. These *x*-rays are the highest form of vibration we know. So high is their frequency, that they have never been counted. They travel in straight lines, and cannot be diverted by any magnet or means known to us, and they are too small to be reflected by any polished surface we are at present able to obtain.

After the *x*-ray comes the ultraviolet ray, which is a so-called chemical actinic ray with vibrations of two trillions per second. These ultraviolet rays should not be confounded with the blue glass rays introduced by General Pleasanton in the '70's. Finsen of Copenhagen began developing phototherapy by the use of the ultraviolet ray some time in the '90's. They were first developed by sunlight, by means of colored glasses, or prisms, and then later by means of electric arc lamps.

It is well to understand here, that treatment by the *x*-ray tubes is not treatment by electricity, as ordinarily understood. We only use the electric current to develop a higher frequency of light oscillations than can be produced through any other agency. The effect produced upon the tissues is simply a bombardment by light rays producing interchemical action.

In my practice I have used the double-focus, high vacuum tube and the ultraviolet Mount-Bleyer tube. I am now using chiefly this ultraviolet tube, which is a new method of developing the ultraviolet rays by means of electricity. This tube is an ordinary Crookes' tube, from which the gases have been exhausted in a certain way, and the metal disks so arranged that an ultraviolet, instead of a green-yellow ray, is produced. The advantage of this ray over that possessed by the Finsen lamp ray is its greater penetrating power, simplicity, and ease of operation. It does not differ materially from the ordinary *x*-ray tube in appearance and is very easily operated.

The chief use of the *x*-ray as a therapeutic measure, as you are aware, has been in the treatment of malignant growths, such as sarcoma, carcinoma, epithelioma, rodent ulcer and various forms of skin diseases, and, more recently, tuberculous lesions. To this form I shall confine my remarks to-day. Finsen has reported a very large number of cases of lupus treated by the Finsen ultraviolet light, which I omit from this report, as they were not treated by the *x*-ray proper. My own work in this line, as before mentioned, has been almost entirely restricted to tuberculous lesions. I have treated in all forty cases.

The tubes used in this treatment were excited by the current taken from an alternating lighting line, passed through a high potential and a high frequency coil, producing a 7½-inch spark. Exposures are made at a distance of from 10 to 30 inches from the tubes, parts not necessary to expose being protected by sheet lead. Exposures are made about three times a week, or every other day; the length of exposure being entirely governed by the case, and ranging from one minute to ten minutes. By making short exposures, no burns have occurred. Of the forty cases treated, eight, or 20 per cent., were cured, thirty, or 75 per cent., improved, and two, or 5 per cent., discontinued.

CASE I.—A case of tuberculous abscess of apex of right lung pointing above clavicle in triangle of neck. This abscess was incised, and drained, and treated some five months without much amelioration of discharge, or improvement of health of patient. Treatment by *x*-ray began in December last, and immediately there was improvement; the discharge lessened, the sinuses gradually healed, general health was improved, patient was discharged as cured, and has remained well to present date.

CASE II.—A case of tuberculous excavating ulcer

*Read at the annual meeting of the Medical Association of Northern New York, at Saranac Lake, N. Y., 1903.

of ear and face. Treated several weeks by ordinary surgical procedure, but to no avail. Disease made rapid progress until it was submitted to the *x*-ray treatment, when a few exposures resulted in arresting the disease, healing began, and practical cure resulted within a few weeks. The action of the ray in this case approached the marvelous, and patient remained perfectly well up to the time of his discharge, which was ten months after treatment.

CASE III.—One of tuberculous caries of sternum with discharging sinuses. Patient was operated on, and afterward submitted to *x*-ray. He immediately showed improvement, and was discharged from hospital cured.

CASE IV.—Case of tuberculous caries of sternum. Cured by exposure to *x*-ray, and has suffered no relapse up to the present time.

CASE V.—Tuberculous caries of sternum. Treated by incision, drainage, and *x*-ray; improved rapidly under treatment, which was discontinued on account of patient's being discharged and passing from observation.

CASE VI.—Case of tuberculous caries of sternum; treated by incision, drainage, and exposure to *x*-ray; still under treatment and improving rapidly, the carietic process apparently arrested.

My experience with tuberculous diseases of the sternum had up to the time of using the *x*-ray been unsatisfactory, radical operations often failing in eradicating the disease. One case in particular, in which two or three extensive operations had been done, removing a large portion of sternum, did not result in checking progress of disease, and the patient finally succumbed after months of suffering. Thus far, every case of sternal caries has yielded to the *x*-ray, and in it we seem to have a powerful agent in arresting this troublesome manifestation of tuberculous disease.

CASE VIII.—Case of tuberculous caries of metatarsal bones of great toe. Exposure to *x*-ray resulted in rapid healing of sinuses. Case still under treatment with only a few drops of seropus in evidence.

CASE IX.—Case of tuberculous caries of submaxillary. Still under treatment, practically well.

CASE X.—Case of extensive tuberculous caries of foot, leg, and arm. This was a case of long standing sent me by another physician, he having practically despaired of cure, and, I believe, had advised amputation. Nearly all the tarsal bones were involved, and the lower end of tibia. The foot was very much tumefied and twice the normal size. There were a number of deep-seated sinuses discharging fetid pus. Ordinary treatment was persevered in for a long time, with but slight amelioration. Exposure to *x*-ray resulted in immediate lessening of discharge, and final healing of all sinuses, subsidence of tumefaction, and cure of disease, patient having remained well for over seven months to present time. This patient also suffered from tuberculous synovitis of left elbow-joint, in conjunction with caries of head of radius. Drainage, treatment by *x*-ray, which resulted in prompt healing of sinuses with excellent results.

CASE XI.—One of extensive burrowing sinuses in gluteal region, from tuberculous fistula in ano of twenty years' standing. One of these sinuses measured ten inches in length. Treated by incision, curettement, exposure to *x*-ray, under which rapid absorption of infiltrated tissues took place, healing of all sinuses—a most excellent result.

CASE XII.—Case of tuberculous disease of scrotum involving right and left testicles. Treatment—incision of right scrotum, and removal of large tuberculous mass from right testicle—drainage, exposure to *x*-ray. Result, practical healing of right side and lessening of two-thirds of tumefaction of left side. Patient still under treatment.

CASE XIII.—A case of tuberculous synovitis of elbow-joint; still under treatment—improving.

CASE XIV.—One case of tuberculous tumor of abdomen, treated by exposure to *x*-ray. Result—total disappearance of tumor.

CASE XV–XXII.—Eight cases of tumefied axillary and cervical glands. Most of these cases were in aggravated forms, some of the glands showing excessive enlargement. Many of them were of long standing, having resisted all the ordinary means. In several of these cases the glandular enlargements have disappeared, all have improved, and curative results will probably follow in nearly all cases.

In this connection I desire to mention two cases reported to me by Dr. Wm. J. Morton of New York, whom I quote as follows: "It is certain that this class of cases do excellently well under the *x*-ray. I have cured two such cases, each of which having been submitted to five different operations before they went under the *x*-ray, but in each case extensive recurrence occurred. The *x*-ray was the only thing that put an end to the disease." I believe by judicious incision, and persistent use of the *x*-ray, that only in exceptional cases will removal of enlarged glands, or lymph nodes, be found necessary, an operation which an extended experience with this class of cases has taught me is seldom satisfactory.

CASE XXIII.—One case of tuberculous consolidation of lung along track of gun-shot wound; still under treatment, the consolidation disappearing and patient improving rapidly.

CASE XXIV.—One case of tuberculous pleurisy with intercostal neuralgia, very much relieved and discharged from hospital.

CASES XXV–XXXI.—Seven cases of chronic pulmonary tuberculous phthisis, with very profuse expectoration. These cases were treated with marked improvement in quantity and quality of expectoration, general improvement of symptoms. Still under treatment.

CASES XXXII–XXXIII.—Two cases of advanced chronic pulmonary tuberculosis. Treatment was discontinued on account of low state of patients.

CASES XXXIV–XXXIX.—Six cases of chronic pulmonary tuberculosis still under treatment, all doing well.

CASE XL.—One case of tuberculous disease of thyroid gland, still under treatment, improving.

Through my experience of its use, I am satisfied that the *x*-ray, and especially the ultraviolet ray, is a potent agent in the treatment of all superficial tuberculous lesions, and that we have in this ray, a powerful factor in the cure of this class of cases. As to the deep-seated pulmonary lesions, the number of cases treated is too small, and the time elapsing since commencement of treatment too short, to estimate fully what results we may expect from its use, in these manifestations of tuberculous disease. So far as I have gone in its use, I am impressed with its efficacy in this class of cases. It certainly relieves pain, promotes sleep, stimulates local circulation, thus clearing consolidations, and, after a time materially lessens expectoration. There seems no reason why the *x*-ray should not be effective in the treatment of the deep-seated pulmonary lesions. To satisfy myself as to the penetrating power of the rays, I exposed a patient having an ordinarily thick chest to the *x*-ray anteriorly, strapping to his back underneath the scapulæ, two keys, and then holding a dry photographic plate posterior to the keys, and giving the plate an exposure under the high vacuum

tube of sixty seconds. The result of this exposure shows that a very large percentage of the rays pass through the intervening chest walls, the pulmonary structures, and emerge at the posterior wall in a sufficient number to make a fairly clear impression upon the photographic plate.

I know of no other therapeutic agency at our disposal which is able to reach the deep-seated pulmonary lesions so frequently found in pulmonary tuberculosis, and I urge upon you the use of this agency in the treatment of this class of cases. Let me caution you, however, as to its use in recent hemorrhagic cases, as, in my own experience, I had three slight hemorrhages immediately following exposure in cases in which hemorrhages had been of recent origin.

If you ask me how the *x*-ray produces its results in the cure of tuberculous conditions, I shall have to answer, that its precise manner of action is not known. It is believed by many to be due to the development of nascent oxygen in the tissues, or ozone, and their effect in setting up interchemical action. Others believe in the ionization of cells. It is quite positively determined that its action is first destructive, and then reconstructive. That it produces certain marked changes in the cells has been positively proven by microscopical study. The power to inhibit bacterial life is not fully proven of the high vacuum tube. It undoubtedly does this to some extent. The ultraviolet ray, however, is positively inhibitive to bacterial life and growth. This I have already proven to my entire satisfaction in my own laboratory, in which active cultures of tubercle bacilli were exposed for different lengths of time, varying from one minute to thirty minutes, to the ultraviolet ray as produced by the Mount-Bleyer tube. The result was the inhibition of all bacterial life in these tubes, the control culture growing rapidly. This corresponds with the experience of others who have made similar tests.

Here, indeed, is a wide field of research and close observation, and it is to be hoped that every practitioner of medicine will make this phase of therapeutics a subject for thought and experimentation. If the finsen light and *x*-ray apparatus are not available to all, the sun in the heavens certainly is, and light, as a medicinal agent, is at the disposal of every practitioner.

ANTISTREPTOCOCCUS SERUM IN PERNICIOUS ANÆMIA.*

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It is nearly half a century since the distinguished English physician and acute clinical observer, Dr. Addison, described the first cases of idiopathic anæmia, as he called it. Notwithstanding the fact that since then the affection has attracted almost more than its due share of attention, we are as yet absolutely in the dark as regards its cause. It is true we have limited the range of the disease somewhat by the demonstration that cancer, and especially carcinoma ventriculi, may give almost exactly the same clinical picture as pernicious anæmia, and that undoubtedly some of the cases described before 1880 as pernicious anæmia, were really gastric cancer. We have learned, besides, to recognize that severe secondary anæmias due to any persistently active cause, may give the exact clinical picture of pernicious anæmia. Frequent hemorrhages, if repeated, or even the drain upon the system caused by the presence of intestinal parasites such as the anchylostomum duodenale may produce an apparently progressive pernicious anæmia.

Notwithstanding these discoveries as to simulated pernicious anæmia, we are as much in the dark as ever, with regard to the cause of true pernicious anæmia. A group of cases remain in which, without any so far ascertainable cause, a diminution of red blood cells occurs that proves inevitably fatal. The mystery of the etiology of the disease has piqued curiosity and has led to an exhibition of greater and more general interest in the disease than perhaps its comparative infrequency, though this would seem to be less and less a marked feature of the disease, might seem to justify. For pernicious anæmia is certainly commoner than used to be thought, and the fact that one man was able to report over one hundred cases of the disease in his personal experience at a recent meeting of the Association of American Physicians shows that many of the cases are missed in diagnosis.

When, some three years ago, Dr. William Hunter of London offered a new explanation of the etiology of pernicious anæmia and shortly afterward made a suggestion as to treatment founded upon this theory of the etiology, it attracted very naturally a good deal of attention. Dr. Hunter found that in a series of cases of pernicious anæmia, carefully examined for that purpose, practically all of the patients presented an extremely bad set of teeth. He argued that these foci of septic microorganisms supplied a large amount of infectious material that in the stomach gave rise to septic gastritis, as the result of which substances capable of destroying red blood cells were absorbed into the system.

Dr. Hunter described the relationship between the cario-necrosis of the teeth and gastric catarrh, as follows:

"1. There is a limit to the capacity even of the stomach to resist indefinitely for periods of years the continuous presence of pus-forming and other organisms derived from cario-necrotic conditions of the teeth.

"2. Its power of destroying such organisms are never complete in health and are due solely to the presence of free HCL.

"3. These powers become progressively weakened when through any cause an increased and continuous supply of pus organisms is associated with a diminished and continually lessening acidity of the gastric juice.

"4. These two conditions are precisely those produced by chronic cario-necrosis of the teeth.

"5. In time the catarrh of the stomach, so common a sequel of imperfect dentition, possibly of simply an irritant nature to begin with (the result of fermentation), becomes septic in its character and is really due to actual septic infection of the mucosa.

"6. Eventually it may even lead to the deeper seated changes which always result from chronic catarrh, namely, atrophy of secreting structures with increase of fibrous tissue, chronic gastritis with atrophy of the glands."

As Dr. Hunter's theory seemed to explain the association of certain almost constant gastric changes that occur in pernicious anæmia, it seemed all the more plausible. While bad teeth have been looked upon as a frequent source of ill-health because of the mechanical interference with the preparation of food which they presented, the idea of their being a source of infectious material was new. In the moist, warm oral cavity, with plenty of nutrient material, microorganisms might easily grow luxuriously, and immense quantities of them would find their way into the stomach. Dental disease, then, in Dr. Hunter's

*Read before the Section on Medicine of the New York Academy of Medicine.

words, should be set down as a cause of ill-health in consequence of being the continual source of septic poisoning and septic infection, both local and general.

A study of the bacteriology of caries of the teeth showed the character of the microorganisms producing it. The most frequent microorganismal cause was the bacillus gangræna pulpæ which is capable of producing gangrene of the pulp and softening of a tooth even in an alkaline medium. After this specific bacillus the most important mouth microorganisms are the ordinary pus microbes, especially the staphylococcus pyogenes aureus and the streptococcus pyogenes. The streptococcus, above all others, might well be expected to produce serious septic conditions in the stomach, if swallowed in any quantity.

Dr. Hunter found that the treatment of patients suffering from pernicious anæmia with antistreptococcic serum, was followed by beneficial results. Not many cases, it is true, were treated in this way. But three patients made recoveries, two of them in Dr. Hunter's own hands and one in that of Dr. Elder of Leith, which seemed to be due particularly to this new therapeutic suggestion. In one of Dr. Hunter's cases arsenic was also employed. In the other case only the antistreptococcus serum was used, arsenic being deliberately withheld in order to decide as to the efficacy of the serum treatment. Besides this, the mouth was very carefully tended to and antiseptic mouth washes freely employed, in order to prevent further ingestion of septic material from the decaying teeth, besides internal antiseptics to correct the gastric and intestinal septic conditions.

The use of arsenic in pernicious anæmia undoubtedly does good in many cases. Byron Bramwell's suggestion of it is one of the therapeutic triumphs of the last twenty-five years. When that is employed no specific action can be claimed for other remedies. Dr. Hunter himself says that, as the result of the use of arsenic, the character of pernicious anæmia as a disease has changed somewhat since the original description of cases of the disease by Addison, Viermer, and others. Then pernicious anæmia was almost invariably fatal in from six months to a year. Now it is quite usual to have remissions of the disease occur during the administration of arsenic, so that the patients are kept alive for from two to four years.

Dr. Hunter's declaration of the influence of microbes in the digestive tract, has all the more weight as it coincides, or at least is analogous, with certain discoveries of Adami. Adami found that, in cases of cirrhosis of the liver, there were almost constantly present in the liver tissue certain appearances of microorganisms that had apparently found their way into the liver substance from the digestive tract. These bacilli, probably degenerate forms of the colon bacilli, are not thought to be directly related as causes to the hepatic cirrhosis, but are thought to predispose to its occurrence by rendering the liver substance less resistant to irritating agents that find their way into the portal circulation.

Under these circumstances it is not surprising that Hunter's publication attracted considerable attention. The suggestion of a hopeful therapeutic measure for a hitherto hopeless disease was especially interesting. His observations with regard to the occurrence of dental caries in association with pernicious anæmia were not confirmed by other clinicians. In a report on the cases of pernicious anæmia under treatment in Professor Osler's clinic, his assistant said at the last meeting of the American Medical Association that while the mouths of patients had been carefully examined in this regard, no specially bad condition was found to exist in conjunction with pernicious anæmia any more than in any other of the chronic diseases usually treated in hospital wards. Many hospital patients have very bad teeth. Old people especially, no matter what their ailments, are almost sure to have not only defective, but actually carious teeth. Uncleanly mouths and lack of the habit of washing the teeth is almost the rule. This is no more striking among pernicious anæmia patients than others.

Notwithstanding this failure of confirmation, when a pernicious anæmia case came under my observation last summer, I resolved to try the use of streptococcus serum. While there was no doubt about the existence of pernicious anæmia, the blood count showed scarcely 1,000,000 reds and nucleated reds with megaloblasts, the patient, an unmarried woman of thirty-eight, had absolutely no carious teeth, but had, on the contrary, one of the cleanest mouths I have ever seen. She was known to be punctilliously careful of personal cleanliness, so much so that she was considered somewhat of a crank in the matter by her relatives and her teeth were always a special care.

The anæmic condition in this case began after a series of vomiting spells that finally became so persistent that very little food was kept on the stomach. She had always been rather pale, but as the result of malnutrition her pallor increased to such a degree as to make this very noticeable to those who passed her in the street. When I first commenced the use of arsenic in the case, I mentioned the name of the remedy, and was told that one day while walking in the park the patient had heard some one remark on the extreme pallor of her complexion, declaring that it was due to the fact that she took arsenic for the purpose of giving her an interesting pallor. An observation absolutely uncalled for, but that made her hesitate as to the use of arsenic.

After the vomiting had continued at intervals for several months, she had to take to her bed. It was this time that she came under my care. I found nothing in her family history of any interest, her mother was living and well at seventy, and her sister was perfectly well and with no anæmic tendencies. Under the use of arsenic and nux-vomica, she improved considerably for some time. Her appetite became better, and it seemed as though a remission of the disease had begun.

At the beginning of the treatment, when her appetite was very poor, she found grilled bone marrow particularly palatable. There seemed to be a special liability to attacks of diarrhœa in the case, and when these occurred, mutton broth seemed to agree with her better than anything else, and had something of the traditional effect of soothing the intestines that this substance is said by the old people to have.

Notwithstanding the improvement, there were still occasional attacks of vomiting that showed the possibility of a renewal of the progress of the disease In order to get rid of these if possible, Dr. Hunter's suggestion as to the employment of antistreptococcus serum was taken. Six injections of this remedy were given at intervals of about three days At the first injection, about 5 c.c of the serum, as furnished by the New York Board of Health, was employed. In the later injections the whole amount in the vials, as provided by the Board of Health, was administered.

General reaction did not occur. There was only a very slight local reaction after the first dose. After the second dose there was an area about three inches in diameter of urticarial eruption, with redness and itching in the neighborhood of the point of injection.

The remaining four injections all caused a generalized urticaria. This served to make the patient restless and gave a small rise of temperature, but not sufficient to disturb her seriously.

In spite of the injections, the patient did not improve. Vomiting recurred more frequently; and as I left for my vacation in August, the outlook was not very promising. At the beginning of September the patient, after a series of vomiting spells and failure to retain food that had been very trying, succumbed to the disease. The injections of antistreptococcus serum did not seem to have affected the course in the least.

This is not surprising when we consider how many forms of streptococci there are and how, if any, therapeutic effect is to be expected from antistreptococcic serum, it can only be from a serum prepared from the special kind of streptococci that are causing the symptoms. There is no way of determining the special form of streptococcus, and so there is no way of making the remedy suit the special etiological agent in these cases. The history of the use of antistreptococci serum is one of constant disappointment. Its employment in puerperal fever has been absolutely without avail, except in very rare cases. Dr. Hunter's suggestion then would seem to be of no special significance for therapeutic purposes.

110 WEST SEVENTY-FOURTH STREET.

HÆMATOMA OF THE STERNOCLEIDOMASTOID MUSCLE; A STUDY OF THREE CASES.

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In the perusal of the literature of the above-named subject, we find that very little space is given it in textbooks. This may be due to the fact that it is considered by some writers to be rather a rare condition, but I am sure that any one having a fair amount of work among children will have seen quite a number of these cases during a year's time.

Hæmatoma of the sternomastoid is invariably caused by injury to that muscle during the birth of the child. In breech presentations in which a midwife tries to disengage the after-coming head by pulling with great force upon the child's legs, this affection is almost certain to follow on account of the laceration of the mastoid muscle. It is therefore more frequently seen in breech than in vertex cases, although any undue traction exerted on the presenting head may also cause a hæmatoma. A partial asphyxia of the infant greatly increases the danger of this injury on account of the atonicity of the muscle and the weakened blood-vessel wall. The hemorrhage takes place into the sheath of the sternocleidomastoid muscle.

In the cases seen by me it has usually been the right side of the neck that has been affected. The expulsive efforts of the uterus alone may be sufficient to cause this condition. The hæmatoma occurs usually at or above the middle of the muscle.

Hæmatomata of the sternomastoid are not usually noticed by the mother or nurse until long after the injury has taken place. The usual history of these cases is as follows: The baby is from two to eight weeks old, and the mother says that "yesterday" or "last night" a lump came in the baby's neck; the mother will positively state that the swelling has not been present for more than a day or two, whereas in reality we know it to be different. The lump was there, but by its gradual hardening it was only recently noticed by the attendant. When the injury occurs, the blood escapes from the torn vessel and causes a soft swelling between the torn muscle fibers; the swelling is somewhat tender. The tumor gradually becomes harder as the clot is converted into fibrous tissue. The skin over the swelling is freely movable and of normal appearance. The size of the tumor varies from that of a small hazelnut to that of a walnut; sometimes the whole length of the muscle is involved.

The characteristic position in which the infant holds his head is noticeable. The head is drawn toward the affected side by the contraction of the muscle. The usual duration of the swelling is from one to three months. A torticollis may persist after the swelling has disappeared.

The differential diagnosis between hæmatomata and swollen lymph nodes is easily made by the fact that the hæmatomata are found situated *in* the substance of the muscle while the swollen glands are not.

Treatment: Most authorities agree that the best form of treatment is to massage gently the tumor

Characteristic position of head in hæmatoma of the sternomastoid muscle.

when soft and tender and then to increase gradually our manipulations as the swelling becomes harder. I believe that all of these tumors will be absorbed if only given time to do so. If in later years of life there remains any vestige of the tumor, surgical means should then be employed and the tumor removed. After a hæmatoma has been entirely absorbed, a torticollis may persist and require correction either by apparatus or tendon division of the muscle.

There are some cases in which the parents will not wait for time to cure this affection, and they wish something done *immediately* for the removal of this hard disfiguring lump in their baby's neck! Such cases—and they are happily few in number—are referred to the surgeon. I have seen some brilliant results attained by the early use of the knife in cases that would *not wait* for time and nature to cure them.

CASE I.—Harry L., seven weeks old. Mother has five children; two dead, one was stillborn, the other died of pneumonia. Mother has had two miscarriages. Family history negative. Normal birth, vertex presentation. Mother says that a midwife "pulled the baby out by the neck." Mother first

noticed the swelling when infant was two weeks old. Infant is well every other way. Mother says lump is gradually getting smaller. This case was seen some months after above history was taken, and the lump had entirely disappeared.

CASE II.—Sarah F., four weeks old. Family history negative. Mother had one other child which died of diarrhœa. No miscarriages. Baby is breast-fed. Labor lasted nineteen hours, head presentation, no instruments used. Baby was thought to have been dead when born, and it took one hour to resuscitate the infant. Baby is brought to the hospital for a swelling on the left side of neck, which has been present since birth. Mother thinks the swelling has been growing larger. Otherwise baby is well. This child was seen one month after above history was taken and swelling has decreased in size.

CASE III.—Frances D., four months old. Easy labor. Four children living. Family history negative. Mother says that the child always had "a choking." The baby had tonsillitis when two weeks old, and the neck was greatly swollen; the swelling soon disappeared. After one week the swelling came back.

Position of tumor in hæmatoma of the sternomastoid muscle.

A small lump can be felt at the right side of the neck, in the middle portion of the sternomastoid muscle. The head is turned markedly toward the affected side. Mother says that the lump is growing larger. Baby cries incessantly. Notwithstanding that the mother was assured that in all probabilities the swelling would disappear of itself if left alone, she persisted it had been growing larger of late, and wanted to have "something done" for it surgically. The child was referred to Dr. Sinclair Tousey, who operated the following day. A swelling was found in the substance of the sternocleidomastoid muscle so intimately connected with the muscle fibers that the muscle was divided, the tumor removed, and the two ends of the muscle were sutured together. The child made an uninterrupted recovery, no torticollis resulted, and the parents are greatly satisfied.

The tumor was sent to Dr. William B. Noyes for a pathological report. The report was as follows: "I have examined several sections of your specimen and am unable to find anything but bundles of striped muscular tissue, fibrous connective tissue and leucocytes sufficiently numerous to indicate inflammation."

From a study of the above three cases it would seem evident that in a case of hæmatoma of the sternocleidomastoid muscle, we have a laceration of, exudation in, and slight inflammation of the muscle itself, and that palliative measures are alone indicated in all cases of this affection in infants.

165 WEST EIGHTY-FIFTH STREET.

Inventor of the Iris Diaphragm.—Microscopists and photographers have long been under an unrecognized obligation to a man who died in England last month. He was the inventor of the iris diaphragm, a convenient attachment to certain optical instruments. The ease with which the size of the central opening in this apparatus can be varied without altering its circular shape makes the diaphragm not only highly useful, but also one of the prettiest bits of mechanism ever devised. John Henry Brown, its author, took out no patent and never reaped any pecuniary reward on the contrivance, but he must have had the satisfaction of knowing that he had rendered a practical service to science.—*The Tribune.*

The Blunt Hook.—Ponfick considers that the ill-repute into which this instrument has fallen is not deserved, and that when properly used it forms a most valuable aid to the obstetrician. The chief source of difficulty in the past has been the improper design of the instruments used. The author's modified instrument is largely the result of improvements by Küstner and differs from the conventional type in the thickness of the hook, which has a diameter of one centimeter; a length of only twenty-eight centimeters, to prevent attempts at its use in improper cases with the breech out of reach; a pelvic curve, and a convenient handle. The chief point of the author's communication is his insistence on the necessity of applying the hook to the posterior thigh. This is always hard to reach and makes the operation a difficult one, but it is this hip that is causing the delay in delivery, and the reports of authors show that when applied to the anterior hip the delivery is always a protracted and difficult one, whereas when the hook is once in place over the posterior hip the remainder of the extraction is very rapid and easy. With the author's instrument the maternal mortality has been o, that of the children also o, with one fracture of the femure in twenty-six cases.—*Monatsschrift für Geburtshülfe und Gynäkologie*, Vol. XVIII, No. 6.

An Insanitary Temple of Hygeia.—We remember in a foreign church coming across a table which was covered to the depth of an inch by a veritable dust drift; on this some sarcastic visitor had written with his finger, *Domine dilexi decorem domus tuae.* Even at home churches do not always illustrate the saying that cleanliness is next to godliness. But one might reasonably expect to find better things in the Temple of Hygeia itself. It is with sorrow, therefore, that we have to record that discoveries made in the buildings in the Rue des Saints-Pères, vacated some time ago by the Paris Academy of Medicine, show that the holy fathers of medical science, while fulminating *urbi et orbi* against transgressions of the sanitary law, had for many years been—we hope unconsciously—providing in their own official dwelling a striking object lesson of the very evils which they were in the habit of solemnly anathematizing in places on which the sacred light of hygiene had never shone. The sanctuary of the Temple—the room in which the Council of the Academy used to hold its meetings—was found to be a kind of museum containing specimens of Paris dirt, collected in the course of many years. When the Academy gave up possession it must, in a literal sense, have shaken the dust of its ancient home off its feet. As a first step in the process of purification the carpet, worn and heavy with the dust of ages, was taken up, when to the wonderment of the beholders, another carpet, still more ragged and grimy, came into view; under this was another, below that again a fourth and so on till some ten layers of moldering carpet had been removed. The work must have resembled the excavations which reveal several ancient cities lying on the top of each other. Imagination shudders at the thought of the myriad tribes of bacilli, streptococci, and other invisible enemies of the human race which so long found an undisturbed shelter within the four walls where the prophets and leaders of medicine were taking counsel how to compass their destruction.—*British Medical Journal.*

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PROTOZOA OF SCARLET FEVER.

THE researches of Dr. F. B. Mallory of Harvard University which culminated in the discovery of protozoon-like bodies in the skin of those dead from scarlet fever and which appear in the *Journal of Medical Research*, January, 1904, deserve careful consideration for at least two reasons: (1) Because of the unsettled state of the etiology of this disease; (2) Because Dr. Mallory has presented his results in a fair and unbiased manner, not claiming to have discovered the causative agent of scarlet fever, but pointing out the reasons why it is possible that such may be the case. Regarding the occurrence of these bodies, Dr. Mallory's statements are in brief as follows: They were found in four cases of scarlet fever which died in the eruptive stage. Three of the cases died on the second day, and one on the ninth day of the eruption. In three of these cases the bodies were present in the skin, but in one they were found only in the epidermis of the tongue. In six other cases which died early in the disease no bodies were found. The material available from these, however, was not sufficient for careful study. A number of cases which died in the desquamative stage were examined with negative result. The examination of the skin taken from four patients ill with the disease likewise proved negative. In these cases the examination of blood smears, nasal and lacrymal discharges and swab preparations from the back of the throat showed none of the protozoon-like bodies. In describing these bodies the author divides them into two classes: (1) Bodies which are round, oval, elongated or lobulated, and which are finely or coarsely reticulated. They may contain granules or vacuoles. The finely reticulated bodies are found between the epithelial cells in the lower layers of the epidermis or in the protoplasm of the epithelial cells lying in vacuoles. In the corium these bodies are found close to the epidermis in the most superficial lymph vessels and spaces. The coarsely reticulated bodies are found only within the epithelial cells lying in vacuoles. (2) Radiated bodies. These are usually spherical in shape. They show a round central body around which are grouped on optical section from 10 to 18 narrow segments. They are present in vacuoles in the protoplasm of epithelial cells and free in lymph vessels and spaces of the corium just underneath the epidermis. The majority of these forms suggest the schizogony of the malarial parasites. They are, however, somewhat larger. The first group may be stages in sporogony, or simply due to degeneration of some of the other bodies.

It is evident that the presence of these bodies can be accounted for only by three suppositions: (1) They may be artifacts. (2) They may be cell degenerations. (3) They may be protozoa. Dr. Mallory denies that they are artifacts, for two reasons: (1) Because their number varied in stained sections made from three pieces of skin from the same case, although all the material was fixed and stained in the same jar. Thus they were numerous in the first, few in the second, and entirely absent in the third. (2) Because the bodies were as numerous in sections of the skin stained immediately after the autopsy as in those prepared at the present time, five years later. To our mind these reasons are insufficient. It is a common observation in laboratory work to find that the number of obvious artifacts (precipitates, etc.) varies greatly in sections fixed and preserved in the same jar at the same time. Furthermore, artifacts are as apt to be as numerous in sections from fresh tissue as from such as has been preserved for a long time. By far the best evidence which can be submitted against the artifact origin of these bodies is to be found in the drawings and photographs submitted by the author. In these the morphology of the bodies is so regular that it at once negatives the possibility of their being artifacts. Any one who has had any considerable experience in minute pathology would at once support this view upon looking at the specimens submitted. To suppose that they are artifacts is therefore absurd. Dr. Mallory does not think that they are degeneration products, because they occur not only in and between the epithelial cells of the epidermis, but also free in the superficial lymph vessels and spaces of the corium. Also because they are found in epithelial cells which are in mitosis. Furthermore, because their size, morphology, and staining reactions are different from various degenerated leucocytes and epithelial cells which are present in the skin. The question of confounding cell degeneration products with protozoa is a matter which at the present time is being carefully considered both in this country and abroad. Much work has been done upon the subject, but it is as yet by no means settled. We know, however, that such a confusion is of comparatively frequent occurrence even with experienced workers, and that if the question is ever to be solved, it must be done by means which have not as yet been brought forward. At present, therefore, no one can say with surety whether or not these bodies are degeneration products. From their appearances we are inclined to the belief that they are not, but we believe that they have not been sufficiently observed to say with positiveness that they are not products of degeneration. Granted that they are protozoa, what is their etiological relation to scarlet fever? Dr. Mallory thinks that they have a casual relation to the disease and are not normal or accidental inhabitants of the skin. He regards this as so because they have not already been discovered in all the work which has been done upon the skin in the past twenty-five years, and because in the examination of the skin of fifty-four cases of smallpox made at Harvard during the past year in which the same methods of staining and fixing were employed, no such bodies were found. It is obvious at once that these reasons are not conclusive, and that they only throw a faint glimmer of possibility

toward the etiological relation of these bodies to scarlet fever. We may get some idea of what is necessary to establish this relation by considering the factors which are accepted in proof of the admitted etiological relation of another protozoa to another disease—the malarial parasite to malaria. These factors are as follows: (1) The constant presence of the parasite in the blood of malarial patients and its absence in other diseases. (2) The relation between the development of the parasite (sporulation) and the symptomatology of the disease. (3) The demonstration of the action of the parasite upon the red blood cells. (4) The positive results of inoculation experiments. So far as the present subject is concerned, analogous factors have not been shown. The number of cases examined, together with the negative results, is entirely too small to say with any certainty whether or not these bodies are at any time present in the skin of all cases of scarlet fever. The developmental cycles of the growth of the parasite have not been clearly traced. The relation of its development to the symptomatology of the disease has not been shown. Under these conditions all opinion must be withheld concerning its etiological relation to scarlet fever. However this may be, Dr. Mallory deserves credit for his observations, and especially in making them public at the present time before his proofs are in any way complete. By so doing he has opened the way for extended observation, and it is to be hoped the speedy solution of the question. When work is submitted in such a spirit the author will receive nothing but praise, although his results may ultimately be found not all that they promise.

THE MODE OF TRANSMISSION OF PLAGUE.

In the report of the Board of Health on a second outbreak of plague at Sydney, Australia, Dr. J. Ashburton Thompson gives the results arrived at by himself and his associates from a study of the epidemic of 1902. Elsewhere the maintenance and spread of plague are ascribed to human intercourse (directly with the sick or indirectly through articles infected by them), and to place infection. It had been shown that the epidemic of 1900 in Sydney was not so caused, and the experience of that of 1902 only served to confirm and amplify the former observations. The share played by the rat had been left by observations made elsewhere, a doubtful matter. But in Sydney, in 1900, the conclusion had been arrived at that plague rats constituted the sole source of infection. Though a good deal of evidence in favor of this view had been furnished, it, nevertheless, was incomplete. In all probability, however, the rat cannot unaided disseminate epidemic plague, and an intermediary is necessary to carry the infection from it to man. In 1898 Simond suggested that this intermediary might be a flea or bedbug. Before the epidemic of 1900 Thompson had accepted this hypothesis as explaining a greater number of reported and apparently discordant facts than any other. By the end of the epidemic of 1900 the hypothesis had been accepted by the Department on the ground that it, and it alone, seemed capable of coördinating the observed facts, and at the end of the second epidemic it remained in undiminished favor. In 1900 the Government did not sanction the Board of Health's plan of campaign, and it required isolation of all contacts and as strict a quarantining of infected premises during cleansing as circumstances would permit. During the epidemic of 1902, however, the Board of Health was given a free hand, and it merely removed the sick to hospital where visitation of friends was allowed, but the hospital was rendered rat-proof. The movements of other members of the household were not interfered with. The members were advised to leave their dwellings during the disinfection, but were not compelled to do so. Till after disinfection no outsiders were allowed to enter the premises. Disinfection was always very prompt, and was usually completed within thirty-six hours after the patient's removal; and in case of theaters and hotels it occupied a longer time and included structural repairs necessary to exclude rats. The movement of merchandise from infected areas was not interfered with. In 1900 the cases were 303, the deaths 103; in 1902 the cases were 139, the deaths 39. The mortality in 1900 was thus 34 per cent., while in 1902 it was only 28 per cent. The cost in 1900 was 176,000 pounds sterling; in 1902 only 24,000. These figures are held to justify the Board's radical departure in relation to the mode of dealing with the matter of contagion. Dr. Thompson says: "The promise of safety for the future lies neither with the attempts to prevent the importation of plague rats (which must fail from time to time), nor with attempts to exterminate the rats infesting the locality to be defended (which we have learned is practically impossible), though both of these measures have their valuable uses, but in habitually excluding rats from inhabited premises. This, manifestly, is a defense which can be set up successfully by local authorities; it requires persistent effort, but involves hardly any expenditure of municipal funds."

As regards the epidemic of the 139 cases, 133 were of the bubonic, and 6 of the septicæmic form. The ambulant cases did not exceed 7 or 8. The onset was usually sudden (in 14 cases, however, gradual), with headache, general malaise, sooner or later vomiting, feverishness and shivering, and rather often diarrhœa and colic. Rather frequently attention was directed thus early to the later bubonic gland by a sharp pain, with or without swelling. In 123 cases (with 32 deaths) the bubo was solitary, and in 106 cases it was inguinal. In 6 cases (with 1 death) there was no bubo. More than twice as many men as women were attacked, and in 1900 the proportion was much larger.

Returning to the question of the *modus operandi* of the infection the author narrates chronologically their mental itinerary over the facts—how they found no evidence for place infection in the sense that it has been found in India; how many individual cases seemed to throw doubt on the plague rat theory, as although propinquity of the latter seemed necessary, contact did not, and, moreover, far more commonly only one out of a household of several was attacked; how the ascertained presence of plague rats was not invariably or even commonly attended with plague; and finally how the apparent absence of plague rats did not betoken safety from it. Still a direct and close connection between the presence of plague rats and plague was found rather more often than not, and they learned that

the considerable proportion of failures was, in all probability, merely incidental to the search conditions. By a rejection successively of the possible hypotheses of infection via food infected by plague rats, and that of an accidental infection of open wounds from articles similarly infected (both of which modes seem incompetent to offer a regular and systematic source of infection), the author and his associates were irresistibly led, as a diagnosis by exclusion, to think of some agent which was locomotive and to which the sound skin offered no impenetrable obstacle. Of these the flea seemed best to fulfil the conditions. As soon as this was recognized, it appeared that the hypothesis of the flea, taken in conjunction with recent observations on its habits, was exactly what was required to reconcile the apparent contradictions observed; to explain not merely the erratic incidence of the plague, but also the absence of any great probability of the infection being received by man from plague rats present on inhabited or frequented premises.

The crudity of the criticisms of Nuttall and Galli-Valerio that "rat fleas" will not bite man, is exposed by the observations of Dr. Tidswell, who found that both *Pulex pallidus* and *Pulex fasciatus* did so repeatedly, and by the laboratory experiments made in Sydney, which proved that even granting that the "rat fleas" may prefer to feed on rats, a no more recondite stimulus than hunger is needed to induce them to feed upon man. Furthermore, Raymond and Gauthier have shown that "rat fleas" will bite man, and that they are capable of transmitting the disease from one rat to another, and the latter fact has been confirmed by Dr. J. S. C. Elkington at Bombay. The Sydney observers found four species of fleas on rats, namely, the two above noted, *Pulex serraticeps* and *Typhlopsylla musculi*. Of these the last seemed not to bite man, but all three pulices did. The case then comes down to this: There are two chances at least for man to escape infection, for, first, the fleas from an infected rat may not reach him, and, second, they may do so at a time when they are not urged by hunger to attack an unaccustomed host. These chances amply suffice to account for the frequency with which all the persons inhabiting premises known to harbor plague rats, escape; and also for the rarity with which more than one person is attacked in a household consisting of many, all of whom appear (but only appear) to have been equally exposed to contagion. In conclusion we have, of course, only been able to give the merest outline of this valuable contribution to our epidemiological knowledge.

Note on Scurvy as a Cause of Hæmaturia in Infancy and in Old Age.—R. Shingleton Smith reports two cases of scurvy, one an infant and one in a person aged eighty-seven years. Both patients were fed on sterilized milk and proprietary foods. In both the hæmaturia rapidly subsided in the administration of an antiscorbutic diet. The case of the infant shows that hæmaturia may be almost the only manifestation of scurvy in infancy. The other case suggests that some cases of hæmaturia during adult life may be due to this condition. It would probably be most frequent among chronic invalids on account of their artificial and restricted diet.—*The British Medico-Chirurgical Journal.*

POE AS A DIPSOMANIAC.

EDGAR ALLAN POE was, perhaps, the most conspicuous example of a dipsomaniac ever known. His mind was to some extent unbalanced, and most assuredly, in many respects, he was not as other men are. It is beginning to be generally recognized now that he was not, as was the popular belief, merely a vulgar and vicious drunkard, but, on the whole, was a man more to be pitied than blamed. Many, within the past few years, have taken up the cudgels in the defence of the unfortunate, erratic poet, and have helped to remove some of the stigma which attaches to his name.

In the January number of the *Arena*, Dr. William Lee Howard of Baltimore gives a scientific and technical account of Poe's physical and mental attributes, thereby explaining to his own satisfaction the poet's habits. In the first instance, he quotes the following description of Poe, written by himself in a letter to a friend: "But I am constitutionally sensitive—nervous in an unusual degree. I became insane with long intervals of horrible sanity. During these fits of absolute unconsciousness I drank—God only knows how often or how much. As a matter, of course, my enemies referred the insanity to the drink rather than the drink to the insanity."

Dr. Howard characterizes the foregoing as the first accurate statement we have of the definition of the disease dipsomania, as distinguished from the vicious habit of drunkenness. The writer then goes on to say: "The poet was not a man addicted to the habit of intoxication, but belonged to that class of psychopaths too long blamed and accused of vicious habits that are really the unfortunate symptoms of disease—a disease now recognized by neurologists as a psychic epilepsy, and no more under self-control than is the ordinary epileptic attack."

The victims of such psychic explosions are, according to Dr. Howard, individuals born of unstable nervous organization; unfortunate persons who struggle throughout their lives with all the outward appearances of a well-adjusted physiologic machine, yet who are silent sufferers of intense psychic disturbances. These symptoms of an unbalanced, unequal organization take various objective forms. Such are seen in the startling precociousness of a genius; the meteoric career of a writer who dies before he reaches the age of full manhood in the normal person; the bizarre and morbid paintings of a youth who succumbs ere adolescence has departed, and in the man so poisoned by products of his own body that the higher brain centers are submerged, and the nerve cells, cry, shriek for alcohol as though the fiend of ancestral impulse knew the will was temporarily destroyed, and hence entered to wallow in its riotous delirium. It was to this latter class of unfortunates that Poe belonged, and in his words, poetic prayers, and phantasies the neurologist can see the suffering and recognize the feeling of hopelessness ever present in the unjustly accused. In the opinion of the writer, these dipsomaniac attacks are symptoms of disorganized brain cells. These cells become poisoned at irregular intervals by the bi-products of the physiologic system which are retained in the body through a lack of perfect functioning of the nerve cells—faulty metabolism. These toxic materials are accumulating, and when they have reached a certain potency, overpower the will,

judgment, and self; the real ego is for the time being suppressed, and we have a temporary insanity, its principal symptoms being an imperative, uncontrollable demand for narcotics in any form. Each cell naturally diminishes the resisting power of the brain cells, and augments the basic cause, and the result is an increase of frequency in the attacks until the somatic end.

It is likewise pointed out that in the full development of the mania, the ego is completely suppressed, and the individual disappears from home and friends for weeks and months. There is a cerebral palsy which permits the sufferer to perform various complex and apparently reasoned acts of which he will retain no recollection when he has recovered from the effects of the attack, and which may be quite at variance with his usual behavior.

Dr. Mercier, writing in Allbutt's System of Medicine, agrees in the main with Dr. Lee's views on dipsomania, but lays especial stress on heredity as a strong predisposing factor. He speaks thus of dipsomaniacs: They come of a stock that is of unsound, nervous constitution. Often they are of insane parentage. Often one of the parents has exhibited the same vice in the same form. Often their near relations suffer from other nervous disorders. Quite early in life—at or soon after adolescence—they exhibit the tendency to drink to excess, and the tendency shows a definite periodicity." Dr. Rolleston, also writing in Allbutt's System of Medicine, says: "Dipsomania attacks only those who have a decidedly hereditary taint, or who have acquired a certain irritability of the nervous system from head injuries, sunstroke, and the like." The same writer expresses the decided opinion that dipsomania evidently belongs rather to insanity than to alcoholism.

These views on alcoholism are those which have been long held, but recently a body of men have arisen who deny that heredity has anything whatever to do with the matter. Dr. Archibald Reid is the leader of this band, and his opinions were dealt with editorially at some length in the MEDICAL RECORD of September 19, 1903. It is only reasonable to suppose that the children of drunken parents are cursed, with a neurotic and unstable temperament, and may inherit a certain degree of predisposition to drink. The theory that dipsomania is more closely allied to insanity than to alcoholism is a plausible one, and the actions of persons who possess this habit would seem to show that they are to a great extent irresponsible. The whole question, however, will require much further investigation before dogmatic statements on the subject can be made.

MECHANISM AND TREATMENT OF MIGRAINE.

A recently published monograph by Dr. Francis Hare, Inspector-General of Hospitals, Queensland, contains a very interesting study of the mechanism and treatment of migraine. During the paroxysm a widespread vasocontraction of the cutaneous vessels occurs. This contraction is usually most marked in the extremities, but the face may also be affected. This vasoconstriction is compensated to some extent, if not always fully, by an area of intense vasodilation in some part of the cranium. The presence of this vasodilation cannot always be demonstrated, but at times the retinal vessels may be seen to be dilated and the optic papilla red and œdematous. Some have thought that the vasoconstriction was the cause of the pain in migraine, but it must be evident that such cannot be the case. During the paroxysm the cutaneous vessels of the extremities, as just said, are in a state of vasoconstriction, yet the extremities are never the seat of the pain. On the other hand, in a vasodilation, localized in an area situated anatomically as is the pericranium or dura mater, we have the essentials for the maximum of vascular distension and nerve pressure in the latter area. The pain, therefore, must be actually due to the vasodilation of the vessels of the cranium, although this may arise in the nature of a compensation from a vasoconstriction of vessels elsewhere in the body. If this be true anything that increases the vascular distension of the vessels of the cranium should in migraine increase the pain, and controversely those means which decrease such a distension should relieve the pain. As a matter of fact, it is easy to show that such is the case. The vascular distension in a dilated area may be reduced (1) by pressure on the main arterial trunk, supplying it; (2) by promoting vascular constriction in the small vessels of the part; (3) by promoting vasodilation elsewhere or generally; (4) by reducing the force or frequency of the heart's beat, and (5) by reducing the total amount of blood in the circulation. Controversely the vascular distension in a dilated area may be increased (1) by pressure on arterial trunks supplying collateral areas; (2) by increasing vasodilation in the part; (3) by increasing vasoconstriction elsewhere or generally; (4) by increasing the force or frequency of the heart's beat, and (5) by increasing the total amount of blood in the circulation. Clinical observations and the treatment of migraine in line with these suggestions show that the above theory of the mechanism of the pain is correct. In cases with dilation of the temporal artery of the affected side, pressure on this vessel always affords relief. If the relief is not complete it is certain that this vessel does not control the whole of the dilated area. In unilateral migraine pressure on the corresponding common carotid always gives immediate and complete relief to the pain. In bilateral migraine pressure on either common carotid relieves the pain on the corresponding side, and increases it on the opposite side. In cases of bilateral occipital migraine the compression of both occipital arteries gives immediate relief. In cases of intense pancranial migraine complete cessation of pain follows compression of both temporals and both occipitals. In nearly all cases of migraine compression of the painful area of the scalp affords marked relief. Vasoconstriction of the small vessels of the pericranium may be produced by cold lotions to the head or the ice-cap. In cases of pericranial migraine such applications give complete relief while hot applications always increase the pain. The production of vasodilation in areas other than the seat of pain may be brought about in several ways, such as hot applications to the extremities, dry cupping of the thorax and the administration of drugs like nitrite of amyl and nitroglycerin. Fever, except when associated with rigors, also produces a general vasodilation, and it is a common observation that persons afflicted with migraine never have attacks when suffering with fever. Careful observations have shown that the introduction of the ordinary tape seton relieves migraine, because of the fever which results from the attending suppuration. The application of cold to the body in any form except to the affected area always produces general vasoconstriction, and increases pain in migraine. All drugs which reduce the force and frequency of the heart, decrease or entirely relieve the pain while the controverse holds true. The effect of a reduction of the total amount of blood to disperse migraine is seen

in hemorrhage of all kinds. Many observers have cited instances of this sort. The evidence in favor of the view that the pain of migraine is due to vasodilation of the affected area seems complete. It is highly probable that the other sensory symptoms, among them the initial symptom often spoken of as the migrainous aura, own a similar mechanism.

Mechanism of Treatment of Asthma.

In the monograph alluded to in the foregoing Dr. Hare also considers the mechanism and treatment of asthma. He regards the production of the asthmatic paroxysm as entirely analogous to that of migraine—that is, due to a vasodilation of the blood-vessels of the bronchial mucous membrane which is compensatory to a vasoconstriction of the cutaneous vessels in general. In asthma, however, he concedes that in some instances the bronchial vasodilation may be primary and the general vasoconstriction secondary and compensatory. Nevertheless in either instance these opposite vascular conditions are coexistent and correlative. Thus the dyspnœa of asthma becomes the true analogue of the headache in migraine. The widespread area of vasoconstriction is found to occupy practically the same regions in asthma as in migraine. In both instances there is the same pallor, anæmia, and sense of coldness of the extremities. The pulse during severe asthma is always small, and this smallness is in direct proportion to the intenseness of the dyspnœa. Many of the premonitory or initial symptoms of the asthmatic attack seem to depend upon this general vasoconstriction—as for instance, the polyuria, the drowsiness, and the paræsthesi e of various kinds. That vasodilation occurs in the bronchial area is probable from many observations and on many grounds. In several cases it has been actually seen by the aid of the laryngeal mirror. Moreover, the association of asthma with urticaria, especially urticaria of the mucous membrane of the oral cavity, is a matter of common observation, and it will be admitted by all that urticaria implies vasodilation. The prædyspnœal progressively increasing distension of the chest which occurs in asthma is quite compatible with a progressively increasing swelling of the mucous membrane but less so with the idea of a muscular spasm of the tubes. The pathological lesions of the bronchial mucous membrane recently found by Frankel in a case of asthma ending in death during the paroxysm are quite consistent with the theory of vasodilation. The suddenness of the onset and subsidence of the asthmatic paroxysm is often adduced as an argument in favor of the theory of muscular spasm of the bronchioles; but those who have watched a case of acute urticaria will be apt to realize that the onset and subsidence of vasodilation is amply rapid to account for the phenomena of the most explosive asthmatic paroxysm. Clinical experience also substantiates the theory of vasodilation. Everything which tends to reduce the swelling of the mucous membrane in the involved area will tend to relieve the dyspnœa and controversely. The The swelling may be reduced (1) by increase of the mucous secretion; (2) by vasoconstriction in the affected area; (3) by vasodilation elsewhere or generally, (4) by reduction of the force of the heart's beat, and (5) by reduction of the total amount of blood in the circulation. Controversely the opposites of these measures will increase the swelling of the mucous membrane. The inverse relation between the amount of secretion and the intensity of the dyspnœa may be observed in the purest varieties of "spasmodic asthma." It is a common experience that drugs which promote secretion and expectoration relieve asthmatic dyspnœa and controversely. The happy action of the iodide of potassium in asthma may in part, though not altogether, be explained in this way. The local application of cold to the bronchial mucous membrane and the attendant vasoconstriction brings relief in asthma. Here, of course, cold can be applied to the dilated area only by means of cold air, and it is evident that much of the relief which the asthmatic obtains by sitting at the open window in winter comes about in this way. But the inhalation of certain fumes also produces a vasoconstriction of the vessels of the bronchial mucous membrane. The inhalation of these fumes regularly gives relief in asthma—such as the smoke of stramonium, burning nitre-paper, and the vapor of ammonia. The same result is obtained by the application of chronic acid to the inferior turbinated and the inhalation of chloroform. The production of vasodilation in areas other than the bronchial or generally is an important means of relief in asthma. In this way is to be explained the well-known beneficial results following the internal administration of amyl nitrite, nitroglycerin, stramonium, belladonnæ, alcohol, and opium. Heat is one of the most efficient general vasodilators, and a hot bath rarely fails to give some relief in an asthmatic paroxysm. Hot applications and dry cupping to the chest are also of marked service. Reduction in the force of cardiac action is also followed by relief. In this way the action of ipecac, tartar-emetic, lobelia, and tobacco is to be explained. All drugs which increase cardiac action must be carefully avoided. Finally a sudden reduction in the mass of the blood will tend to reduce arterial pressure and thus reduce the strain upon dilated vascular areas. From this we get the rationale of the immediate beneficial influence of venesection and accidental hemorrhage upon the asthmatic paroxysm. On the theory of vasodilation the action of all of these means is easily explained, but the supposition that bronchial spasm is the cause of the dyspnœa would hardly assist us.

Hospital Ships.

Now that a war between Japan and Russia is actually in progress, and that several sea fights have already taken place, the question of hospital ships is an interesting one. The origin and evolution of the hospital ship is of recent date, the Spanish-American War witnessing the first properly equipped vessels of this character. Hospital ships in the war with Spain amply justified their employment. Again in the Boer war, hospital ships proved themselves of great service. A far more searching test of the value of these vessels will be given in the war now raging between Russia and Japan, for the navies of each country are nearly equal, and the fighting will be much keener than in the Spanish-American War. While the Boer war can hardly be considered as a fair trial of hospital ships, as the fighting was entirely confined to land. The *British Medical Journal*, January 23, has an editorial in which the regulations governing the conduct of hospital ships are set forth as follows: "It was provided by the International Convention at the Hague that hospital ships should be privileged, and free from attack. The treaty provides that no hospital ship must in any way hamper the movements of the combatants, and during and after an engagement must act at their own risk and peril. All military hospital ships are to be distinguished by being painted white outside with a horizontal band of green about a meter and a half in breadth. With regard to other vessels whose owners assist the wounded, it is provided that neutral merchantmen, yachts, or vessels having or taking on board sick, wounded, or shipwrecked of the

belligerents cannot be captured for so doing. . . . The position of the wounded also is somewhat ameliorated by the treaty, which provides that sailors and soldiers who are taken on board when sick or wounded, to whatever nation they belong, shall be protected and looked after by the captors. The shipwrecked, wounded, or sick of one of the belligerents who fall into the hands of the other are prisoners of war. The captor must decide, according to circumstances, if it is best to keep them or send them to a port of his own country, to a neutral port, or even to a hostile port. In the last case prisoners thus repatriated cannot serve as long as the war lasts."

THE CONSOLIDATION OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK AND THE NEW YORK STATE MEDICAL ASSOCIATION.

The long talked of agreement between the two medical bodies of New York State requires now only mutual endorsement to become a matter of fact. The old society and the New York branch of the American Medical Association have buried all their differences, and have come to a complete understanding. In future there will be but one medical organization in New York State. This happy result has come to pass in the natural order of things, and is a rational solution of an erstwhile troublesome problem.

At the annual meeting of the Medical Society of the State of New York, held in Albany on January 26, 1904, the following resolutions were unanimously adopted: *Resolved*, That the Report of the Joint Committee on Conference be accepted, and that the proposed agreement for the consolidation of the Medical Society of the State of New York and the New York State Medical Association be and the same is hereby approved, and the president of the society is hereby authorized and directed to execute the same in the name and behalf of the society, and the secretary is hereby authorized and directed to affix the corporate seal thereto; and be it further

Resolved, That the committee of the society heretofore appointed for the purpose of bringing about the consolidation, namely, Dr. Henry L. Elsner, Dr. A. Jacobi, Dr. A. Vanderveer, Dr. George Ryerson Fowler, and Dr. Frank Van Fleet, be and they are hereby continued as such committee, with full power and authority to do whatever may be necessary to carry the agreement into effect.

Action on the adoption of the enclosed report, together with the proposal of resolutions ratifying the action of the State Society, will be formally taken at the stated meeting of this society, to be held Monday, February 29, 1904, at 8.15 P.M.

The report referred to above of the Joint Committee of Conference appointed for the purpose of consolidating the Medical Society of the State of New York and the New York State Medical Association has been published in pamphlet form. The entire report covers all details of the consolidation scheme, and has been drawn with intent to meet every point. The result is most satisfactory, and reflects much credit upon the far-seeing perspicuity and common sense of the members of the Joint Committee.

With regard to the constitution of the medical organization of New York State, as it now stands, it is stated "That the membership of the consolidated societies shall include all members of county medical societies now in affiliation with this society, and all members of other county medical societies to which charters shall be granted by the House of Delegates pursuant to the by-laws of this society, and any member ceasing to be a member of a county medical society shall cease to be a member of this society." "The term County Medical Society, as used in this constitution, shall be deemed to include all societies which may be organized and chartered by the House of Delegates." "The membership of the society shall be divided into eight district branches, as provided for in the by-laws."

"The officers of the society shall be a president, three vice-presidents, a secretary, a treasurer, and one councillor from each district branch. They shall be elected annually by ballot for the term of one year, and the majority of the votes cast shall elect. The president, vice-president, secretary, and treasurer shall be elected by the House of Delegates. Each councillor shall be elected by the district branch of the district in which he resides, and shall be the president thereof.

"No delegate elected to the House of Delegates shall be a candidate for office in the society until after the expiration of the term for which he shall have been elected a delegate, and no person shall be elected to any office in the society who shall not have been a member of the society for the two years immediately preceding the date of his election. The constitution of the House of Delegates, its powers and duties, is stated, and the council meetings and funds are dealt with."

There is thus every reason to predict a successful future for the "Medical Society of the State of New York" in its reconstituted condition, and it is quite certain that it is far better for the medical profession to have one united society than two bodies which are not in complete accord.

News of the Week.

The Sanitation of Vera Cruz.—The Mexican Government has determined to make in earnest an attempt to rid its Gulf Coast of the yellow-fever scourge. The Supreme Board of Health has at its disposal $7,000,000 for the work of rehabilitating Vera Cruz, and the greater part of this will be devoted to sewerage and drainage work. The town is divided into four districts, with a medical officer in charge of each. Each one of these medical officers has under him a large corps of sanitary inspectors. A thorough tour of inspection is made of all suspected or infected districts each day, and each evening a report is made of the number of cases in each district. Oil is being used freely. Marshes surround Vera Cruz, and every possible precaution is taken to diminish the number of mosquitos coming from them.

Proffers of Medical Aid in the Russo-Japanese War—The Ministers of Russia and Japan in Washington and the consuls of these countries in this city are in receipt daily of offers of medical aid, but as yet they are unable to accept any. In a recent statement to the press, Count Cassini says that these offers of medical and other aid have become so numerous that he has felt it his duty to bring them to the attention of the Russian Government. It is possible, he thinks, that Russia may find a way to accept some of them, and that American physicians and nurses may aid in caring for the wounded in the Far Eastern war. He is daily expecting an answer from St. Petersburg on this point. The Japanese Government has declined Dr. Senn's offer of his services, but has accepted that of Dr. Anita Newcomb McGee to fit out a staff of nurses. The trained nurses who will go to Japan are self-supporting women, yet they volunteer to serve without any pay. The Japanese Government will provide for them while in Japan, but their own countrymen are asked to supply the cost of their

equipment and transportation. The Knickerbocker Trust Company, 358 Fifth avenue, New York City, will receive and acknowledge all contributions, whether large or small, sent them for the credit of Anita Newcomb McGee, president Japanese War Nurse Fund. A mass meeting of the Finnish and Scandinavian residents of South Brooklyn was held a few evenings ago to inaugurate a movement for the support of an ambulance corps to be sent to the aid of the Japanese wounded in the Far East. A subscription was started for a fund to care for a band of young women nurses who will be sent out within the next three weeks, and also to fit out a hospital ship for naval service. The German Emperor has placed the German naval hospitals at Yokohama and Kiao-Chau at the disposal of the Japanese wounded.

Medical Inspection of Philadelphia Schools.—Forty assistant medical inspectors in the Department of Public Health of Philadelphia have recently been appointed, whose duties, among other things, will include a daily examination of pupils in the public schools, for the purpose of preventing the spread of transmissible disease, and of placing sick children under the care of their physicians. Children suffering from acute disease and all exhibiting symptoms of illness will be sent to their homes, and a systematic examination will be made daily into the physical condition of each pupil until a complete record is obtained of all pupils. Principals and teachers are to set aside daily in a separate room all pupils that in their opinion require medical examination and aid, and the medical inspectors are, so far as possible, to instruct teachers in the symptoms of disease. In addition, the medical inspector is to recommend the medical treatment by the family physician, the district physician, dispensary or hospital, of all children suffering from defects of hearing, deformities, and chronic diseases.

Dr. D. B. St. John Roosa.—A dinner will be given Dr. Roosa at Delmonico's on Tuesday, March 1, to celebrate his twenty-one years of work in the promotion of post-graduate instruction in this country. Dr. William Osler of Baltimore will preside.

Antitoxin Plant for Chicago.—Health Commissioner Reynolds recently visited New York and Newark with a view to making investigations as instructed by the Chicago City Council, as to the practicability and the cost of installing a municipal antitoxin plant in this city. He has not made up his mind absolutely as to the feasibility of such a plant. The cost would depend on the style of plant desired, and it is thought it would require twenty-five thousand a year for its maintenance. The city at present does not sell antitoxin, all that is used being given free in charity cases, subject to a report on the circumstances of the applicant by the Bureau of Charities.

Lost Bequests.—Mr. Benjamin Wood Davis, a well-known Cincinnatian, who died recently, left $140,000 to various educational and charitable institutions, among others $10,000 to the Jewish Hospital of Cincinnati. Unfortunately, the will was made less than one year ago, and therefore these bequests are void under the statutory provision, which requires that a will must have been made more than a year before death, to make such bequests valid.

The New York Eye and Ear Infirmary.—Owing to the lack of funds, it has been decided by the doctors of this institution to close the Platt Pavilion for the treatment of contagious diseases of the eye on March 1. After May 1 no indoor patients will be received, except a few in the DuBois Pavilion, unless a marked improvement in the financial situation takes place before that time. The work in the dispensary will continue as before in any case.

The Administrative Control of Tuberculosis.—The fourth address in the series instituted at Philadelphia by the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis was delivered on February 15 by Dr. Hermann M. Biggs of New York, who discussed the measures to be instituted, in order to secure municipal control of tuberculosis. The first essential is compulsory notification and registration of all cases. This has an educational value over and above their usefulness in other directions. At first resented in New York and deemed impracticable and inexpedient, they have yearly increased in favor, Dr. Biggs said, until at present the returns are fairly complete. The reports are considered as confidential, and action is taken by the Board of Health only when the attending physician makes the request, or there is none in attendance, or the patient is under the care of a public official. When necessary instruction is given by personal visit and by printed circular as to the nature of the disease and the means of its dissemination, and also of the measures required to prevent the latter. In case of death or removal appropriate disinfection must be instituted. Cases that cannot properly be cared for at their homes, or that are a menace to their surroundings, are removed to hospitals. In the campaign against tuberculosis a dispensary service is necessary, providing not only professional attention, but also medicines and food. Visits to the homes of patients should be made by physicians and trained nurses, in order that necessary aid may be given, and information obtained as to the relations of the patients to others. A special hospital is required for advanced cases that cannot properly be cared for in their homes, and to which, if the circumstances demand it, patients should be removed, even forcibly. There should be at the command of the health department also sanatoria for the care of the less advanced cases of the disease. Among the duties of the department should be the examination, gratuitously, for tubercle-bacilli of all sputum submitted to it. A record should be kept of houses in which cases of tuberculosis occur, and when the disease occurs with noteworthy density, steps should be taken to correct the underlying faulty conditions. Much has been done by the New York Department of Health along the lines indicated, with the result that each year an increasing number of cases is being reported, but most important of all, that a noteworthy reduction in the mortality of the disease has been effected. That this latter is not due to an increased mortality from pneumonia, real or otherwise, as had been suggested, was shown on a special investigation. Dr. Briggs showed by diagrams the number of cases in some houses in the congested districts of New York, and stated that in certain instances properties have been condemned on this account, while the conversion of portions of some such districts into public parks is contemplated.

A Seaside Hospital for Surgical Tuberculosis.—The New York Association for Improving the Condition of the Poor has appropriated $15,000 for the maintenance at the seashore next summer, of children under fifteen years of age suffering from the non-pulmonary manifestations of tuberculosis.

Many Bequests to Charities.—Louis Gans, who during his lifetime gave liberally to charity, left a will, filed for probate, making bequests to a large number of religious and charitable institutions of this and other cities. The will includes the following gifts to

New York institutions: Montefiore Home, $25,000; Mount Sinai Hospital, $2,500; United Hebrew Charities, $2,500; Hebrew Sheltering Guardian Society, $2,500; Hebrew Orphan Asylum, $2,500; Jewish Theological Seminary, $2,500; Home for Aged and Infirm Hebrews, $1,000; Beth Israel Hospital, $1,000; Lebanon Hospital, $1,000, and the Colored Orphan Asylum, $1,000.

Disease at the University of Minnesota.—It is possible that the Minnesota State University may be closed for the remainder of the scholastic year, because of the continued prevalence of typhoid fever and diphtheria. A veritable epidemic of typhoid fever is feared, and the students have been repeatedly warned against the use of the city water unboiled. A faculty health committee has been appointed and everything possible is being done to prevent the further spread of disease.

Dr. William C. Sebring of Kingston, N. Y., has been appointed attending neurologist to the Benedictine Hospital in that city.

Another Cancer Cure.—In a paper read before the Paris Academy of Medicine on Monday of this week, Dr. Doyen announced that he had elaborated a curative serum for cancer. This serum was prepared in the usual way from cultures of micrococcus neoformans, which the speaker regarded as the pathogenic microbe of carcinoma. Of one hundred and twenty-six patients treated in two years fifty-eight did not show favorable results, forty-seven improved in varying degrees and twenty-one presented no evidence whatever of cancer and were regarded as cured.

The German Polyclinic at 78 and 80 Seventh street in this city is to be enlarged by the addition of a two-story rear annex, 50 feet front and 35 feet deep, making the building 125 feet deep. The annex is to be fitted as dispensary operating rooms.

Carbolic Acid and Suicide.—It would seem that the use of carbolic acid is not a passing fad among suicides, but an established custom, due primarily to the fact that the legitimate uses of the acid are so numerous that it is easy for almost any person to give a druggist a plausible reason for the purchase of it. The Retail Druggists' Association of Chicago favors the passage of a city ordinance regulating the sale of this poison. It is said that the placing of restrictions upon the free sale of concentrated solutions will do much good, with little inconvenience to the public, inasmuch as more diluted solutions are satisfactory for most legitimate uses. The concentrated solutions are fatal, but the weaker solutions are much less dangerous. A properly framed ordinance would doubtless reduce the number of suicides.

Pneumonia and Typhoid Fever in Philadelphia.—For the week ended February 20, there were reported to the Philadelphia Bureau of Health 605 deaths, of which 125 were due to pneumonia. There were also reported 142 cases of typhoid fever.

The Chemical Laboratory of the Ohio State University at Columbus was totally destroyed by fire February 19. The loss is estimated at $100,000, of which $75,000 represents the value of the building, and $25,000 the equipment. There is no insurance.

Licensing Refractionists.—The first State examination for license to practise optometry in California was held at San Francisco February 1 and 2. The applicants represented, numerically at least, only a small ratio of those who have been in practice without the formality of a license.

Ratification of the Plans for Medical Unity.—At the meeting of the Medical Society of the County of New York to be held Monday, February 29, action on the adoption of the report of the joint committee of conference, together with the proposal of resolutions ratifying the action of the State Society, will be taken. Ratification of the action of the State Society by each county society is requisite for the completion of the consolidation.

Radium.—Consul-General Guenther reports from Frankford, Germany, that notwithstanding the difficulty in its production (many tons of ore being required to produce one gram) a radium industry has already developed in Germany and France, and although the price of one gram is about $2,000, the manufacturers are said to have orders for several hundred grams.

Vital Statistics of France.—Thornwell Haynes, Consul at Rouen, France, states that the *Journal Officiel* has recently published a report on the population of France during the year 1902. The births were 845,378 and the deaths 761,434, an excess of 83,944 births over deaths, against 72,398 in 1901. This result is due to a notable diminution of mortality, as there were 11,896 less births and 23,442 less deaths than were recorded in 1901. There were 291,431 marriages and 6,895 divorces last year.

Preparing for the Mosquito War.—A bill has been introduced into the New Jersey Legislature by Assemblyman Edward D. Duffield of South Orange, and is now in the hands of the Committee on Public Health of the Assembly, which is designed to afford boards of health additional power in the matter of mosquito extermination. The bill defines as a public nuisance waters in which mosquito larvæ develop, and empowers local boards of health to compel owners of land on which there is such standing water to abate the nuisance.

Examination for the Marine-Hospital Service.—A board of officers will be convened to meet in Washington, D. C., Monday, April 4, 1904, for the purpose of examining candidates for admission to the grade of assistant surgeon in the Public Health and Marine-Hospital Service. Candidates must be between twenty-two and thirty years of age, graduates of a reputable medical college, and must furnish testimonials from responsible persons as to their professional and moral character. The following is the usual order of the examinations: 1, Physical 2, Oral. 3, Written. 4, Clinical. The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists in examination on the various branches of medicine, surgery, and hygiene. The oral examination includes subjects of preliminary education, history, literature, and natural sciences. The clinical examination is conducted at a hospital, and when practicable, candidates are required to perform surgical operations on a cadaver. After five years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon. Promotion to the grade of surgeon is made according to seniority, and after due examination as vacancies occur in that grade. Assistant surgeons receive sixteen hundred dollars, passed assistant surgeons, two thousand dollars, and surgeons, twenty-five hundred dollars a year. When quarters are not provided, a commutation at the rate of thirty, forty, and fifty dollars a month according to grade, is allowed. All grades above that of assistant surgeon receive longevity pay, 10 per centum in addition to the regular salary for every five years' service up to 40 per centum after twenty years' service. The tenure of office is permanent. Officers traveling under orders are allowed

ctual expenses. Further information may be btained by addressing the Surgeon-General, Public ealth and Marine Hospital Service, Washington, . C.

Obituary Notes.—Dr. JACOB RAPELYE LUDLOW of aston, Pa., died of pneumonia at his home in that ty on February 10. He was born in Somerset ounty, N. J., in 1825, and was graduated in medi- ne from the University of Pennsylvania in 1845. e first practised in Neshanic, N. J., but removed to aston in 1850. He served with distinction through- t the Civil War in the medical corps of the Union rmy, and at the close of the war settled in Knox- lle, Tenn., where he remained for fourteen years, 1879 he returned to Easton, where he practised to about five years ago, when he retired from tive work. A daughter and two sons, one of whom a physician, survive him.

Dr. JAMES P. RICHARDSON of San Francisco died that city on February 9, at the age of eighty-four ars. He was a native of New York State, and was aduated from the Medical Department of Colum- n University, Washington, in the class of 1886.

Dr. HENRY MARTIN DEARBORN, a homœopathic actitioner of this city died of pneumonia on Febru- y 16, at the age of fifty-eight years. He was born Epson, N. H., and was graduated from the Bow- in Medical School in the class of 1869. He was rmatologist to Flower Hospital, Laura Franklin ee Hospital for Children, Manhattan Hospital and . Mary's Hospital of Passaic, N. J. He was also ofessor of dermatology at the New York Homœo- thic Medical College, and the New York College d Hospital for Women. He was a former presi- nt of the Homœopathic County Society, and was a ember of very many local and national homœo- thic societies.

Dr. JAMES MADISON LAIRD of Mt. Carbon, W. ., died on February 16, following an operation r an abscess on his neck. He was a native of rginia, but had practised his profession in West rginia for about thirty years. He was educated Hampden-Sydney College, Virginia, and studied edicine at the University of Virginia, and at the niversity of New York, from which latter insti- tion he was graduated in 1877. He was known er a large section of West Virginia for his in- lligence and skill, and his kindness to patients in ouble won for him a large circle of grateful friends.

Dr. WM. F. BUCHANAN died in Philadelphia on ebruary 16. He was a graduate of the medical epartment of the University of Pennsylvania, d enlisted as an acting assistant surgeon in the nited States Army in 1862, being attached to the xty-eighth Illinois Volunteers until 1864, when was appointed assistant surgeon, and was made xecutive officer to the Medical Director, and later ssistant Medical Director, Department of the outh. After the Civil War he was surgeon at Fort eavenworth and Denver, and with the Thirteenth nited States Infantry at Lexington, Mo. He as with General Hancock's Indian expedition, nd later was stationed at Fort Harker, Kan. In 867 he was breveted captain for meritorious ser- ices during the Civil War. He was stationed at estern forts until 1867, when he resigned.

Dr. ALVIN R. DAVIS died at Rawlins, Wyo., on ebruary 16. He was a graduate of Jefferson edical College and had formerly resided at Dover, el.

Dr. S. J. SEYFERT died at Pinegrove, Pa., on ebruary 14 at the age of sixty-six years. He as graduated from the Medical Department of the University of Pennsylvania in the class of 1871.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

ARMY MEDICAL COLLEGE—HOUR-GLASS STOMACH—PELVIC LESIONS IN RELATION TO ABDOMINAL DIAGNOSIS—PAIN IN DIAGNOSIS—MR. BALFOUR—ROYAL COLLEGE OF PHYSICIANS.

LONDON, February 5, 1904.

THE eighty-eighth session of the Royal Army Medical College opened yesterday, when Sir Wm. Taylor delivered an address to the lieutenants on probation. He said the course of post-commission study, now happily provided for, rendered the establishment of a military-medical teaching institution in the metropolis essential. The closer the union between the military and civil members of the profession, the better he thought it must be for the State and the army medical corps. One of the objects of the college, and that not the least, was to be a center toward which, for imperial purposes, the medical military profession at home and in the colonies should converge—the auxiliary as well as the regular services. This college should have far-reaching beneficial results, both to the civil and military branches of the profession. "You will sometimes hear it said," continued Sir William, "that the army doctor has little to do. Let not that disturb you; you will find from experience that it is otherwise. It is also said that his practical experience is confined to treating the diseases of early manhood, and that this limitation of practice leads to stagnation of effort and to blunting of mental acuteness and judgment. Believe me there is nothing further from the truth. No army medical officer need let his knowledge rust. There is abundance and variety of clinical work to be found in our army hospitals. The field of the army surgeon is world-wide, and in the domain of tropical medicine he will find a field of observation and research that afford opportunities for practice and progress that no other section of our profession possesses." Sir William went on to show what work had been done in the school during late years, in relation to typhoid fever and the attempt to restrain its ravages by inoculation. The prevention of this disease, he asserted, was of momentous importance in army sanitation—the most momentous at the present day. So was that of the allied disease, dysentery, and much of the recent work on that had been done by their officers. In conclusion, Sir William said that to recount the work of the officers trained in that college would be almost to write the history of tropical medicine, and so he would close "by mentioning the name of Major Ronald Ross, the discoverer of the etiology of malaria, who received his training in hygiene and pathology in their school."

An important paper by Mr. Moynihan on "Hour-glass Stomach" was read at the Medico-Chirurgical Society on the 26th ult. He rejects the idea that some cases may be congenital—not a single trustworthy record of such an occurrence being known. On the other hand, in addition to recognized causes, he admits constantly recurring spasm. He has witnessed severe spasm during operations and considers it likely to lead to hyperthropy of the circular muscular fibers. Washing out the stomach with a measured quantity of fluid, and noting the quantity that is returned, affords the most reliable indications. If washed till the return fluid is clear, a sudden rush of foul-smelling fluid following is significant. If, after the stomach has been washed clean, the tube is repassed in a few minutes and a quantity of offensive fluid comes, this again is significant. These two are Wölfler's signs. Succussion on palpation may be noted; if then the tube be passed and the stomach apparently emptied, a splashing may still be elicited. If the stomach be distended up to bulging of the left epigastric region, this will gradually subside, and bulging of the left side appear; when sizzling of bubbling may be heard through a stethoscope. So the stomach may be distended with air and give enormously increased resonance of the upper part while the lower part remains without alteration. In many cases there is a narrowing, not only in the body of the stomach but also at the pylorus, so that no one operation can meet every case. Mr. Moynihan mentioned the different procedure he had had to adopt. The president, Mr. Willett, remarked that in London there were not nearly so many cases as in the north, and asked if anything in the habits or neighborhood had been observed predisposing to the complaint. Mr. Moynihan said he could offer no explanation of this, and in reply to other questions added that his operations were aseptic, and he thought the mortality would be less but for the previous years of suffering, which reduced the strength of most patients.

Dr. Handfield Jones opened a discussion at the Medical Society on pelvic lesions in relation to abdominal diagnosis. He referred to the gastric irritability which is

so common in metritis and endometritis and the question which often arises as to whether a gastric ulcer has perforated or a gravid tube ruptured. Exploratory laparotomy could decide, and was the only plan in many cases, when the signs were very doubtful. Abdominal and pelvic lesions might coexist, and the diagnostic difficulties would then be aggravated. Some cases of the kind were mentioned. Pelvic adhesions might give signs of abdominal mischief.

Mr. Doran alluded to various points, such as uterine vomiting, menstrual nausea and faintness, menopause symptoms, hemorrhages, tubal pregnancy. He said, too, pelvic tumors of non-pelvic origin were deceptive, *e.g.* pelvic kidney. Lumbar tumors in women might be ovarian cysts with twisted pedicle.

Dr. Heywood Smith thought the mammary symptoms in a primipara might help diagnosis in early extrauterine pregnancy. Tenderness between an inflamed appendix and the pelvis could sometimes be made out.

Dr. V. Bell described a case of apparent intestinal obstruction which proved to be a parovarian cyst.

Mr. Owen alluded to the cases of recovery after laparotomy when nothing was found. He mentioned vaginal discharges of dark blood as a sign of tubal pregnancy.

The President, Dr. de H. Hall, described a case of supposed appendicitis which proved to be one of strangulated ovarian cyst.

Pain is always an interesting subject from whatever point of view it is considered, and it is one with which the doctor is constantly engaged, but which neither he nor the patient profess to understand, while the philosopher can speculate gaily on the mystery—always provided he is not suffering.

Mr. Bowlby had, therefore, a popular subject and a good audience at a lecture on pain and its importance in diagnosis and its tendency to mislead. If he had not much to offer that was new to the members of the Hunterian Society, he could at least set before them in good order some useful reminders. I pass by what he had to say of the utility of pain, and leave to the philosophers the proof that it is essential to the preservation of the body, and as Mr. Bowlby alleges, to every separate tissue.

It may be so—but the statement is capable of being disputed.

The varying value of pain as a symptom is familiar to all, and Mr. Bowlby gave good illustrations of this. In children, he said, "growing pains" and so-called rheumatic pains may be indications of tuberculous bones or joints or other grave diseases. At the other extreme of life pain is often slight in comparison with the exciting cause: strangulated hernia or urinary calculus are sometimes examples. Some dull, stolid people complain of no pain in conditions which excite the strongest expressions by more sensitive persons. Neurasthenic pain may be seen in men debilitated by disease, by accidents, mental distress or overwork, indulgence in stimulants or narcotics.

Mr. Bowlby illustrated his subject by some of his experiences in the South-African War. Speaking next of "referred pain," he warned his hearers not to diagnose hastily sciatica, which he had known to be credited with the pains subsequently proved to be due to sarcoma of the ilium, cancer of the femur, tuberculous abscess in the gluteal region. The frequency with which pain originating in the intestines is referred to the umbilicus was mentioned by Mr. Bowlby, who had observed that in early cases of appendicitis this was often the case, or the pain in these cases might seem to be general. He thought probably the appendix hung free in such cases, but when adhesions had been formed to neighboring parts the pain would be localized. A little discussion followed in which Dr. G. Lyon referred to the sensitiveness to pain of the Semitic races, and Dr. J. Adams compared Jews and Indian fanatics. He referred also to the absence of pain sometimes met with in cancer, etc. Dr. Arthur Davies related a case of aneurysm which eroded the vertebræ but produced no complaint of pain. He made the sensible suggestion that doctors should be careful not to suggest pains of any kind to their patients. Dr. Goodall mentioned the abdominal pain which sometimes obscures acute pneumonia. Dr. L. Brown mentioned Mr. Barnard's opinion that abdominal pain in chest cases indicates that the diaphragm is affected. He also mentioned a case of extreme pain in the head which was never explained. Mr. Hosford referred to painless multiple aneurysms. Mr. Bowlby replying to these remarks said Semitic patients often puzzled surgeons by unaccountable rises of temperature as well as by pain. He expressed the opinion that sensitiveness to pain increases with the development of the intellectual faculties.

The absence of the Prime Minister from the opening of Parliament on account of illness preduced a depressing influence among all parties, for Mr. Balfour is personally a great favorite with opponents as well as supporters. His attack of influenza is pursuing a favorable course, and the last bulletin is encouraging.

Dr. Geo. Oliver has given £2,000 to endow a lectureship at the College of Physicians on the application of physiology to the prevention and cure of disease and the prolongation of life. Dr. Horace Dobell has given the same college £500 for a biennial lectureship on researches by the lecturer on pathogenic microorganisms.

PURE WHISKEY.

To the Editor of the Medical Record:

Sir: Your editorial of the 6th inst., "Relating to Whiskey," is most timely, since the subject is before a committee of the United States Senate.

This is a time when the medical profession can presumably be instrumental in the accomplishment of incalculable good.

It should insist that the original feature of the Hepburn bill be retained, which was that the public should know the composition of the whiskey which it uses. Not that all blended whiskey is to a degree poisonous, but the uses of whiskey are too broad, and the profession should demand an act of publicity. Otherwise, I judge, that the so-called rectifier or compounder will be accommodated in the matter of secrecy for two reasons. A committee from the rectifiers recently received a promise from Dr. H. W. Wiley, Chief of the Bureau of Chemistry, that he would raise no objection to the suggested amendments to guard against any possibility that under the bill the disclosure of formulas would be required. Dr. Wiley is quoted as saying that "some perfectly honest, upright gentlemen are engaged in the business, and they do not want these things to get out of their hands to be used for fraudulent purposes." So well and good for these gentlemen, but most unfortunately by their example, or otherwise, the market is amply supplied with the "essence of whiskey, etc.," which are added to the often embruting compounds. The chemistry of these things is known only to their concocters. It is probable that their base is fusel oil! If not, the pathological effects of the average essence, or ether, are well known. For when used alone, in the quantity in which whiskey is used, such use may cause death within a few hours. "French spirits" are used by certain rectifiers. As to essence, three men died in Raleigh Co., West Va., as the result of drinking the essence, or the oil of cinnamon, or peppermint. And this is a not uncommon cause of sickness, and sometimes of death, in the prohibition counties of West Virginia. The three men were reported to have died before medical aid reached them, and death was preceded by agonizing pain.

So it becomes the medical profession to look to Congress, and to beseech it that the poisoning and the occasional maddening of its citizens through compounded, blended, undistilled liquor, shall cease. And the good rectifier is too much like the good Indian. There is enough good whiskey distilled in this country.

Thos. R. Evans, M.D.

Deepwater, W. Va.

SHALL THE GENERAL PRACTITIONER DIVIDE FEES WITH THE CONSULTANT?

To the Editor of the Medical Record:

Sir: The question of dividing fees between practitioner and consultant has been quite exhaustively discussed from different points of view. Vindex is probably right in what he says should be the equitable basis of reciprocal relations. He probably enjoys a large practice, and is secure enough in his position not to fear the men who may envy him or may try to supplant him. The majority of medical men are not so situated. With the youngsters especially it is a struggle long and hard to get a foothold. One trouble is that the specialists are too numerous and must make strenuous efforts to succeed. In fact, they must get business, no matter in what way. The army of young surgeons, for instance, must do or die. It is these chaps, together with the gynecologists, who are responsible for the introduction of the so-called "graft" system of surreptitious fees. They must divide up or starve. They must bid for trade or quit. Hence, they are willing to operate for the smallest possible fees rather than not be busy. They make it an object for their friends to send them cases. They cannot return favors by recommending patients not in their line, and hence money comes in to strike the balance. They have taught the family attendant to expect commissions, and now the operator who does not respond in kind is not called again. Of course, all this is done slyly, and, as one of your correspondents says, "it is nobody's business." The innovators train in groups and form little cliques for self-improvement. They found little societies, read papers,

and work into each other's hands as secretly and loyally as they did formerly in their college fraternities. They do not bid openly by offers of money, but send little checks as presents afterward. It is the share for the good friend who thinks of them at the right time. Some of the physicians who have cases to sell are in the habit of writing to operators, asking the amount of the commission for the case. Every surgeon in active practice knows this. It is done in town and out of town. Personally, I have lost more than one good case because I refused to be party to such a bargain. The older specialists are the sufferers in this regard, because they are left behind by the new methods. Verily, competition is descending to the "knockdown and drag-out system," and is as difficult to modify or control as any other secret or underhanded element of modern depravity. How are we to reach men who are bound by such strong and mutual ties? The men who make the bargain stand facing each other with open arms.

Expert fees are thus not only relatively but are positively lowered. Every man who graduates as house surgeon of a hospital is ready to do any operation—or at least he thinks he is—for the smallest possible pay. Oftentimes half of this goes to the man who sends him the cases. They can afford to do this rather than nothing. At this rate the profession is skimming its own milk, both at the bottom and the top.

HOSPITAL SURGEON.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: Presumably some of your correspondents upon this subject are more or less veiled humorists. The desire of "specialist" to obtain some general opinion on this "vital subject," and the pains which a prominent New York surgeon has taken to clearly and succinctly set forth the true *moral* aspect of the matter, especially in connection with the routine practice in $10,000 gall-bladder cases are much appreciated here in the West, where such cases are peculiarly troublesome, and a daily source of worry to those interested in this "vital subject." But our conscientious brother's views, also expressed in the MEDICAL RECORD of February 6, p. 225, though on the surface remarkably clearly and practically set forth, leave one somewhat uncertain whether he is a medical Mark Twain, or a rare soul wholly devoid of self-interest. He might do in theory, but is most too generous and just (to himself) for effective practice in an imperfect age of graft. Grafting is still a very imperfect science in America, and probably capable of much improvement.

That the question certainly has considerable interest to a portion of the profession, is shown by the occasional letters of inquiry which the specialist receives as to what his present percentage may be, or as to whether he would be willing to do better than Dr. Blank, who only pays 33⅓ per cent. That it possibly has a moral aspect, has until recently been generally conceded, and certainly questioned least of all by the grafters, who, on the quiet, might admit having resorted to the practice, but never feel like boasting about it. At any rate discussion of the moral aspect would seem more appropriate to the primary Sunday school than to adult professional gentlemen. There is probably only one aspect of the question that would seem to be of much practical importance, and that is, is it expedient, does it pay? In considering this momentous question, there are naturally three points of view, aside from the "vital interest," the "moral," and "the conscientious."

First, there is that of the so-called general practitioner: either he has rendered the patient a service for which he should be paid, or he has not. If he has rendered such a service, is it for his best interests to have his fee collected indirectly by another, the patient supposing him to be laboring gratuitously? From every viewpoint —no. No man with a good business head or much self-appreciation would allow himself to be put in such a light before his patients whether he has any morals or not. If he has rendered no services, neither the $10,000 proposition nor any personal peculiarity of conscience seems capable of demonstrating why he should receive any fee directly or indirectly.

Second, There is the view point of the specialist. Unless he wishes to be the abject slave of the meanest tyrant, he will not attempt to buy the influence of the general practitioner. He will find it much cheaper, more independent, and pleasanter to appeal directly to the public. In the first place, he will find that the best and most influential practitioners cannot be bought, but only their contempt incurred, and, second, that the yellow curs that he can buy are rarely long worth the price; they will soon raise the price on him and surely fall out with him over the division of the spoils. The influence of men of this caliber is not often great and is notably erratic.

Third, there is the viewpoint of the patient. Living, as he does in this era of graft, he is not long in getting wise to the game, he is not half as scandalized or shocked as the profession as to the moral side of the question. because he is in these days practised upon from too many directions, and he has learned not to expect all that dealers in gold bricks and such like claim. He simply avoids the tariff, or tries to, in taking precautions in choosing his own general practitioner and his own specialist.

So in the end nobody is badly fooled or very much hurt, and the vital question of dichotomy will gradually work itself out. That it will entirely disappear is not more likely than that many other sharp practices will do so. Some of the pioneers in this field made a brief stake, but just at the present the trade is too limited, and competition too great to make it worth while, except in a small and occasional way. The question is not really so vital after all as some appear to think. It may be sometimes cunning, but never wise. Lord Bacon truly says, "Certainly, there is a great difference between a cunning man and a wise man, not only in point of honesty, but in point of ability."

GENERAL PRACTITIONER.

MINNEAPOLIS, MINN., February 15, 1904.

Progress of Medical Science.

The Boston Medical and Surgical Journal, Feb. 11, 1904.

Cholecystostomy and Cholecystectomy: A Study of a Series of Operations.—Charles L. Scudder formulates his opinion in regard to these operations as follows: Cholecystostomy should be done in those cases of gall-bladder and biliary duct surgery in which quick drainage is needed for the deeper ducts and in which the surgeon is not absolutely sure that the deeper ducts are entirely free. Cholecystectomy should be done in cases of acute cholecystitis, in cases of cholecystitis resulting in gangrene and empyema of the gall-bladder, in small contracted (infected) gall-bladders which are functionally useless and which will not be of service in facilitating drainage, and in all cases in which the surgeon is morally sure that the deeper ducts are free from obstruction. The writer believes that during an acute attack of gallstone colic it is wise to postpone operative interference. Operation should be performed in any case showing definite signs of gallstones or an inflammatory process about the gall-bladder. In general, the earlier the operation, the better. An interesting series of sixteen cases is presented at the conclusion of the paper.

Remarks upon Cholecystectomy and Cholecystostomy, with Special Reference to Their Comparative Safety and Efficiency in the Treatment of Biliary Affections.—Maurice H. Richardson declares that in many cases there can be no choice between cholecystectomy and cholecystostomy. The gall-bladder is already practically extirpated, and in many cases its condition is such that it must be extirpated. Choice exists only when the gall-bladder is comparatively normal. The writer gives several practical arguments in deciding between the extirpation and drainage of the gall-bladder. He first compares the dangers of the two operations. Clinical experience shows that cholecystostomy is the safest of all operations upon the biliary passages. The writer assumes that extirpation of a normal gall-bladder is almost but not quite as safe as cholecystostomy. If there is any choice on the ground of immediate danger, it is in favor of simple drainage. There are conditions in which drainage is quite as dangerous as extirpation—that is, when the gall-bladder is deeply contracted, hard to find, adherent to surrounding viscera and infected. The comparative dangers between these two operations are chiefly in connection with the normal and the comparatively normal gall-bladder. The prevention of gallstones is next discussed. The writer believes that the argument of preventing gallstones by removing at once the *fons et origo mali* is a very strong one, and weighs almost wholly in favor of cholecystectomy. He is convinced that as a rule gallstones are formed in the gall-bladder, and there alone. As to drainage of the biliary passages, the writer believes that cholecystectomy without drainage is an incomplete and dangerous operation; and that cholecystectomy with drainage of the hepatic duct is an unnecessarily dangerous operation when cholecystostomy is so very easy and so safe. Biliary drainage through anything but the gall-bladder is very risky—not to mention the danger of the operation itself. Cholecystectomy seems an operation of last rather than of first resort—for old, infected, useless gall-bladders through the remains of which temporary drainage may be easily and safely established. The most important objection to

extirpation of the gall-bladder, when the cystic duct is ligated, is the loss of those great benefits which follow prolonged drainage of the biliary passages.

Journal of the American Medical Association, Feb. 20, 1904.

A Clinical Note on Obscure Cases of Septic Fever.—L. F. Bishop refers to cases which are of obscure origin but suggest a septic infection. The temperature, which is the principal symptom, runs an irregular course and is sometimes preceded by slight chills. There is a certain loss of flesh and strength. It is difficult to exclude tuberculosis, typhoid fever, and malaria. Recovery pretty regularly takes place, but there is an occasional fatality, causes having been, in the author's experience, malignant endocarditis, acute pleurisy, and exhaustion. In these cases Bishop advises forced feeding (especially milk and eggs) and a moderate amount of alcoholic beverages and tonics.

Ectopic Pregnancy.—F. F. Laurence refers to several cases. In one, a woman of twenty-six years, ectopic pregnancy occurred twice within fourteen months. Two other cases are referred to. Laurence emphasizes the dangers of leaving a Fallopian tube behind at the time of operation for rupture of the other tube. He calls attention to the fact that ectopic pregnancy occurs in a normal condition of the uterus and tubes; that there is always a preceding tubal disease; that the particular form of tubal disease, viz., desquamative salpingitis, is bilateral; that there is practically always an accompanying localized peritonitis affecting the tubal covering; that the consequent probability of a normal pregnancy is slight; that the danger of an unrecognized or unsuspected tubal gestation cannot be estimated; that extra-uterine pregnancy may go to rupture before it is suspected, and that ruptured ectopic pregnancy is very apt to be fatal.

The Early Signs of Pregnancy.—H. L. E. Johnson calls attention to an early sign of pregnancy to which he attaches great importance. It is observed as early as the fourth week, or possibly earlier, and consists of an intermittent softening and hardening of the vaginal portion of the cervix uteri with, in many cases, a change of color, from a pale violet to the normal pink hue, or the reverse. These changes in consistence and color are rhythmic, more or less. The alternate softening and hardening is easily detected by digital touch, while changes in color may be seen through a speculum. These signs or processes are, in all probability, early manifestations of what is subsequently recognized as the intermittent contractions of the pregnant uterus, and are probably due to a necessity for some change or modification in the uterine circulation incident to the nourishment and growth of the impregnated ovum through physiologic intermittent congestion of the generative system.

The Ocular Complications of Bright's Disease.—These are discussed by L. Stricker, who gives the histories of several cases illustrated with diagrams of the retinal findings. His general conclusions are as follows: (1) There are no ocular complications of Bright's disease from which, independently, a positive diagnosis of Bright's disease can be made. They should direct our attention to the probability of Bright's disease and lead to systemic examination. (2) The prevalent idea that one must find the characteristic picture of Bright's disease with hemorrhages and areas of degeneration and white splashes in the region of the macula, is a mistaken one, since one may meet with any of the many manifestations of vascular or retinal inflammation due to the action of toxins. (3) Only a small percentage of cases of Bright's disease develops ocular complications, but if larger numbers of cases were systematically examined it is more than probable that a much larger percentage would be found to have ocular lesions, which have not caused functional disturbances, and consequently have been overlooked. (4) All the ocular complications of the disease are the result of altered nutrition, or toxæmia; in other words, a chronic uræmia. (5) Diseases of the eye coming on in the course of Bright's disease are of the most serious prognostic import, and indicate an early dissolution of the patient. (6) In the acute form conditions are of a more hopeful character, though a prolonged siege, with inability to stay ocular disease, cannot fail to leave the patient, though he recover, with greatly impaired vision. (7) An estimation of the urea quantity made from a total amount of the urine of twenty-four hours, under proper diet, is the barometer by which we are to be guided in determining the early or immediate fatal outcome of the case. (8) In the Bright's disease of pregnancy, with ocular involvement, a low urea quantity should be a positive sign for immediate interference, and should justify artificial abortion both to save the eyesight as well as the life of the mother. (9) In cases of Bright's disease disclosing choroidal and retinal changes, he has found the urea quantity in the urine below the normal; and it seems more than probable that the urea or other excrementitious substances retained in the blood, due to faulty kidney excretion acting as chemical irritants or toxins, are directly responsible for the inflammatory or degenerative changes.

Medical News, February 20, 1904.

Case of Tetany.—Joseph Barsky reports this case. The patient was a girl of eleven months. The family history was negative. The present illness began suddenly. The writer, after examining the child, found the usual symptoms of tetany present. It is characteristic of the disease that it is always bilateral, with symmetrical contractions, some time of variable intensity on either side. The writer does not believe that tetany is always a complication; it may be the initial symptom of any of the acute febrile diseases. The etiology is obscure. Boys are more often affected than girls. Gastrointestinal disorders seem to be the main etiological factors, but in this present case the tetany seems to have been the symptom ushering in an acute bronchitis which lasted four days, and from which the child made a complete recovery. Nothing is better for the rigidity than a warm bath. Pain is relieved by the application of cold to the involved joints and the internal administration of the bromides and antipyrin. In rare instances of asphyxia, chloroform inhalations should be given.

House Infection of Tuberculosis.—Lawrence F. Flick declares that the most striking feature about the communicability of tuberculosis is that it depends almost entirely upon the house. An enclosure of some kind is so necessary for the conveyance of the disease from one person to another that contagion is impracticable without it. Implantation of the tubercle bacillus greatly facilitated by the house. The house prepares soil for the tubercle bacillus. This bacillus cannot get a foothold in perfectly healthy, normal tissue. In the beginning of the tuberculous process the tendency to recovery is so great that the slightest aid to nature may turn the tide toward recovery. The large death rate from consumption really must be ascribed in a great measure to bad ventilation in home and workshop. The last stage of conflict between this disease and its victim is the house. Tuberculosis develops into consumption because of the house. Tuberculosis in itself would seldom prove fatal if the patient lived out of doors. Life in the open air greatly retards the development of tuberculosis and promotes recovery. The house makes and maintains consumption, and consumption kills. It is well termed a house disease. Without the house it would not exist. It depends upon the house for its implantation, propagation, and for evolution of all its phenomena. In the house the tubercle bacillus lies dormant in wait for its new host. Whatever shuts out fresh air, shuts out health and happiness. In house-infection is the key to the entire problem of stamping out tuberculosis.

New York Medical Journal. February 20, 1904.

Osteomyelitis.—Seventeen cases are reported by Howard Williams. The disease is essentially a germ infection, though not a specific one of bone tissue, for the exciting microbic cause may be any one of the pus-producing organisms. The septic process is almost exclusively a disease of the period of bone development and growth, beginning with but few exceptions in the growing tissues at the end of the diaphysis near the epiphyseal cartilage on the side remote from the joint in childhood. Trauma usually plays the rôle of the exciting cause. The malady is most frequently confined to the long bones. The constitutional symptoms are the classical ones of sepsis. Local signs include muscular spasm or contracture, redness over the skin, œdema of the deep subcutaneous tissues, and a central swelling or thickening, an œdema of the peritoneum felt on deep pressure. Later comes fluctuation. Differential diagnosis is called for from deep cellular abscess, erysipelas, typhoid fever, and acute rheumatism. Treatment is purely surgical. Delay means disaster. Early intervention saves patients from disfigurement and permanent disability. If nature forms an involucrum around a necrosed section of bone, sequestrotomy is then indicated. The last resort is amputation. If the disease occurs at either the shoulder or hip-joints resection will generally lead to a fairly good functional result.

The Clinical Importance of Aërophagia.—H. Stern discusses the question of aërophagia (air-swallowing), enumerating as the symptoms gastric oppression and eructations. Sometimes the air accumulates in the œsophagus and does not enter the stomach at all. If the latter becomes distended we may expect anxiety, dyspnœa, sense of suffocation, palpitation, headache, vertigo, anorexia, vomiting, emaciation, and general debility. In the worst cases symptoms are referable not

only to the stomach but to portions of the digestive tract lower down, and the symptoms then produced have been mistaken for those of typhoid fever, appendicitis, and enterocolitis. Many cases occur among drivers, riders, and automobilists. In cases of habitual swallowing of air, rest and sleep are of the first importance, and lavage is generally beneficial. Dietetic treatment is useless, and by constantly calling the patient's attention to his affection may perpetuate the condition it is designed to cure. When practicable a tube may be used to facilitate the exit of air, and its use should be followed by irrigation with six to eight litres of water at 43° C., to which a little chloroform water has been added. Internally such remedies as menthol and bismuth are of service. When the air accumulates in the small intestine, no solid ingesta should be allowed till the bowels have been completely evacuated. If pain is severe, opium may be necessary, and may be given in a suppository combined with belladonna. Other remedial measures include rest in bed and hot fomentations. Massage may often prove injurious to the patient.

American Medicine, February 20, 1904.

The Retinal Symptoms of Vascular Degeneration.—L. W. Alleman believes that it is but reasonable that if functional alterations precede organic changes in the circulatory system, they should be discoverable in the eye, where alone in the economy it is possible to inspect a vessel without interfering with its function. The physical condition which gives rise to the first evidence of disturbed nutrition, visible in the fundus oculi, is a high peripheral tension dependent upon or associated with improper elimination. There are no constant general symptoms characteristic of slight nutritive disturbances. In many cases the patients believe themselves to be in the best of health. But there is usually a history of overwork or worry at a time shortly preceding the examination, or of intemperance in food, over-stimulation, or a neglect of reasonable physical exercise. The writer considers four groups of cases: In the first group no organic lesion is discoverable by the ophthalmoscope. The important finding is a tortuosity of the smaller retinal vessels and of their terminal twigs. In the second group of cases, a similar condition of the fundus is found, but in addition more or less bending of the vessels at the crossings is present. In many cases a change in the caliber of the retinal vessels is observable. Another retinal symptom is a momentary decrease in the force of the retinal circulation. In the third group of cases, some evidence of organic change in the vascular walls can be made out. In the fourth class, the cases presenting advanced vascular disease are included. The one constant abnormality which the writer has always found in association with the retinal symptoms which he has considered, is some disturbance in the elimination. In a large majority of cases this is evidenced on urinary examination by a diminution in the elimination of urea.

The Life Cycle of Amœba Coli in the Human Body; a Preliminary Note.—Charles F. Craig firmly believes that vacuolization is a degenerative process in amœba coli. He has observed the following varieties of amœbæ after staining the specimens by the modified Wright's method, a detailed description of which he proposes to give in a later contribution: Small amœbæ having a deeply stained ectoplasm and dimly stained endoplasm, and a large-sized collection of chromatin, generally situated at one side of the parasite, within the endoplasm. Slightly larger amœbæ, colored in the same manner, but showing a division of the chromatin into two nearly equal portions. The chromatin in both of these forms, upon careful examination, is seen to consist of very delicate fibrils and dots, arranged in a more or less definite manner. Larger amœbæ colored in the same manner, but showing a further division of the chromatin into numerous small clumps, varying in number from six to twelve or fourteen. These clumps are arranged irregularly throughout the protoplasm (within the endoplasm) of the amœbæ, and the chromatin seems to be collected in a compact and more deeply staining mass. Amœbæ of the same size, showing apparently the same number of chromatin collections, but the chromatin surrounded by an unstained interval in the endoplasm of the amœbæ and arranged somewhat regularly. The chromatin collections are smaller, more compact, and stain very deeply, are oval in form, and are of exactly the same size. The only step in the evolution of these organisms which has been missed—as shown in the stained specimens—is the actual rupturing of the amœbæ and the setting free of the spores. The writer has never seen any red blood cells within the sporulating amœbæ. It is probable that before sporulation occurs any cells which have been so enclosed are thoroughly disintegrated. The writer believes that it is demonstrated that amœba coli undergoes reproduction by sporulation, and that this manner of reproduction most adequately explains the persistence of amœbic infections. If these sporulating bodies are in reality encysted this would still further explain the persistence of such infections, as encysted parasites are more resistant to injurious influences.

The Lancet, February 6, 1904.

A Case of Acute Lymphatic Leukæmia.—The patient of H. Savory was a boy of four and a half years, with foul breath, furred tongue, impetiginous sores around the mouth and a rather quick pulse. There were a few enlarged glands on the right axillas and about the right clavicle. No splenic or liver enlargement could be made out. The bones were not tender and there was no enlargement of his thymus. He was not wasted, but his skin was sallow and very rough. Œdema and albuminuria were absent. The boy grew paler and became more or less breathless. Blood examination at once cleared up the diagnosis. In spite of every remedy used, he grew steadily worse and died in six weeks.

The Physiological Action and Antidotes of Snake Venoms, with a Practical Method of Treatment of Snake Bites.—L. Rogers tabulates the effects of snake venom of various kinds on the nervous system, blood, and arteries. On the nervous system the general effect is that of respiratory and vasomotor paralysis. There is a general loss of coagulability in the blood, and the vessels are constricted. Calmette's serum receives high commendation for its antidotal properties. Adrenalin counteracts the circulatory failure due to the vasomotor paralysis. Bandaging of the limbs may also increase blood-pressure. As to the method of treatment referred to in the title, permanganate of potash is the remedy of choice. First a ligature is placed around the limb above the site of inoculation of the venom, and then a small incision is made through place of injection, into which pure crystals of the permanganate are rubbed with a little fluid, the idea being to neutralize as much of the poison as possible before it has had time to be taken up into the circulation.

A Case of Ovarian Fibroid Tumor Removed by Posterior Colpotomy; Subsequent Pregnancy.—J. Phillips reports the case of a woman of twenty-eight years, married one year and considering herself at the fourth month of pregnancy. Amenorrhœa, morning vomiting, and mammary distension were all present. She was suddenly seized with a violent pain in the right iliac region and was obliged to take to her bed. There was no hemorrhage. Examination showed a fixed swelling of the size of the closed fist blocking the upper third of the pelvis. The uterus, showing all the physical signs of a four months' gestation, was pushed upward and forward by the growth, which was apparently attached to the lower and posterior segment. The conjugate diameter of the pelvic inlet was reduced to a size just sufficient to pass two fingers by the obstruction. Under an anæsthetic an attempt was made to push up the growth above the brim, but this failed, and as the patient declined to submit to a Cæsarean section, induction of abortion was performed and the uterus was empty. Three weeks subsequently the growth was found to be somewhat smaller in size, fixed and attached to the lower uterine segment. A diagnosis was made of subserous fibroid tumor, and it was decided to attempt its enucleation by a vaginal operation. The cervix was pulled downward and forward by means of a vulsella. A transverse incision was then made into Douglas' pouch and several spouting vessels were secured. On incising the peritoneum about a tablespoonful of clear fluid escaped; on inserting the finger the tumor was felt closely attached to the posterior and right wall of the uterus, and the posterior portion of Douglas' pouch. The adhesions were gradually broken down and a lump of creamy white color was freed; a vulsella was attached to the lower portion, and it was delivered slowly through the vaginal opening. The tumor was found to be attached by a pedicle consisting of right broad ligament and Fallopian tube to the right uterine cornu. This pedicle was ligatured and the mass was cut away. The edges of the vaginal wound were brought together, and a small gauze drain was inserted into the peritoneal cavity. Convalescence was quite uneventful. A few months later the patient became pregnant and was delivered easily and naturally of a full-time child. The puerperium was normal in every way. She has since remained quite well.

The Lancet, February 13, 1904.

An Unusual Case of Salicylic Acid Poisoning.—The patient of J. K. Matheson was a boy suffering from erythema iris over nearly the whole body. Starch poultices had been applied to remove all the scabs, and then Lassar's paste, which contains salicylic acid, was applied locally and the iodide given internally. This treatment caused marked improvement, but seventeen days later the boy began to complain of headache, sore throat, slight fever, insomnia, light delirium, and complaint of noises in the ear. Later the fever became quite high and the

pulse weak and irregular. Cessation of the applications and the moderate use of stimulants removed all symptoms.

Coma, Apparently Due to Distention of the Bladder.—R. Main was called to see a man of middle age, whom he found unconscious with facial twitching, livid face, absence of lid reflex, and stertorous breathing. The condition suggested uræmic coma to the author. Urine previously passed was examined but showed nothing abnormal. A distended bladder was found and by catheter a large quantity of blood and urine was drawn off. In about twelve hours the patient recovered consciousness. The patient was thereafter in apparently good health but unable to micturate, though stricture and prostatic enlargement were wanting. Later uranalysis was negative except as to an excess of acidity.

Etiology and Treatment of Suppuration of the Labyrinth.—W. Milligan enumerates as the most frequent causes of infection of the middle ear: (1) Suppuration of the middle ear extending through the external labyrinthine wall; (2) suppuration originating at the base of the brain and running along the perivascular or perineural sheaths of the auditory of facial nerves; (3) blood infection, and (4) injuries. He enumerates the following points as guides to operation: (1) In any case of suppurative middle-ear disease when well-marked nerve deafness upon the affected side is accompanied by frequent attacks of vertigo and nausea and by nystagmus, either constant or intermittent, a careful search should be made for the presence of any fistulous tract leading into the labyrinth. If found, such tract should be opened up and explored; if not found, however, an exploratory opening through the horizontal semicircular canal or foot plate of stapes is justifiable. (2) In all cases of suspected labyrinthine disease of septic origin the vestibule should be promptly opened. (3) In cases of chronic suppurative middle-ear disease accompanied by the presence of cholesteatoma and erosion of the external labyrinthine wall free opening of the area of involvement should be effected. (4) In cases of suspected cerebellar abscesses, accompanied by symptoms indicative of labyrinthine involvement, the operative pathway should be *via* the middle and internal ear to the posterior surface of the pars petrosa—in other words, through the median wall of the mastoid antrum. In this way the labyrinth is opened up, the anterior portion of the corresponding cerebellar lobe is exposed, and any extradural abscess lying upon the posterior surface of the pars petrosa would at the same time be located and drained.

The Significance of the Zoological Distribution, the Nature of the Mitoses, and the Transmissibility of Cancer.—The interesting paper of E. F. Bashford and J. A. Murray can be reviewed here only in outline. They find that new growths in the common domestic animals are far more common than has been generally supposed and note that the great diversity in the habitat, food, and conditions of life generally of the forms in which malignant new growths occur relegates such external conditions to a subsidiary rôle in determining the incidence of the disease, and shows that the essential factors must be sought in the potentialities which reside in the cells constituting the living organism. The progressive increase in the size of malignant tumors has been found to be due to the division and increase in the size of their constituent cells. Mitotic division of the nuclei generally precedes division of the protoplasm. A complicated sequence of cell-changes has been found to be characteristic of carcinoma and sarcoma alike. This sequence is the same as that which initiates the origin of the sexual generation in plants from the asexual, and is terminal in the history of the sexual cells in animals. It must be noted also that all the cells of the malignant new growths do not undergo the reducing division, a certain number differentiate in the direction of the tissue among which they have arisen, and in the secondary growths when present somatic mitoses occur in the growing margin, which is also a feature in the growth of cancer when transferred to a new host. The transmission of cancer from man to animals or from one animal to another of different species has never been accomplished, but transmission from one animal to another of the same kind is easy. The authors find that while in mice, many of the transmitted portions degenerate, a few remain of normal appearance and gradually increase in number. But in such experiments the malignant material does not produce metastases naturally, and its malignancy is only evidenced by its progressive growth and the undifferentiated character of the cells. The process is in no sense an infection, the tissues of the host not participating in the formation of the new parenchyma.

British Medical Journal, February 6, 1904.

Note on the Nature of the Parasitic Bodies Found in Tropical Splenomegaly.—W. B. Leishman points out the close resemblance of the parasitic bodies found in tropical splenomegaly to some bodies recently described by Wright and found by him in a patient suffering from Delhi sore. Wright found in the cells of the tissue—removed by curetting the ulcer—large numbers of small parasitic bodies which are very closely analogous with the parasites of tropical splenomegaly. Ross has often found in the pus of Delhi sores large numbers of a flagellated organism, the Cercomanas hommis. It is just possible that Wright's parasites may prove to be altered cercomonads. As to the nature of the spleen parasites, the writer believes that these bodies represent an involuted stage of a flagellate organism. The failure in all cases to detect the parasites in the peripheral blood is a strong argument against their being intracorpuscular.

Notes on an Ineffectual Treatment of Cancer; Being a Record of Three Cases Injected with Schmidt's Serum.—D'Arcy Power states that there is no doubt that a reaction takes place after the injection of Schmidt's serum. The temperature rises and with it the pulse, but the respirations, as a rule, are not affected. This rise of temperature is not peculiar, for it follows the injection of serum, which admittedly contains toxins, and in all probability any similar serum would produce a similar result if it were active. It cannot be accurately said that the reaction is specific. In the history of one case reported by the writer, the most typical reaction took place, while subsequent examination of the patient's tissues failed to detect any malignant disease. Although the local effect on the tumors was apparent from the inflammation which developed as a result of the injection, still the writer was not satisfied that the serum acted by selection upon malignant tissues only. He thinks it intensified any preëxisting inflammation. The treatment is painful apart from the succession of hypodermic injections. Malignant disease progresses, even to a fatal issue, while the injections are being given. The writer concludes that, as far as his experience goes, the method is of no service, but it may be fairly argued that the trial he has given it is insufficient, and that further observations are desirable.

Some Practical Points Associated with Appendicitis.—W. D. Spanton writes that the more he sees of appendicitis the more is he convinced that it is far safer to operate too soon than to defer it a minute too long. He admits that it is the graver cases mostly that come under his observation. Still, he believes, that even when it is deemed wise to wait in hope, it too often develops that sudden symptoms of the worst character arise while the physician is hoping for the best. There is a certain proportion of patients that will get well with ordinary care and treatment, especially strict recumbency. But in all cases of doubt it is far safer for the patient and more to the credit of surgery, to act soon, and make practically certain of saving the patient's life. The nature of the operation can be decided only after it is begun. The appendix should always be removed when it can be done with safety. This is sometimes impossible, and the condition of the patient often requires as rapid and simple a procedure as can be. In all instances free drainage may prevent imminent death, and prove the first step toward complete recovery, even when it is not possible to do more. No one ought to be allowed to die unopened, unless actually moribund. Some most desperate cases do get well. The author gives a brief history of a number of cases. He has seen several cases in which the pain was so slight as to be hardly mentioned by the patient. The locality of the pain is very misleading. Epigastric pain is almost invariably associated with peritonitis. It is not uncommon for the appendix and ovary to be adherent. Appendicitis occurs comparatively frequently in young women at the catamenial periods. Abdominal tension, especially with rigidity of the right abdominal muscles almost always devotes formation of pus or circumscribed peritonitis. Many cases with localized swelling without very marked constitutional symptoms recover without operation. There may be no swelling, and still the appendix may be gangrenous. Temperature counts for little except when a sudden rise indicates grave mischief. Localized painful swelling, with steady rise and fall of temperature, denotes pus, and ought to be evacuated before bursting into the general cavity. Each case is one unto itself and must be considered on its own merits.

British Medical Journal, February 13, 1904.

The Treatment of Myiasis.—G. H. Younge says in relation to the treatment of myiasis that the larvæ can be at once gotten rid of by the following method: The tip of an ordinary probe is lightly smeared with vaselin and pressed on to a little calomel, so as to take up about 1 grain of it. It is then passed into the cavity containing the larvæ and gently moved round it. The calomel kills the larvæ in a few minutes. They can then be removed by gentle pressure or by syringing the cavity with a little

rm boracic lotion. The drug seems to destroy or neutralize the excretory products of the larvæ, which often cite considerable local inflammation and high fever. is fatal to most of the lower forms of life.

A Case of Vesicular Mole of Unusual Size.—Thomas ter Jones describes this case. The patient was aged ty-eight years and had had eight children. Five years ore she passed a similar mole but much smaller. hen the writer was called to see her, she was having ng labor pains. No fœtus could be felt. Masses the cysts presented themselves at the os. The patient s put under chloroform, and the writer introduced his d into the uterus and got the whole mass of cysts y without much difficulty. He kept his hand well r the uterus and injected ergotin hypodermically l hemorrhage did not occur. The patient made an unntful recovery. The mass weighed five pounds four ces. The cysts looked somewhat like grapes, and tained a gelatinous material, slightly tinged with red.

ome Deceptive Abdominal Conditions and the Question Operation.—A. H. Tubby calls attention first to the dition of the pulse and temperature. He says that the ditions of gravity are two: First, a normal temperature h a pulse-rate of 100 or over; secondly, a more serious dition, a subnormal temperature with a rising pulse. the abnormal ratio has been established for a day or ger, the prospects of surgical interference are exmely unfavorable, because the altered ratio is signint of the absorption of septic products. It is important only to ascertain the number of leucocytes but the o of polymorphonuclear cells. If these are increased n the normal rate of 65 per cent. to over 70–75 per t, then pus formation is certainly present. Rigidity symptom to be carefully watched, particularly if it be sistent. Vomiting is a very variable sign. Distention is n absent in the early stages, but in the later stages of dominal disease the fatal significance is only too well wn. Diarrhœa occurring in the course of acute appdicitis is generally significant of septic absorption n a non-evacuated abscess. Local tenderness is alys of value as a guiding point to the site of the lesion. persistence of hæmatemesis and melæna after an injury n association with a suspected gastric or duodenal r, may be such as to determine the question of operaor otherwise. The presence or absence of increasing dominal dulness is an important factor in doubtful es of injury when it may be that a solid viscus has n ruptured, and blood is being poured out into the itoneal cavity, or the dulness may be due to effusion pus or fluid, or to matted intestine with adhesion, as appendicitis. Effusion of blood beneath the abminal walls is not a symptom to be relied upon and uld be considered only with other symptoms. The ociation of pleurisy and perigastric abscess is well wn, so also is the existence of subdiaphragmatic cess secondary to appendicitis, and the presence of d at the right base. As to the chest symptoms, point lies in their persistence preceded by a history bdominal trouble.

Berliner klinische Wochenschrift, February 1, 1904.

timulating the Secretion in Nursing Women.—Zlocisti nts out the necessity of encouraging nursing instead of ttle-feeding and reports the results he has had with a rified form of cotton seed used as a galactagogue. The ervations of dairymen have established the value of oil cake obtained as a by-product in the expression of oil from cotton seed as a means of increasing the milk put of dairies and the author has employed a purified duct deprived of its indigestible cellulose constituents a similar purpose with nursing women. The results wed that the preparation was not found disagreeable take by the women and that it did not seem to cause undesirable effects. In all of the twelve cases in which as given it seemed to cause a very marked stimulation the milk flow, which became apparent on the third or rth day, when twenty-five to thirty gm. of the substance d been administered.

Cytodiagnosis of the Cerebrospinal Fluid.—Meyer abstracts the observations of the French school who have developed this method of diagnosis and appends the results of his own investigations. In thirty-five cases examined, lymphocytosis was found fourteen times, which comprised eleven cases of undoubted general paralysis and three in which the same diagnosis was probable. In four cases, viz., of paralysis, of chronic alcoholism suspected of paralysis, of multiple sclerosis and of katatonia an increase of small mononuclear leucocytes was observed. In the other seventeen cases, mostly functional in nature, but including one case of paralysis, no lymphocytosis was observed. These results are in harmony with those of the French authors, and show that in nearly all cases in which a condition of chronic meningeal irritation could be assumed, lymphocytosis of the cerebrospinal fluid is found. When this is present an organic lesion probably exists, and therefore the point may be of importance in differentiating functional and organic states. What the value of such examinations is in the differential diagnosis of various organic conditions remains to be seen.

Münchener medizinische Wochenschrift, January 26, 1904.

Severe Discoloration of the Skin Following the Injection of Adrenalin.—Schücking has used his preparation with good results in plastic operations on the vagina, but believes it increases the postoperative nausea. In one case after 1¾ c.c. of a 1–100 solution had been injected the patient's skin acquired a deep bluish black color resembling that of Addison's disease and lasting one-half hour. The pulse remained palpable, but respiration became shallow until artificial respiration was used.

A Rapid Gasometric Method for Determining the Sugar in Urine.—Riegler has devised a simple yet accurate method for determining the amount of glucose in diabetic urine which possesses the advantage of taking very little time. It depends on the decomposition of potassium permanganate by glucose into CO_2 and potassium carbonate. The amount of the latter is estimated by adding dilute sulphuric acid, and measuring the CO_2 gas given off. On consulting a table the amount of glucose required to produce a corresponding amount of potassium carbonate is obtained, and the results are said to be more accurate than with the usual methods. A detailed description of the apparatus, working directions, correction tables, etc., is given.

An Improved Azotometer for the Quantitative Determination of the Urea and Uric Acid in Urine.—Jolles has simplified the apparatus used in his method for determining urea and uric acid, and describes its perfected form. The method for urea consists in diluting the urine and adding phosphotungstic acid. A measured amount of this mixture is treated with sodium hypobromite solution in the apparatus, and the amount of liberated nitrogen read off. The same apparatus is used for the uric-acid determination. The urine is mixed with ammonium acetate and ammonia. The precipitate is washed with ammonium carbonate and boiled with magnesia to drive off all ammonia. The result is acidified and oxydized with potassium permanganate. The fluid is then alkalized with sodium hydrate and decomposed with hypobromite solution in the apparatus. The amount of nitrogen corresponds to a uric acid content obtained by consulting a table.

The Origin of the Basophilic Granular Red Blood Cells.—Naegeli reviews the arguments of those observers who consider these granules as degenerative, and of those who take the opposite view and hold that they are the result of response to a stimulus and are therefore regenerative in nature. Under the author's direction Lutoslawski made a series of observations in animals poisoned with lead. These corroborate the conclusions of Sabraze's, who found that acute poisoning fails to produce the granules, that if they have been formed as a result of chronic poisoning, a large increase in the dose of the lead causes them to disappear, and also that they disappear before death. This looks as if they were formed as regenerative bodies, but the author does not consider the question settled, though he says that it seems certain they cannot be degenerations. Whether they are the result of changes in the nucleus or in the cytoplasm is also still undecided.

The Acute and Chronic Circumscribed Inflammations of the Colon.—Bittorf describes five cases in which, after a greater or less degree of constipation, a tender abdominal mass developed, usually in the region of the sigmoid, and there was an accompanying rise of temperature. One of the cases was remarkable for the development of a large exudative mass in the left iliac region, while under observation, together with a leucocyte count of 24,000. The mass was absorbed in about eight days and recovery followed. Castor oil was found the most efficient purgative in all the cases. Such conditions begin through the gradual accumulation of fecal particles in the haustra of the intestine. As the collections increase in size they become dry and irritating to the mucous membrane, so that by degrees the submucosa and peritoneum become inflamed and the clinical picture of the condition is produced. In the chronic cases there are moderate temperature, constipation, loss of appetite, malaise, nervous disturbances, and sometimes diffuse pains in the left iliac region, together with a sausage-shaped mass in the same situation. The treatment comprises laxatives, compresses to the abdomen, diet, rest in bed, and massage.

Book Reviews.

ASTHMA IN RELATION TO THE NOSE, with Notes of 402 Cases. By ALEXANDER FRANCIS, M.B., B.C. Cantab. London: Adlard & Son, 1903.

THE author regards the ordinary classification of asthma as untenable and misleading. For him it is due to spasm of the bronchial muscles probably always induced by reflex action and not due to any mechanical obstruction of the air passages. The nose comparatively rarely supplies the immediate exciting cause of the asthmatic reflex, but in the asthmatic state a morbid connection exists between some parts of the nasal apparatus and the respiratory center whereby the stability of the latter is affected. In other words, some part of the nasal mucosa has a controlling influence on the respiratory center and that area is on the septum. He employs the usual measures of treatment, but his procedure *par excellence* is to cauterize the septum with the galvanocautery point from a spot opposite the middle turbinate forward and slightly downward. The results he brings forward are remarkable. We can only say that the same method in the hands of others has not been by any means so successful.

A COMPEND OF PATHOLOGY, GENERAL AND SPECIAL. A Student's Manual in One Volume. By ALFRED EDWARD THAYER, M.D., Professor of Pathology, University of Texas. Second Edition, containing 131 Illustrations. Philadelphia: P. Blakiston's Sons & Co., 1903.

THE domain of pathology has received such important additions through the recent investigations in the fields of hemology, bacteriology, parasitology, etc., that constant changes are necessary to keep the textbooks representative of the present status of the science, while the subject of immunity has made such great advances that most of the older views as to the nature of disease have undergone important modifications.

The present volume is thoroughly modern in its treatment of all of these topics and should be of interest to all who are anxious to follow the trend of thought which is molding the pathology of to-day. Most of the important recent contributions have been incorporated and the tabular arrangement adopted by the author in many instances, is most valuable in illustrating the philosophy of the various branches of the subject. The illustrations are excellent and, together with the admirable mechanical execution of the volume, combine to make it a most attractive handbook.

TECHNIK UND DIAGNOSTIK AM SEKTIONSTISCH. Von Dr. RICHARD GRAUPNER, Assistenzarzt am Kinderkrankenhaus und Dr. FELIX ZIMMERMANN, Früher Volontärassistent am Pathologischen Institut der Universität zu Leipzig. Mit 126 Abbildungen in Dreifarbendruck auf 65 Tafeln und 25 Abbildungen im Text. Zweiter Band. Zwickau, Sa.: Förster und Borries, 1899.

As the title indicates, this is primarily intended as a guide for practical work and to assist the inexperienced or occasional performer of autopsies in making a correct diagnosis. The tone of the book is therefore much less philosophical than is usually the case with German productions, and it is well adapted to compensate for lack of practical training in this difficult subject. The chief interest naturally attaches to the plates, which are exquisite examples of what can be done by the three-color process, and show a clearness of detail and fidelity to natural coloring rarely attained. The value of the pictures is greatly enhanced by the fact that the originals are the actual handiwork of the authors themselves, and therefore have been painted with a discrimination impossible to the lay artist. All but three of them were done directly from the fresh specimens, special care being taken to catch the proper color shades before these should have become altered by the rapidly oxidizing effect of exposure to the air. The important features of each case are concisely presented in appended paragraphs of description. In the volume of text the entire field of gross pathology is clearly discussed from the purely practical standpoint, and many helpful tables of conditions occurring in each organ are given. The work is surpassed by few in beauty or in usefulness.

A TEXTBOOK OF LEGAL MEDICINE AND TOXICOLOGY. Edited by FREDERICK PETERSON, M.D., Chief of Clinic, Nervous Department of the College of Physicians and Surgeons, New York; and WALTER S. HAINES, M.D., Professor of Chemistry, Pharmacy, and Toxicology, Rush Medical College, in affiliation with the University of Chicago. Vol. II. Philadelphia, New York, London: W. B. Saunders & Company, 1903.

WITH the second and last volume of this work is included a leaflet with evident suggestions for the reviewer, which end as follows: "In fact, the entire work is overflowing with matters of the utmost importance, and expresses clearly, concisely, and accurately the very latest opinions on all branches of forensic medicine and toxicology." In spite of this optimistic statement we regret that we cannot alter our views expressed after reading the first volume when it appeared, for we find little here that has not been said before in a better way; and a great deal has been omitted. It was hoped that a textbook with these pretensions would naturally contain much fresh matter and be clearly a new departure, but to our disappointment we find that the bulk of the book is modelled upon trite and oft-repeated lines, and we fail to find among the names of the contributors more than two or three who have taken even a prominent place in their profession. We are sorry to find that the medicolegal consideration of insanity has received such scant notice, for beyond the purely clerical reproduction of the laws of the various States, which are likely as not to be modified at the next meeting of the various legislatures, there are but four or five pages devoted to the consideration of the powers and duties of committees of incompetent persons, and nothing is said about civil or criminal responsibility. The articles of most value are those which have done duty before in Witthaus' or Hamilton's treatises, and beyond slight modifications or additions, such as the blood-serum tests in Dr. Wood's contribution, are practically the same as when they appeared in their virgin state, and even a superficial comparison will show this. In this connection it is inconceivable how men with a reputation and position of those who have erred in this way, could offer practically the same literary material to two publishers. Certainly the editors themselves have shown a lamentable carelessness in not securing original articles.

The make-up of the work is good and eight of Hoffman's vividly colored plates that were not used in the first volume are utilized in that before us.

THE TENEMENT-HOUSE PROBLEM, Including the Report of the New York State Tenement House Commission of 1900. By various writers. Edited by ROBERT W. DE FOREST and LAWRENCE VEILLER. Vol. I and II. New York and London: The Macmillan Co.

THIS work very satisfactorily fulfils its mission in discussing the various and intricate problems of tenement-house reform. No pains have been spared to obtain accurate information regarding existing conditions from expert sources, and the result is a mass of statistical data that cannot fail to appeal to the social economist and the sanitarian. In no other city can overcrowding be studied to better advantage than in some of the lower and east-side districts, where the tenement population is more dense than in any similar locality in the world. The numbers that are thus massed are truly appalling. Nor can the causes for this be easily obviated. Manhattan Island, long and narrow as it is, has very few facilities for expansion. The poor to be near their work must be necessarily massed in accessible quarters. With high taxation space becomes necessarily limited, and property holders, to realize upon their investments, are forced to multiply living rooms in every conceivable way. The room that cannot be gained on the ground is obtained by piling up structures to increase their height. Backyards are sacrificed, light and air excluded, and the diseases of poverty multiply in proportion. All these conditions are graphically described in this admirable report of the commission. The truth of the adage that one-half of the world is ignorant as to how the other half lives is strikingly shown by the flash-light pictures of the dark, unventilated, and foul rooms of many of the populous tenements. Even the air-shafts are receptacles of filth, the fire-escapes encumbered with litter, and the inner watercloset uncleanly beyond description. These are the object lessons that must force conviction on the most apathetic observer. How to remedy this deplorable state of affairs is the burden of the argument of the different writers. Whether we view it from the moral, social, or sanitary standpoint, the necessity for radical reform is apparent. Every human quality is tainted in such an atmosphere. Hence it is not surprising to learn that moral instincts become suppressed, that vice thrives, that temperance increases, and, last of all, death from preventable disease balances the unequal struggle for existence. The commission has done very commendable work in mitigating many of the present evils, but it is merely a commencement in reform rather than a consummation of even reasonable expectations. The problem is tackled from the right quarter by educating the poor as to their rights and privileges, at the same time by force of law compelling the owners of tenements to respect ordinary sanitary regulations. Each contributor has done his part in such direction, especially those who have treated of the dangers of tuberculosis and other diseases from overcrowding. As a contribution to the cause of municipal reform this book is a notable and enduring monument to the conscientious and painstaking efforts of its contributors.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, Held January 8, 1904.

ROBERT T. MORRIS, M.D., CHAIRMAN.

Facio-hypoglossal Nerve Anastomosis.—Dr. A. S. TAYLOR presented two cases of this kind. (See page 321).

Dr. ROBERT F. WEIR said that Cushing had been the first in this country to undertake this operation, the spinal accessory nerve being used in his cases. While there was improvement, it was associated with conjoined synchronous motions of the trapexius. This was quite a serious objection, and hence, the hypoglossal nerve was substituted. Personally, he did not expect the same success from grafting into the hypoglossal as when the spinal accessory was used, because the one did not secure an end-to-end anastomosis and could not expect so much nerve regeneration. He had tried the method in his ward upon a woman who had developed facial paralysis after a mastoid operation. Because of the long duration of the palsy it was not to be expected that the operation would be followed by as much success as in the more recent palsies. He had found the technique very satisfactory, and the operation had been followed by primary union. It was too soon, of course, to speak of the result.

Dr. H. LILIENTHAL thought one should be pretty sure that spontaneous recovery might not take place before resorting to this operation of nerve anastomosis. He knew of at least one case in which, after rheumatic paralysis, recovery took place after an interval of a number of months. If he remembered correctly, Cushing's case was of considerable duration. He was of the opinion that even associated shoulder movements were to be preferred to a possible permanent derangement of the tongue.

Dr. THOMAS H. MANLEY entirely agreed with the last speaker as to the possibility of spontaneous regeneration of the nerve. He recalled one case in which this occurred even after ten months. It was well known that there was no other tissue in the body which possessed the regenerative activity of nerves. In one of the reported cases a certain degree of wry neck followed the operation.

Dr. C. A. ELSBERG referred to two cases coming under his observation. The first occurred in a man who had had rheumatic paralysis of eight months' standing. The paralysis had not been benefited at all by persistent treatment in the out-patient department. He was kept under observation, however, for a considerable time, and when heard from a few months later, no operation was necessary. The second case occurred in the Montefiore Hospital, and when seen there was a palsy of about eight months' standing. In that case, after one or two months, improvement began, and it was now proceeding quite rapidly. If these cases had been operated on quite soon they would have probably yielded very good results, but it could not be said that the recovery was due to the operation. He had searched the literature, and had found that some of these cases recovered spontaneously after from eight to twelve months. The operation described by Dr. Taylor was certainly a beautiful and attractive one, and the improvement had taken place rather more quickly than in most of those reported.

Dr. FRED KAMMERER thought a distinction should be made between rheumatic cases and those in which the paralysis was caused by a loss of nerve substance.

Dr. A. S. Taylor said that of course the question of spontaneous recovery must always be considered. In so-called Bell's palsy such recovery was the rule, but sometimes in chronic cases there were contractures of the muscles which were even more disfiguring than the paralysis. In his second case, that of the woman, treatment had been carried on for three months by the neurologist, and there had been not only no improvement, but a tendency toward contracture had developed—at least this was the opinion of the neurologist who worked with him. The question of derangement of the tongue should be borne in mind, but with proper technique there would be no unnecessary disturbance, and the derangement of the muscles of the tongue would probably be slight and temporary. This was rather a matter of faulty technique than a defect inherent in the operation itself. As Dr. Kammerer had well said, the traumatic cases, in which there was a loss of substance of the nerve, afforded almost no chance for regeneration of the nerve. The greater the length of time from an infectious paralysis to the time of surgical intervention, the less the chance of obtaining a good functional result from nerve anastomosis.

A New Procedure in Rhinoplasty.—Dr. CARL BECK presented this case that it might be judged of before the final result. Some years ago a rhinoplasty had been done on the patient by a well-known surgeon, but the result of that operation had been destroyed subsequently by an extension of the process for which the operation had been done, *i.e.* epithelioma. When the case came under Dr. Beck's care he could find no tissue on the face for an operation, and, hence, adopted the plan of taking it from the arm. The result of this operation was good, but a recurrence of the disease caused a destruction of nearly half of the nose. He had then resorted to what he believed to be a novel procedure. A large triangular flap was taken from the lower lip. This was partially separated a week after the operation to shorten the patient's sufferings, and the remaining portion of the pedicle was separated only five days ago. One advantage of using the lower lip for this flap was that mucous membrane was thus obtained. Another advantage was the thickness of the flap. He would have employed the *x*-ray treatment were it not for the shrinkage of the tissues which would have resulted, and which would have interfered with the operative procedures. *X*-ray treatment would be employed as soon as practicable after the operation.

Fecal Fistula Following Appendicitis.—Dr. A. ERNEST GALLANT presented this patient, a little colored girl. He said that fistula of the small intestine in conjunction with appendicitis he had not met with before. He had first closed the opening of the fistula, and then dissected out the scar. In doing this, the fistula was cut through a second time, and such a large gap was made that it became necessary to resect the bowel. The result was entirely satisfactory, there being primary union and a total absence of pain. The bowels moved without any medicine on the sixth day, and the child was out of bed on the tent day.

Dr. MANLEY asked whether the perforation of the small intestine was due to trauma at the first operation, or to some disease, such as tuberculosis. He would also like to know whether the union was made by means of button or suture.

Dr. GALLANT replied that from the history he understood that the original operation wound had been drained, but further than this he knew nothing about it. His closure of the opening had been by means of an end-to-end anastomosis with the Lembert suture.

Gunshot Wound of the Abdomen.—Dr. J. J. HIGGINS presented this case, and reported another. The case reported was that of an Italian who had a bullet wound midway between the umbilicus and the pubes. The operation was done five hours after the shooting. There was one opening into the jejunum, and there were seven holes some distance lower down in a space of about six inches. This portion of bowel was excised, and an end-to-end anastomosis done. Recovery took place without further incident. A week later the second patient came into Fordham Hospital with the same injury, but he absolutely refused operation. For five days there were vomiting and hiccough, the pulse and respirations were rapid, and the temperature varied between 101.2° and 103°F. During this time he was very ill, but on the fifth day his stomach was washed out and from that time on recovery was rapid.

The bullet was not located, and no blood was passed per rectum or vomited.

Retroduodenal Choledochotomy for Impacted Calculi in the Retroduodenal Portion of the Choledochus.—Dr. A. A. BERG reported this case and presented the patient. The woman had been admitted to the surgical service of Dr. Gerster in the Mount Sinai Hospital last July. She had been jaundiced for eight months, and gave a straightforward history of repeated attacks of biliary colic for some time. She was emaciated, and had had chills and rises of temperature on several occasions. A diagnosis of cholelithiasis was made, and an operation undertaken. Upon exposing the biliary apparatus, the gall-bladder was found free from calculi, but reaching from both branches of the hepatic duct through the main hepatic duct down through the common bile duct to the papilla in the duodenum was a continuous chain of calculi, varying in size from a marble to a split pea. The cystic duct was empty. It seemed to be a primary formation of calculi in the hepatic ducts, and on subsequent exploration of the hepatic ducts in the liver he was able to deliver about half a dozen stones from the ramifications of the main hepatic duct in the liver itself. The common bile duct was first opened and the stones accessible through the incision were easily removed. One stone was very firmly impacted just above the papilla, and could not be dislodged by a sharp spoon passed through the incision or by manipulation through the duodenum. Last May, in a paper on cholelithiasis, the speaker said, he had proposed a procedure recommended by Kocher for gastroduodenostomy, *i.e.* the reflection of the descending portion of the duodenum and rotation of this portion upon the longitudinal axis, turning the duodenum to the left, and exposing the common bile duct on the posterior surface of the duodenum. In this way the common bile duct became accessible in that portion which had always been a bugbear to the surgeon. In this case the common bile duct did not pass through the head of the pancreas, but even when it did so it could be easily shelled out. The advantage of this procedure was that the duodenum was not opened. The mere opening of the healthy duodenum with a healthy peritoneum was not very serious, but it was entirely different with a diseased duodenum. Dr. Lilienthal had antedated the speaker in the actual performance of this operation. It had been recently stated that this procedure was an old one, but on looking up the literature it was found that in no previous case had it been the intention primarily of the operator to do the operation which he recommended. Where there were numerous adhesions around the second portion of the duodenum this procedure was easily done. The woman upon whom he had done this operation was now pregnant, but there was no hernia present.

Dr. LILIENTHAL said that he did not do the operation as described by Dr. Berg, but opened the peritoneum, introduced the finger, and rotated the descending portion of the duodenum so that the stone presented through the peritoneum to the inner side; he had not thrown the gut over and taken the stone out from behind. He thought, however, that Dr. Berg's method was a good one.

Dr. JOSEPH A. BLAKE said that it was quite difficult to remove stones from this portion of the gut, and this seemed to him to be a good method if it could be carried out without infecting the retroperitoneal tissues.

Dr. KAMMERER said that theoretically this method of reaching the common bile duct ought to be good; he had reached the duct in this way twice this winter.

Dr. W. S. BICKHAM said that he had seen a pathological specimen in which the calculus had passed down the common bile duct to the duodenum. It had then ulcerated its way safely through the duodenum, had passed down several inches, and after the lapse of a considerable time had caused the death of the person. This was a rather remarkable circumstance when it was considered that the stone had passed safely through the narrow duct, and had finally, by reason of its unusual size, caused obstruction of the larger duodenum.

Dr. BERG said that no doubt this procedure had been resorted to many times, but it had not been previously described as a typical procedure. An interesting feature of his case was that there was a primary formation of stones in the hepatic ducts.

Some Surgical Features of Typhoid Perforation, with a Report of Four Cases.—Dr. CHARLES A. ELSBERG read this paper. The patients had been operated on by him on the surgical service of Dr. Lilienthal at the Mount Sinai Hospital. He had also observed eleven other patients operated on by others at the same hospital. He said that the operative treatment was indicated in every sense of typhoid perforation of the bowel as soon as the diagnosis had been made. Operative interference for suspicious symptoms was a course which had been declared justifiable by a number of writers on this subject. However, delay was advisable in some cases. There was still no unanimity of opinion as to what constituted the symptoms of perforation. The only symptoms of perforation *per se* to be conceived of were sudden abdominal pain and the presence of free gas in the abdominal cavity. Sudden abdominal pain was evidently not a distinctive symptom, and although the presence of free gas was almost pathognomonic, if demonstrable, this was not always possible. Moreover, all cases of perforation were not associated with the presence of free gas in the abdominal cavity.

Diagnosis.—In the cases upon which this paper was based there was usually a history of sudden abdominal pain or of increase in existing pain and tenderness. At the time when the diagnosis could be made there was more or less increase of pulse and respirations. Some of the patients had been in collapse; the abdomen had been distended and more or less rigid; at times there had been free fluid and gas in the abdominal cavity. Collapse did not occur as often as might be expected, having been present in only four out of the fifteen cases. In six of the cases the distention of the abdomen was very marked; in one case there was no distention. Diminution of the areas of liver dulness was of great assistance in making the diagnosis. This diminution was usually due to the abdominal distention. Abdominal pain and tenderness were usually most marked on the right side of the abdomen, although the entire abdomen was often tender in these cases. Free gas could only be demonstrated in five out of fourteen patients giving evidence of diminution of the area of liver dulness. In endeavoring to demonstrate the presence of free gas he had found it useful to have first the head and then the foot of the bed raised considerably while percussion was made. The temperature changes presented nothing characteristic. With regard to leucocytosis he had come to the conclusion that it had little value; its absence did not at all exclude the possibility of perforation.

Indications for Operation.—In most of the cases considered, the diagnosis of perforation of the bowel could be made almost certainly in from four to twelve hours after the occurrence of the perforation. These patients bore the operation remarkably well if the manipulations were carried out quickly. When the diagnosis was only probable, if the patient's condition were steadily growing worse it was desirable to make a small exploratory incision. If nothing were found, the operation could be completed in ten minutes, and the patient could be returned to his bed with a good expectation that his general condition would be made little, if any, worse by the operation. When the symptoms of perforation had existed for at least twelve hours and were fairly clear, the operation was justifiable. If, however, the symptoms had existed for more than twenty-four hours, and the patient's general condition was still good, and the diagnosis was yet in doubt, the surgeon was justified in advising a few hours' delay if the case could be carefully watched.

In ten of the fifteen cases the abdomen contained seropurulent fluid in considerable quantity, and there were no adhesions between the coils of intestine. In all of these cases the operation had been done in less than

twenty-four hours from the occurrence of the symptoms of perforation. In six of the fifteen cases the abdominal cavity contained free gas. Deeply ulcerated Peyer's patches could be plainly seen through the peritoneal coat of the bowel in some instances. In one case he had sewed over four such ulcers, and had desisted from sewing others because of the danger of unduly narrowing the lumen of the bowel. The patient did very well for a time, but subsequently died from the perforation of one of the ulcers that had not been sewed. Of his own four cases, three were in distinctly better condition at the close of the operation than before it. In the fatal cases death occurred in most instances from the infection of the peritoneal cavity as a result of the perforation. Typhoid perforation commonly occurred while the fever was still high. In a number of the operative cases a sudden fall of the temperature took place in the first twenty-four hours after the operation, and he had come to look upon this as of good prognostic import. The abdominal wound should be drained, otherwise it was likely to become infected. Rapidity of operating was a *sine qua non* in cases of typhoid perforation. The average duration of the operation in his own cases was a trifle over fifteen minutes. In most instances the prominent loop of bowel was found to be the one containing the perforation. When the perforation was too extensive to suture, the omentum could be sewed over the area or the affected portion of bowel anchored in the abdominal wound. When the perforation was walled off from the general cavity by adhesions it was advisable to do nothing but drain. He preferred to use general chloroform anæsthesia, preceded by a dose of morphine.

Dr. J. A. BLAKE said that the possibility of securing good results from operation had been well emphasized by the paper just presented, and he hoped the medical profession at large would not overlook this important fact. He could agree with all that had been stated in the paper. In only one case had he been able to demonstrate free gas in the peritoneal cavity. He had found three perforations in every case but one, and there was always some suspicious part requiring to be turned in. The perforations were usually closed by means of a purse-string suture, the peritoneal cavity was washed out very freely and the wound was drained so as to avoid infection. The first three cases, done in the past year, got well except the one dying on the twenty-eighth day from a relapse of typhoid fever. All of these patients had a relapse of the typhoid fever. He had also noticed a fall of temperature to the normal in the twenty-four or thirty-six hours after operation, and this had been present, he believed, in all but the fatal cases. He laid considerable stress upon rigidity of the abdominal walls as a diagnostic sign. The cases were operated upon in the hospital always less than eight hours after the perforation.

Dr. LILIENTHAL said that Dr. Blake had been very fortunate in being able to operate upon his cases so soon after perforation. Personally, he had operated upon a number of cases, and all but one had died. In a hospital a good house staff would make the diagnosis quickly, the operating surgeon could be summoned and the operation could be undertaken quite early if the necessary consent could be obtained. It was different in private practice; the diagnosis was made after much hesitation and there was still further delay before the case was seen by the surgeon. It was not surprising that under such conditions operations for typhoid perforation done in private often proved disastrous, and, as a result, the operation itself unjustly fell into disrepute. Medical men should have an understanding with the surgeons so that when a typhoid perforation was suspected there need be no unnecessary delay in securing the services of the surgeon.

The Operative Treatment Hardly Applicable to Private Practice.—Dr. A. A. BERG did not think that the exploratory operation in private practice would ever come to be a recognized procedure in typhoid-fever cases. The obliteration of liver dulness he considered a very important diagnostic sign of typhoid perforation. If there were free gas in the peritoneal cavity, there would be found on percussion a diminution along the upper margin as well as the lower margin of both the liver and spleen. The diminution of the dulness at the lower margin was not of great importance. The number of recoveries from operative interference in these cases at the Mount Sinai Hospital had not been very brilliant. One must take into consideration the type of the epidemic among other things. The older practitioners spoke of many cases of so-called peritonitis complicating typhoid fever which recovered without operation, and so long as the surgeons could only show a recovery of 30 per cent. under favorable conditions, and with operations done within a few hours after the occurrence of the perforation, the operative treatment could not be very forcibly urged upon the medical profession. Dr. Crile had shown that one of the best ways of producing shock in animals was by washing out the peritoneal cavity; hence, it was very questionable whether the washing out of the peritoneal cavity after perforation was advisable.

Free Gas Due to Another Cause.—Dr. ROBERT T. MORRIS said that he had recently operated upon a case for supposed perforation, there being much free gas in the peritoneal cavity, but had been surprised to find that the free gas was not due to perforation but to the action of the bacillus aërogenes capsulatus. Mention was made of a case that he had seen in which a patient had recovered from a typhoid perforation and had died subsequently from strangulation. If the surface were lightly scarified and two or three inches of Cargile membrane were applied to the ulcers which were on the point of perforation, he thought sufficient temporary protection would be afforded in many instances.

Dr. J. A. BLAKE said that the trouble in operating upon these cases in private was attributable not so much to the surgeon as to the physician. We should not hesitate any more to operate upon a case in private practice than upon a hospital case, and if the patient were too near to us, by reason of kinship or friendship, we should have nothing whatever to do with the treatment. One reason that he had been able to operate so early in the hospital in many cases was that he had an understanding with the medical house staff, and had been promptly called by them when perforation occurred. He knew what Dr. Crile had written on the subject of washing out the peritoneal cavity, but he still felt that this procedure was valuable and persisted in employing it. His cases had done much better since he had abandoned drainage of the peritoneal cavity as much as possible.

Dr. ELSBERG closed the discussion. He said that Dr. Morris's suggestion concerning the use of Cargile membrane impressed him as both novel and useful. According to all authorities, less than 5 per cent. of all patients with typhoid perforation recovered without perforation, and the general recovery rate from operative treatment was about 20 per cent. Even with this rate there was a considerable saving of life from resort to operation.

Claudius' Catgut.—Dr. A. V. MOSCHCOWITZ read a brief paper on this subject. He said that catgut prepared by this method had been used almost exclusively at the Mount Sinai Hospital for the past seventeen months, and had stood the test exceedingly well. The bacteriological tests made by Claudius and others were sufficiently conclusive as to the sterility of this iodine catgut. It was not only aseptic, but, owing to the imbibition of iodine, was also antiseptic. It was now used at the hospital unhesitatingly in any and all operations. They had noticed a slight loss in the tensile strength, particularly with the heavier grades, but this loss was so slight as not to mar its utility. The preparation of the catgut was simplicity itself. The catgut, as it came from the dealer, was wound in a single layer upon the glass spools and was immersed

for eight days in the following solution: iodine, one part; iodide of potassium, one part; distilled water, 100 parts. The catgut was preserved sterile for an indefinite time, but lost some of its tensile strength after six months' immersion in this solution. Any unused catgut was put back into the original solution, and was used any time after half an hour. The solution should have a deep brown, almost black, color. The prepared catgut was of a brownish-black color and preserved the characteristic odor of iodine. It was perfectly smooth on the surface, was very strong, soft and pliable, and hence was easy to manipulate. Before using, it was only necessary to rinse it in sterile water. There need be no fear of toxic symptoms arising from the iodine introduced into the tissues. He had never observed any irritant action from the use of the iodine catgut even upon the skin. The only valid objection to it was that, owing to the volatility of the iodine, it was apt to corrode surgical instruments if the jar were kept in an instrument cabinet. It also stained the linen.

Dr. JOSEPH WIENER, Jr., said he had been using this catgut in the hospital, and believed the statements made regarding it were fully warranted. It possessed many points of superiority over other forms of catgut. Its chief advantages were its strength, softness, and pliability. For the introduction of a running suture, for example, it was most excellent, and if placed in water for a few minutes it would not swell. He knew of only one distinct objection to this catgut, and that was that it began to lose some of its tensile strength after a few weeks, thus making it distinctly disadvantageous in private practice. However, for hospital work it appeared to be ideal.

Dr. Moschcowitz, in closing, said that there could be no doubt that this iodine solution would kill anthrax spores, even after an exposure of only thirty-five minutes, yet it was wiser not to use the catgut, as Claudius recommended, for eight days. This catgut did not usually begin to show any brittleness until after six months; the catgut that had become brittle at the hospital sooner than this was some that he had previously experimented with by removing the fat. There was no objection to taking the catgut out of the iodine solution, and drying it, provided it was kept in a sterile container.

A New Simple Hand Arc-lamp for Phototherapy.—Dr. HENRY G. PIFFARD presented this instrument. (See page 128.)

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Regular Meeting, Held January 8, 1904.

DR. CHARLES STEDMAN BULL, PRESIDENT, IN THE CHAIR.

The Status of Radium.—Dr. ROBERT ABBE presented this communication. He said that aside from the universal interest that had been attracted to the subject of radium as a newy discovered element, and its particular claims upon the physicist, it possessed certain properties that had excited the attention of medical men. Ninety years ago Faraday suggested that all matter was more or less radiant, and in radium we possessed an element which represented the climax of that idea. It had also given us a new conception of the atomic theory. The atom had heretofore been regarded as a fixed quantity upon which logical theories could be based, but it had now been demonstrated that the atom itself was capable of breaking up into infinitely smaller particles. In the case of radium, this self-destruction was accompanied by the constant emission of radiant particles, which were shot into space, and it served as an illustration of what was probably going on in all living things—the natural process of life and decay.

The radiant energy of radium could be demonstrated by means of the electroscope. This consisted, essentially, of two gold leaves, which hung together when non-electrified and flew apart when electrified. When a negative discharge approached them, they fell together—instantly, if the discharge was energetic; very slowly, if the discharge was weak. By the same method the radioactivity of radium could be demonstrated and measured.

A great many objects besides radium exhibited radiant energy. The atmosphere was full of it; rain and snow, old library books, and numberless odd things possessed it in a certain degree. With many objects it was so slight that its intensity could not be measured as could that of the larger force possessed by an element such as radium. The reason that photographic plates lying on shelves in a dark room became for a few months poor and useless was that unsuspected objects have this radiant energy to a slight degree. Radium produced a very marked effect upon the electroscope and on photographic plates, and caused certain minerals to become luminous when it was brought near them.

Dr. Abbe showed a number of tubes containing radium salts which possessed various degrees of radioactivity (two of them were from the laboratory of M. Curie, 300,000 strength), and stated that the luminescence of the salts was not entirely in proportion to their strength.

The discovery of radium was very interesting. The elder Becquerel, over half a century ago, noticed that uranium, when exposed to the sunlight, had phosphorescent properties. M. Becquerel experimented with these phosphorescent uranium rays to see if they would penetrate opaque objects, as x-rays did, and found that even uranium without sunlight would affect a photo plate through black envelopes. Madame Curie undertook to discover the reason for this. She went to the fountain source of uranium, which was a mine in Bohemia, where the uranium was obtained in large quantities from pitchblende, and the residue was thrown away. Madame Curie found that this residue possessed four times the radioactivity of uranium itself. The goldleaf electroscope was the keynote of her researches. She proceeded to make a chemical analysis of the residue, and after passing it through repeated reducing processes she finally obtained a residual sulphate which had sixty times the radioactivity of uranium. From a ton of the residue of the pitchblende from which the uranium had been obtained she was able to extract only about three ounces of the mixed sulphates containing the unknown and still unnamed radiant substance, which was still further reduced by fractional crystallization, and its radioactivity gradually increased from 250 to 500, then to 1,000. then 5,000, and finally as high as 300,000. Each reduction eliminated certain inactive metals, lead, tin, iron, bismuth, etc., and by repeated use of the electroscope a pure new metal was obtained which gave new spectroscopic lines and was called radium.

This radiant energy was capable of penetrating certain opaque bodies, but to a lesser degree than the x-rays. To illustrate their comparative penetrative power, Dr. Abbe showed pictures of various objects which were radiographed through different media by means of radium and the x-rays. He also showed an instrument called the spinthariscope, by which the actual discharge of particles from an atom of radium could be witnessed as scintillations on a sulphide of zinc screen whose crystals became brightly luminous as the atoms passed through them. The rate of progression of these particles had been demonstrated by I. J. Thompson to be about 70,000 miles per second. These particles were negatively charged with electricity, and were infinitely smaller than a hydrogen atom, which had hitherto been regarded as the chemical unit.

Some interesting experiments with radium upon seeds and animals had been reported by M. Dangsz before the French Academy of Sciences. According to those experiments, certain seeds that were exposed to radium lost their power to germinate. A guinea-pig whose spine had been exposed to the rays for a few hours became paralyzed, and similar effects were observed in rabbits. It was also

demonstrated that radium introduced into the peritoneal cavity of rabbits was apparently ineffective. Dr. Abbe said he had repeated some of these experiments during the past summer, and his results were almost in accord with those obtained in France. Seeds that were exposed slightly to radium throve better than those that had not been placed under its influence, and a rabbit under whose skin in the spinal region a tube of radium was placed and left there for a month remained apparently unaffected by it. One hundred canary seeds were exposed to the influence of radium for three days; similar seeds were also exposed to ordinary sunlight and to moderately concentrated sunlight, and still others were placed under glass of different colors—blue, yellow, and red. After an exposure of three days to radium (300,000 activity), all these seeds were planted at a uniform depth in sifted earth. Ten days later it was found that the seeds that had been exposed to the yellow light had grown two and one-half inches; those to the red light, two inches, and those to the blue, one inch. Those that had been exposed to concentrated sunlight had grown an inch and one-half; those that were exposed to the radium had grown one inch, while those that were exposed to ordinary sunlight had grown ony three-quarters of an inch. These experiments were repeated several times, and showed that the different kinds of light had exerted a marked effect upon seed growth. Seeds exposed for a long time to the influence of radium lost entirely their germinating power. Young trout and pollywogs were apparently in no way influenced by a tube of radium which was placed in the bowl of water close to them, nor had it any effect on ants, although the embryo ants were killed by it. Its failure to effect the fish and pollywogs was explained by Professor Brackett upon the theory that its radioactivity was taken up by the water, and this theory would also explain its inactivity upon intraperitoneal and other deep tissues. Becqueral was the first to observe its pathological effect npon external tissues. He carried a tube of radium in his vest pocket, and a sore resulted which ran a painful course. Curie and others had also observed that the skin was very sensitive to the influence of radium. The lesion it gave rise to appeared about two weeks after exposure, and was exactly similar in its course and appearance to an *x*-ray burn. In a radium burn which he had produced on his own arm (two hours exposure—300,000 activity), Dr. Abbe said the lesion appeared about three weeks after exposure as a red spot, very tender to the touch; the tumefaction and redness disappeared in the course of four or five weeks. For three weeks it was exquisitely tender, and yet there was no open sore at any time. An exposure of five hours made an immediate and serious lesion very painful, apparently the result of a tissue necrosis, probably a coagulation necrosis, with an obstruction of the neighboring capillaries, and a resulting excitation of capillary energy.

When radium was applied to an eye in which the retinal nerves were normally active, it immediately gave rise to a sense of luminosity.

Dr. Abbe then briefly reviewed all the published cases up to date (collected from English, French, and German journals, by Dr. Truman Abbe) in which radium had been employed in disease. These were forty-two in all. eight of lepers, seven of epithelioma, twenty-one of carcinoma, three rodent ulcer, one sarcoma, one telangiectasis, one of psoriasis. Lupus of the face or hands yields uniformly and quickly, as it does to the *x*-ray influence, and ten times more quickly than to Finsen rays.

Application of the strongest radium, 300,000 activity, ought to be a half-hour seance every second or third day; weaker specimens much longer and oftener. Rodent ulcer was cured with simple scars in a very few weeks' treatment, one or two applications a week. Small sarcomatous nodules in the shin were reported cured. In cancers most were improved, and some reported in process of cure, and one of the cheek, the size of a silver dollar, entirely disappeared. The pain seemed pretty uniformly to disappear. Carcinoma of the uterus uniformly took on a retrograde change and there was improvement in all the worst phases—bleeding, discharge, and pain—but no cures were reported.

Dr. Abbe reported seven cases under radium treatment too early for final report as yet, but showing the following results: A lupus of the zygoma eight years under observation, one and a half inches by one inch wide, perfectly cured by one application or 3,000,000 strength laid upon it for an hour and a half. Epithelioma of the ear two years, resisting all medication, partially cured by radium and finished by *x*-rays in six weeks. The result maintains perfect condition after eight months. One small epithelioma a quarter-inch on the margin of the ear, cured by three applications a half hour each, the glass tube containing the radium merely laid against it. Two cases of cancer of the uterus, much ameliorated in all symptoms, with a marked loss of cancerous cachexia. Other cases of rectal carcinoma and one of giant-celled sarcoma of the jaw were under treatment with noticeable improvement, but not yet worthy of report.

In conclusion, Dr. Abbe said that the effect of the radium upon pathological growths was similar to that of the violet and the *x*-rays, but slower than the latter. Lupus was, in almost every instance, curable by the *x*-rays and also by radium. The latter possessed at least ten times the strength of the Finsen rays and its application was less troublesome. An advantage of the radium was that it could be applied to lesions to which the Finsen rays were inaccessible.

Dr. M. Allen Starr said that in French medical literature he had seen the report of three obstinate cases of tic douloureux of the middle branch of the fifth nerve that were treated with decided success with radium. The pain was relieved within an hour or two after the application, and in one instance the cure was said to be permanent.

Dr. Abbe, in reply to a question, said that in his case of lupus of the face, only the central part of the lesion was covered by the tube. The effect of the radium extended by radiation beyond the actual limits of the tube. Rubber tissue is laid upon the ulcer and does not effect the passage of radiant energy between the glass tube and the sore.

Dr. Andrew H. Smith said that last summer, while in England, he saw a lady who suffered from a rodent ulcer, about the size of a large split pea, on the side of the nose. Applications of radium were made two or three times weekly, each exposure lasting half an hour, and at the end of six weeks the lesion had entirely disappeared. He had previously had the opportunity of watching Finsen's work at Copenhagen. Finsen's patients were subjected to daily exposures of an hour to an hour and a half for weeks and months, and while the treatment generally resulted in a cure, there were a certain number of cases in which the lesions extended into the nostrils and beyond the reach of the rays. In such cases, Dr. Smith thought radium might prove a very valuable auxiliary to the violet rays.

Questions of Uranalysis Bearing upon the Diagnosis of Contracted Kidney.—Dr. Beverley Robinson read this paper (see p. 325).

Dr. Edward G. Janeway said the difficulties of diagnosis to which Dr. Robinson had referred in his paper were in some cases almost insurmountable. He recalled one instance in which a man was brought to the hospital in a comatose condition, and the diagnosis lay between uræmic coma and apoplexy. The urine contained neither albumin nor casts. The man died and the autopsy showed contracted kidneys and no evidences of apoplexy. In another case he had in mind the diagnosis of contracted kidney was considered probable; the urine was of low specific gravity, but over thirty examinations failed to reveal the presence of albumin or casts. The

autopsy showed contracted kidneys. Twenty years ago he saw a man who had been refused life insurance because of negative casts. When first examinations of morning and evening urine were made only cylindroids were found, but on getting a specimen at the same hour as insurance examination numerous myeline casts were found. Further questioning elicited the fact that this specimen was always passed after the man had engaged in a boxing bout and then cooled off with an alcohol sponge bath. Upon discontinuing his exercise, the casts immediately disappeared from the urine. He had, after twenty years, again consulted the speaker, fearing arteriosclerosis. He said that the urine had been normal, though he had failed as yet to send a sample for examination especially requested after exercise. That passed in office only contained cylindroids. The arterial pressure was not raised.

Dr. Janeway said that a study of these cases showed that a hasty conclusion should not be based upon either the presence or absence of albumin or casts. The examination of a single examination was of very little practical value; repeated examinations were necessary. In reply to a question as to whether the amount of urea excreted would not be a valuable clue, Dr. Janeway said it could not always be relied upon. Some persons apparently got along very well with a low urea output. Each case had to be studied on its own merits. Diet, exercise, occupation, etc., were all factors to be considered.

Dr. HERMANN M. BRIGGS said he recenty saw in consultation a man who had apparently enjoyed good health until recently, when he had an attack of constipation lasting four or five days, followed by nausea and vomiting and inability to take any food whatever. Then for six days he failed to pass a drop of urine, and on the seventh day he succeeded in passing two ounces. This contained a good deal of albumin and some casts. On the day Dr. Giggs saw him he had passed ten or fifteen ounces of urine; this had a specific gravity of 1020, and was free from albumin and casts. The patient was a Hebrew who had undergone considerable strain in his business, and his symptoms were for a time regarded as being of a neurotic origin. Under saline irrigation the quantity of urine increased within three days to one hundred ounces, and the patient, who was living out of town, improved so much that he came to New York. A few days later he began to have difficulty in breathing, the respirations being sighing in character. The urine was again examined, with entirely negative results. The breathing failed to improve and after a few days the man suddenly had a convulsion and died. No autopsy was obtainable, but the case was regarded as one of small kidney.

Dr. GEORGE L. PEABODY said that while a single examination of the urine might show no abnormality in many of these cases, he was firmly convinced that by repeated examinations evidences of renal changes would be discovered in substantially every instance. It was extraordinary how well some patients could bear complete anuria without showing any evidence of uræmia. The speaker said he thought too much stress was still laid by many upon the quantity of urea excreted. Taken by itself, this had no clinical significance. We were still in ignorance regarding the real cause of uræmia. The speaker said he recently saw a case in the hospital where uræmic symptoms suddenly supervened while the kidneys were apparently active. The renal symptoms coming on in the course of typhoid fever were the result of a parenchymatous rather than an interstitial inflammation, and the presence of albumin and casts in the urine of typhoid fever patients did not usually complicate either the treatment or the prognosis of that disease.

Dr. JOHN W. BRANNAN said that about three weeks ago he saw, in consultation with Dr. Bartlett, a man with an irregular and intermittent heart and evidences of arterial sclerosis. His urine had been repeatedly examined by a competent chemist, with entirely negative results. A subsequent examination showed albumin and casts in abundance, although the symptoms were no more indicative of renal complications than earlier in the disease. The patient has since died with all the symptoms of a chronic diffuse nephritis.

A Portable Sphygmomanometer.—Dr. THEODORE C. JANEWAY (by invitation) demonstrated this apparatus, which had been devised to provide a simple portable sphygmomanometer which should obviate the more serious defects of the forms obtainable at present. Of these too small width of the compressing armlet was the most serious. Von Recklinghausen had demonstrated conclusively that for arms of 24 cm. circumference a width of 10 cm. was necessary, and the majority of adult arms measured 24 to 34 cm., and required not less than a 12 cm. cuff. This width the speaker had adopted. The only original feature of the instrument was the construction of a portable U-tube manometer in a case, which measured only 10¼ by 4½ by 1½ inches, and, with armlet and Politzer bag used for inflation, weighed 2¼ pounds. The whole would go easily into any bag. The Politzer bag was adopted from Erlanger, the jointing of the manometer tube from Cook.

With this instrument only pressure tubing was used and the manometer had a caliber of 3 mm., so that estimations of diastolic pressure might be made by noting the lowest point of maximum pulsation, as well as the ordinary measurements of systolic pressure by obliteration on return of the pulse. Erlanger's and Stautrie's, the only others which did this, were bulky and costly instruments.

PHILADELPHIA NEUROLOGICAL SOCIETY.

At a stated meeting, held on January 26, in celebration of the twentieth anniversary of the organization of the society, Dr. James Hendrie Lloyd read a paper entitled "The Metaphysical Conception of Insanity," in which he pointed out the impossibility of a rigid differentiation of mind and matter, and the resulting fallacy of basing any classification of insanity upon such an attempted distinction. Mind is merely a manifestation of matter, and insanity, as a disease of the mind, must involve the nerve-cells of the brain, although all may not suffer in equal degree if at all. Dr. S. Weir Mitchell presented a communication entitled "The Mental Processes by Which the Rest-treatment Was Developed." It was during the Civil War that, together with Drs. Morehouse and Keen, Dr. Mitchell was struck by the extraordinary recuperating influence of rest in soldiers prostrated by the effects of prolonged marching. Later, in 1874, while treating a woman suffering from nervous exhaustion, Dr. Mitchell again observed the beneficent effects of rest, but in this instance it became necessary to modify the procedure by some form of artificial exercise, and accordingly massage was applied for the purpose. The patient, whose ailment had resisted the efforts of many of the best men of the day, recovered and is still living and well for her years. At a still later period, electrical stimulation of the muscles was added as a part of the treatment. Though the plan of treatment was at first received with some incredulity and opposition, it has survived, and is now universally recognized as an established and beneficent therapeutic procedure. Dr. J. Chalmers Da Costa read a paper entitled "The Surgical Operations Applicable in Insanity." He did not hold out a hopeful prospect of relief from surgical measures applied to the treatment of the various forms of mental alienation, although he admitted that the existence of insanity should of itself not necessarily contraindicate operation. Of course, if the mental disorder is a direct result of a condition removable by surgical interference, this should be instituted. The rules governing the surgical treatment of the insane were

the same as those governing the surgical treatment of the same. Dr. Francis X. Dercum read a paper on "Mystic Medicine." He pointed out the reverence that mankind had always had for the mysterious, and the various forms in which, for therapeutic purposes, advantage had been taken of this peculiarity, both by physicians and by laymen. As types he mentioned mesmerism, metallotherapy, and hypnotism. With reference to the last, which he described as an artificial form of hysteria, he expressed a caution as to danger not alone to the hypnotized but also to the hypnotizer.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

At a stated meeting, held February 10, Dr. Alfred Stengel presented the report of the committee appointed to consider the question of the prevention of the communication of contagious diseases, and it was adopted after protracted discussion with little modification. The report was in the nature of a series of recommendations to the Philadelphia Department of Public Health and Charities, which covered the following matters: Making it obligatory upon heads of households to notify the Board of Health of the existence of cases of contagious diseases and to disinfect the premises on recovery, removal, or death of the patient. Notification should be given also by physicians as heretofore. The diseases thus to be reported are diphtheria (membranous croup), scarlet fever, measles, rubella (German measles), smallpox (including varioloid), chicken-pox, whooping-cough, epidemic cerebrospinal meningitis, relapsing fever, leprosy, typhus fever, and typhoid fever. Physicians and authorities of hospitals should report cases of laryngeal and pulmonary tuberculosis. Heads of hospitals, schools, homes, and similar institutions should report the occurrence of erysipelas, puerperal sepsis, contagious diseases of the eye, and contagious diseases of the skin. Practitioners of veterinary medicine should report cases of anthrax, rabies, and tetanus. Placards should be placed on the doors of houses containing cases of smallpox, cholera, relapsing fever, typhus fever and the plague, and under suitable conditions in the case of scarlet fever and diphtheria. Isolation of patients should be enforced when necessary through the visits of inspectors or the presence of policemen. Isolation of cases of scarlet fever should be practised until desquamation has taken place and an antiseptic bath has been given; of cases of diphtheria until two negative cultures on successive days shall have been taken; in the case of smallpox until the separation of the crusts and an antiseptic bath has been given. The enforcement of compulsory vaccination and revaccination. Teachers and children in the schools who have had diphtheria should not be permitted to return until two negative cultures shall have been obtained on successive days. Carpets, rugs, hangings, and the like should be removed from the room occupied by a patient suffering from scarlet fever, diphtheria, or smallpox after removal, recovery, or death and thoroughly disinfected under the direction of the Board of Health. The room itself and, if necessary, adjacent rooms and hallways should be subjected to similar disinfections. Support was asked for any effort promising the early establishment of a pay hospital for contagious diseases.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

At a stated meeting, held January 29, Dr. Brooke M. Anspach read a paper entitled "Tuberculosis of the Breast." He pointed out the rarity of this condition in human beings and the difficulty of establishing the diagnosis in the absence of autopsy. He reported a case in which the breast was removed for what was supposed to be malignant disease, but which on histologic examination was found to be tuberculosis. No evidence of the existence of the disease in other parts of the body could be discovered. Dr. John M. Swan presented a section from a human embryonic vesicle showing early placenta-formation. The specimen illustrated the modern conception of the development of the ovum in the uterus and which was described in outline. Dr. Joseph Sailer presented a communication entitled "Some Recent Contributions to the Subject of the Pathology of the Liver." Dr. Moses Behrend presented a specimen of ruptured tubal pregnancy. The patient had had difficulty in previous pregnancies, almost all of which terminated prematurely. She was found in collapse and, the diagnosis being made, operation was undertaken, but on account of the state of the patient no anæsthetic was employed. When the abdomen was opened an enormous amount of blood escaped. The bleeding was, however, controlled and the patient reacted and entered upon a somewhat tardy convalescence. The operation was performed under most unfavorable conditions, and there was some wound-infection and subsequent pelvic inflammation, but at the time of report the patient appeared to be beyond immediate danger. Dr. Behrend also exhibited a tumor of the brain, obtained by surgical operation from a woman who presented left hemiplegia with epileptiform convulsions of Jacksonian type and headache, but without nausea, vomiting or changes in the fundus of the eye. The growth arose from the inner surface of the dura and exerted compression on the brain in the motor area. Improvement followed the operation, although the paralysis persisted. Dr. W. M. L. Coplin presented a communication entitled "Changes in the Intercostal Muscles in Pneumonia and Inflammations of the Pleura," in which he described degenerative changes in the muscular structures contiguous to the lungs and the pleura in connection with inflammation of these organs. Dr. Funk presented for Dr. S. Solis-Cohen the liver and a lung from a case that during life was believed to be one of malignant disease of the liver. The gall-bladder was found to be enormously dilated from obstruction of one of its ducts and the lung was diminutive and cirrhotic. Dr. Alfred Stengel exhibited an enlarged spleen removed from a young colored woman who had lived in malarious district. The organ was found to be the seat of numerous formations superficially of circumscribed outline and causing umbilication. Histologic sections disclosed appearances suggestive of endothelioma.

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

BIOGRAPHIC CLINICS. Volume II. By Dr. GEORGE M. GOULD. 12mo, 392 pages, muslin. P. Blakiston's Son & Co., Philadelphia.

AMERICAN YEAR BOOK OF MEDICINE AND SURGERY. MEDICINE. By Dr. GEORGE M. GOULD. 8vo, 673 pages, illustrated, muslin. W. B. Saunders & Co., Philadelphia. Price, $3.00.

AMERICAN YEAR BOOK OF MEDICINE AND SURGERY. SURGERY. By Dr. GEORGE M. GOULD. 8vo, 681 pages, illustrated, muslin. W. B. Saunders & Co., Philadelphia. Price, $3.00.

A LABORATORY MANUAL OF PHYSIOLOGICAL AND PATHOLOGICAL CHEMISTRY. By Dr. E. SALKOWSKI. 8vo, 263 pages, illustrated, muslin. John Wiley & Sons, New York. Price, $2.50.

DIRECTIONS FOR LABORATORY WORK IN PHYSIOLOGICAL CHEMISTRY. By Dr. HOLMES C. JACKSON. 8vo, 148 pages, muslin. John Wiley & Sons, New York. Price, $1.25.

DIAGNOSTIC DE L'APPENDICITE. By Dr. MAURICE AUVRAY. 12mo, 95 pages. J. B. Bailliere & Sons, Paris. Price, 1 fr. 50.

MEMORIA DE LOS TRABAJOS EJECUTADOS POR EL CONSEJO SUPERIOR DE SALUBRIDAD EN EL AÑO DE 1900. Folio, 184 pages.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending February 20, 1904:

	Cases.	Deaths.
Measles	975	25
Diphtheria and croup	447	44
Scarlet fever	448	25
Smallpox	3	1
Varicella	159	...
Tuberculosis	391	192
Typhoid fever	21	5
Cerebrospinal meningitis	...	3

Are Tenotomies for Hyperphoria Necessarily More Uncertain in Their Results than Those for Esophoria and Exophoria?—Dr. Samuel Theobold states that one reason why tenotomies upon the lateral muscles are more satisfactory in their results than those upon the vertical muscles is that we can obtain greater aid from the use of glasses; another is that the lateral muscles are more fully under the control of the will; so that, if we have a moderate over-correction or under-correction, the eyes come to our assistance and help us greatly. On the other hand, in operations upon the vertical muscles the eyes afford us much less help, and about all that we can do with glasses, apart from the assistance gained from prisms, is to correct any considerable amount of anisometropia that may be present. One trouble that we meet with in tenotomies for hyperphoria is that a slight over-correction, amounting, perhaps, to less than a third of the original defect, seems at times to cause the patient more annoyance than the much greater defect for which we have operated. Another difficulty which besets us is that, when we operate upon the inferior rectus, we may secure just the balance we want for distant vision, but find things are not right in near vision. On the other hand, when we divide the superior rectus, the result may be all that could be desired in near vision; but when the eyes in distant vision come to a higher plane, there is trouble.—*Maryland Medical Journal.*

Experimental Note on the Treatment of Diabetes.—Alfred C. Croftan states that there is a means of influencing sugar destruction by human organ extracts *in vitro* by the addition to the solution of very small quantities of certain chemicals, *i.e.* drugs. The suggestion naturally offered itself to administer these remedies in glycosuria with the object of reducing sugar excretion. The simplest method, though not the most exact one (for the amount entering the circulation cannot be determined with accuracy), was to give salicylates, alkalies, or carbolic acid in definite percentages by mouth; the more complicated one was to administer these substances in normal salt solution intravenously. The former method has been used, and much empiric literature exists on the effect, notably of the salicylates and of carbolic acid (phenols), on sugar excretion. Some authors report exceedingly favorable results, and the author's personal experience has been sufficiently satisfactory to warrant the administration of carbolic acid or of salicylates in diabetes as the remedy *par excellence* for glycosuria. It is not impossible that these inorganic bodies that have hitherto been considered mere refuse (ash) play an important, a fundamental, rôle in the regulation of the life process of the cell. The ferments are fragments of protoplasm, and protoplasm has all the properties of the ferments. It is quite conceivable, therefore, that these specific salt solutions not only stimulate function in the way I have outlined in the case of sugar destruction, *i.e.* by increasing ferment action, but also by directly stimulating protoplasm when it is still alive. Should this proposition be verified, then we would have in such solutions a means to raise certain functional activities when they are depressed.—*Medicine.*

Chloroforming Plants.—A despatch to the *Sun*, January 10, states that the *Lancet* prints interesting details of the result of investigations as to the action of ether and chloroform in forcing plants to flower earlier than is natural. Dr. Johansen of Copenhagen, noticing that many plants budded after a period of repose, such as occurs in the winter months or even in an unfavorable summer, conceived the idea that by inducing such a condition by means of anæsthetics plants would be renovated, stimulated, and rendered capable of developing buds with greater vigor. Experiments with lilacs, lilies of the valley, and azaleas confirmed the theory. The French horticulturist Le Blanc, at Nancy on February 19 of last year, chloroformed some azaleas and exposed them to the action of the vapor for forty-eight hours. Then he removed them to a greenhouse which was at a temperature of 65° Fahrenheit. From March 5 the flowers began to expand, and obtained their full growth on March 8, whereas the flowers which had not been chloroformed did not expand until March 21. The economy in the matter of fuel that can be effected by this method of forcing the growth of plants, etc., it is stated, will cover the cost.

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended February 20, 1904:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
California, San Francisco	Jan. 31–Feb. 7		4	..
District of Columbia, Washington	Feb. 6–13		5	..
Florida, Jacksonville	Feb. 6–13		2	..
Illinois, Cairo	Jan. 1–21		13	..
Danville	Feb. 6–13		1	..
Louisiana, New Orleans	Feb. 6–13		4	1 imp't'd
Michigan, Detroit	Dec. 6–13		4	..
At 82 places	Jan. 30–Feb. 6		Present	
Missouri, St. Louis	Jan. 30–Feb. 6		20	..
New Hampshire, Manchester	Feb. 6–13		8	..
New Jersey, Camden	Feb. 6–13		1	..
Trenton	Feb. 6–13		3	..
New York, Elmira	Feb. 6–13		1	Imported from Cohocton.
Ohio, Cincinnati	Feb. 5–12		9	..
Dayton	Feb. 6–13		18	..
Warren	Feb. 6–13		1	..
Pennsylvania, Allentown	Feb. 6–13		5	..
Butler	Feb. 6–13		1	..
Johnstown	Feb. 6–13		1	1
Philadelphia	Feb. 6–13		58	16
Pittsburgh	Feb. 6–13		10	2
South Carolina, Charleston	Jan. 30–Feb. 13		16	1
Tennessee, Memphis	Feb. 6–13		42	..
Nashville	Feb. 6–13		8	..
Washington, Tacoma	Feb. 1–8		1	..
Wisconsin, Milwaukee	Feb. 6–13		6	..

SMALLPOX—FOREIGN.

Austria, Prague	Jan. 16–23		7	..
Belgium, Antwerp	Jan. 10–17		3	1
Brazil, Pernambuco	Dec. 16–31		..	28
Rio de Janeiro	Jan. 10–17		39	28
Canada, Vancouver	Jan. 1–31		7	..
China, Hongkong	Dec. 26–Jan. 2		1	..
France, Paris	Jan. 22–30		34	3
Great Britain, Edinburgh	Jan. 22–30		9	..
Glasgow	Jan. 29–Feb. 5		46	..
Leeds	Jan. 22–30		1	..
Leith	Jan. 16–23		1	..
Manchester	Jan. 23–30		1	1
Nottingham	Jan. 16–30		23	..
South Shields	Jan. 16–23		2	..
Sunderland	Jan. 23–30		1	..
India, Bombay	Jan. 12–19		..	1
Karachi	Jan. 10–17		3	..
Italy, Palermo	Jan. 9–16		1	..
Malta	Jan. 9–16		2	..
Mexico, City of Mexico	Jan. 10–31		9	3
Netherlands, Amsterdam	Jan. 16–30		9	1
Russia, Moscow	Jan. 9–16		4	1
St. Petersburg	Jan. 16–23		4	4
Warsaw	Jan. 8–16		..	10
Siberia, Vladivostock	Jan. 11		Epidemic	
Spain, Barcelona	Jan. 31		..	16
Madrid	Jan. 20		Epidemic	
Santander	Jan. 25–Feb. 1		8	1
Turkey, Constantinople	Jan. 17–31		..	9

CHOLERA—FOREIGN.

Turkey in Asia, Syria and Mesopotamia	Jan. 11		11	4

PLAGUE—UNITED STATES.

California, San Francisco	Feb. 7		1	..

PLAGUE—FOREIGN.

Brazil, Pernambuco	Dec. 16–31		..	3
Egypt, Alexandria	Jan. 21		1	..
India, Bombay	Jan. 12–19		..	189
Karachi	Jan. 10–17		8	9
Madras	Jan. 9–15		..	1
Russia, Cronstadt	Jan. 20		..	1 Laboratory infection.
South Africa, Cape Colony	Jan. 2–9		1	1

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Original Articles.

THE TREATMENT OF GUNSHOT WOUNDS BY BRITISH SURGEONS DURING THE WAR OF THE REVOLUTION, 1775–1783.*

BY STEPHEN SMITH, M.D., LL.D.,
NEW YORK.

J. St. JOHN NEALE, Esq., was surgeon of His Majesty's Fifth Regiment of Light Dragoons during the War of the Revolution. On the 19th day of February, 1804, he issued from his residence, 61 Frith Street, London, a work entitled "Chirurgical Institutes, Drawn from Practice, on the Knowledge and Treatment of Gunshot Wounds. Illustrated with Some Singular Cases and Cures of Gallant Warriors." "The Treatise," as the author calls it, is dedicated to Field Marshal, His Royal Highness Frederick Duke of York, Commander-in-chief of His Majesty's Forces, etc. In his dedication the author speaks of himself as "an individual of inconsiderable station in the dominions of our justly revered and beloved sovereign, yet a most dutiful and loyal subject," and he begs the Field Marshal "graciously to accept the following treatise on the knowledge and treatment of gunshot wounds, founded on long practice and experience during the last war in North America."

The occasion of writing this work seems to have been the threatening attitude of Napoleon, whom he characterizes as "an insidious, faithless, and audacious foe, who dares to threaten the destruction of our religion and nation." Alluding to the qualifications of the head of the "Department of Surgery," he asks to be pardoned for expressing the wish "that the royal army may never want a director at the head of the useful and important department of surgery, who has seen actual service, and maturely observed and experienced, the nature, symptoms, and treatment of gunshot wounds; as this part of surgery does not so particularly belong to the city surgeon, or even to the army surgeon, whose experience has never extended farther than the parade at home. . . . Now, as these wounds are artificial, so it is obvious that they should meet with an experienced practitioner of art to undertake them; which experience is the only sure basis on which the army surgeon can ground his practice, and from whose assistance, when so improved, there will be the greatest probability of success. It is he alone, permit me, Royal Sir, to remark, who can check groundless fear in the patient and banish real danger by his judgment; who can foretell symptoms and anticipate fatal accidents; proving a comfort to the soldier in the day of battle, as well as a friend in his more peaceful occupations.

In his preface or "advertisement," as he terms it, the author states that "The account of the accidents which form a considerable part in the very interesting subject of the following pages . . . was penned chiefly in a camp, in all the hurry and bustle of active warfare; without at the time, any thought of ever publishing them farther than among my private friends, and perhaps in conversation. But in consideration of the present awful crisis, when this great and high-spirited nation is threatened with invasion by a fierce and haughty foe, and every man's breast burns with ardor to contribute, in some manner, to repel his efforts, I have collected all my scattered notes written in the American War, and made such professional observations on them as I trust may prove beneficial." He concludes his "advertisement" with the following patriotic allusions to the medical profession: "The heart of every medical man, I am satisfied, glows with a warm desire to be qualified, and to be enabled to render every possible assistance and relief from surgery, to those brave and gallant warriors who are emulous of lavishing their lives in the glorious cause of their beloved sovereign and his dominions, and are eager to maintain the hitherto untarnished honor of England, with their wonted alacrity, and with that intrepid and well-regulated valour, which has long been the noble and distinguishing characteristic of her sons."

The "Treatise" consists of two parts, the first being devoted to a discussion of the nature of gunshot wounds and general rules of treatment, and the second to gunshot wounds in different regions of the body, illustrated with cases that came under the treatment or observation of the writer.

Following the order of subjects of the treatise, we have, first, a discussion of the nature of gunshot wounds. The author discards the theory that these wounds are poisonous, giving as his reasons that the articles composing gunpowder are medicinal, and that leaden balls often remain long in the flesh without harm. He does not mention the projectiles used except in the following statement:

"The American troops, in several engagements, adopted a method of putting two slugs in every ball cartridge, and often four. These were made by cutting a musquet ball into four equal parts, the angles of which made often a disagreeable wound, to some of our brave fellows."

He speaks of the eschar as "a portion of flesh beaten and crushed by a bullet or any extraneous body, and which lines all the inside of the wound and prevents all circulation or commerce with the circumambient or soft parts." He states that the eschar "obdurates the mouths of all the vessels in contact with it and thereby stops the circulation on the surrounding parts." He adds "the circulation becomes impeded by the stricture of the reticular substance and by the tonic convulsion of nervous parts; these causes conspire at once to produce that ecchymosis so common in gunshot wounds, and the hideous swelling which I have often observed to drown the whole member."

In regard to the shock following gunshot wounds which he calls "commotion," he says, "Health is so great a blessing that we can never be deprived of it without regret. Upon this principle, which nature has set up in all mankind, it is, that so soon

*Read before the New York County Medical Association, January 18, 1904.

as one feels himself wounded by fire arms, he is struck with a panick oppression, too violent to be smothered; at that very moment the reason of the bravest man that ever entered the field naturally feels some degree of agitation and confusion, and sometimes, on that very account, there follows a sudden depravation, or a total suppression, in many, of nature's operations. Some of the wounded feel a general numbness and weight; others are seized with frequent syncope; one falls into convulsive motions, such as hiccup, vomiting, irregular shiverings, or a tonic stiffness in the whole body; while another becomes yellow, green, or of a plumbane colour."

In his observations on the wound, he dwells especially on the tension, swelling and, sometimes, mortification and attributes them to extravasation and inability of fluids to circulate. He adds: "When the inflammation, tension, and swelling run high in these wounds that have not been properly dilated, or from want of assistance on the spot, these parts may mortify for want of circulation, even before the skin becomes discolored, and all our cataplasms, fomentations, and our Divine remedy, the bark, with every other reinforcement of our art, may prove ineffectual."

Discussing the dangers of hemorrhage from gunshot wounds, he makes the following allusion to the precautions which he took with the troops of his regiment:

"When I had the honor to attend on the 16th, or Queen's regiment of light dragoons, in North America . . . I instructed all the non-commissioned officers in the application of the tournequet, and as detachments of this gallant corps were constantly exposed on patroles and reconnoitring parties, every one carried one in his pocket, by which means several lives were saved."

Mr. Neale gives a remarkably favorable prognosis of gunshot wounds, as the results of his experience during the war. He remarks as follows: "When the habit of the patient is good, there are no wounds made on the human body that heal more kindly than those made by gunshot on fleshy or muscular parts, provided, the surgeon understands his business." It is not difficult to explain the reason of his optimistic view of these wounds when we study the conservative methods of treatment pursued.

The author states that there are four indications to be fulfilled in order to perform a cure, viz.: (1) To change the figure, and as much as possible, the nature of the wound, by proper dilatation, making sometimes a bleeding wound of that which was a contused one. (2) To remove, if possible, all extraneous bodies. (3) To stop the hemorrhage. (4) To prevent the accidents which may arise and to remedy those which already appear."

In discussing these four indications Mr. Neale lays the greatest stress on the first, or "a plentiful dilatation as soon as possible after receiving the wound." He says: "The late Mr. John Hunter, for whose memory I have the highest respect, it is well known, condemned the practice of dilating gunshot wounds, which opinion, every gentleman of the profession, who has seen active service, I am well assured, must consider as one of the most absurd ideas ever sent forth to the world, and from one of so much celebrity, it must have proved of the most dangerous tendency."

The procedure is described as follows: "The direction of the shot being found out as near as possible, the external wound must be dilated, and then a finger introduced. The finger, which, by the delicacy of its touch, is able to distinguish the crushed from the sound flesh, is the best probe we can use. It serves to conduct the bistoury, and if nothing forbids, to dilate as far as the bottom of the wound, even upon the bullet itself, which could not easily be laid hold of, because it is close set in the flesh."

In regard to the incisions to be made he says: "They must be deeper, or superficial, according to the exigence of the circumstances. We should not spare the fleshy bodies of muscles, and whenever they are covered with a common membrane, or aponuroses, as those of the leg and forearm are, we must unbridle and cut up that membrane freely, if we would prevent abscesses that must otherwise unavoidably be formed in the interstices of muscles. The fascia of the thigh must also not be spared. The same rule should be observed with regard to all aponuroses, wherever they be; but then, it must be allowed, they require great skill and circumspection to cut them up in a proper manner. If they are divided only lengthways, according to the direction of their longitudinal fibers, this incision, I have found by experience, does not unbridle them enough; they should, therefore, in particular cases, be cut in a transverse direction also, or obliquely; and sometimes even in all possible directions, like the radiated light of the sun."

He advises to spare the tendons as much as possible that the motion of the limb may be preserved, but states that there are cases in which the circumstances are such that the surgeon cannot avoid cutting them to secure that free opening of the wound necessary to its cure. He gives as an example "a wound with great havoc made among the bones of the tarsus or metatarsus; it is necessary then to make incisions on the foot," which involve tendons.

In discussing the second indication, or the removal of extraneous bodies from the wound, we learn that it was a cardinal principle not to irritate the wound more than was absolutely necessary. Mr. Neale even disapproved the use of bullet forceps unless the ball was loose and readily seized. In this he states that he differs from Pare, Wiseman, and Brown, "gentlemen of distinguished abilities." "If the extraneous body," he says, "cannot easily be discovered, it is much better to leave it, than to harass the parts by searching too curiously with clumsy and rough instruments, as long probes, forceps, and the terribellum or screw, by which means there must have been terrible havock committed on wounds, not unfrequently ending in destruction." He adds: "It seems to have been considered by them as the greatest object to get out the ball, when in fact it is no object at all when lodged in fleshy parts, unless it causes much disturbance of the wound." If rags are carried into wounds and the finger cannot discover them after proper incisions, he advises not to distress the parts by too much searching, as they will escape afterward with the suppuration. He urges surgeons not to change dressings too often, lest the wound be unduly disturbed, and gives as a rule to dress only when pus appears through the dressings. Our author lays down the following general principle: "As the cure of wounds, as well as other diseases, is in reality the work of nature, assisted by art, it becomes the business of the practitioner to study her indications, watch her motions when she calls for aid, keeping always in mind never to do too much."

The control of hemorrhage should always be by ligature when possible. In many cases when the wound is deep the surgeon is advised to put the finger on the bleeding point, and then pass a needle carrying a ligature through the tissues under the finger and tie a knot. If the wound has been incised sufficiently, as recommended, it will be so open that the ligature can generally be used: i

however, the artery cannot be found and the end of the finger cannot be placed on the bleeding point, then recourse may be had to a styptic, which must be applied directly at the point of hemorrhage. If the wound is very deep and the bleeding cannot be controlled by ligature or styptics, it must be filled with very soft lint, which should not be *pressed* into the wound.

The fourth indication, or the prevention of "the accidents which may arise and to remedy those which already appear," involves a discussion of the general and local remedies to be employed. In both of these respects the most conservative methods were pursued.

The general treatment was directed to allaying pain by opium, which he calls a Divine remedy; to relieving congestion by incisions of the wound; to nutrition by increasing the digestive functions, and, finally, to allaying fever and high grades of inflammation by timely venesections. The latter of these remedies is to be used with the most careful attention to the condition of the wound and the constitution of the patient.

The local treatment or the direct treatment of the wound was of the same judicious and conservative character. After a "plentiful dilatation of the wound" by incisions at as early a period as possible and an arrest of hemorrhage, the first effort of the surgeon was to hasten the removal of the eschar by "animated digestives," which have a power of correcting the juices and defending the sides of the wound against the corruption which might otherwise prevail."

We are not informed what were the ingredients of these digestives, for he remarks "every surgeon must know them; and almost every author is full of them." He says, however, "Among these warm and animated digestives, I reckon a little of the spirits of turpentine, mixed with them, as one of its most excellent ingredients, as a topical application, in all cases where tendons, membranes, aponeuroses are concerned." He advises against the use of greasy and putrescent applications, as they melt down or attenuate the suppuration.

The eschar having been removed, the author advises to dress the wound with great tenderness, using mild, balsamic applications, bearing always in mind that it is not the medicines which we put to the wound that will cure it, but "nature alone must form the fleshy granulations that fill up the wound." We must remember, he adds, that everything we apply *there* is an extraneous body, whether it be lint or medicine."

Finally, great stress is laid upon that Divine remedy, "the Peruvian bark," which was given to the full extent the patient could take it when suppuration commenced.

In the second part of his work the author treats of wounds of different parts of the body commencing with the head. Contusion of the skull is first considered, and the rule of treatment is given as follows: "Every contusion of the skull requires the trepan, because it must be attended, sooner or later, with a disorder of the dura mater." He adds: "I have, in a great many instances, observed this membrane suppurate after a blow which was no more than bruising, where I had found the pericranium separated, and the bone sensibly discolored. I have seen the same happen after a blow from a sword, which had only scooped out a small piece of the diploe, the inner table of the skull remaining entire without any fracture. In this doctrine I perfectly agree with all the great practitioners, viz., the late Professor Cleghorn of the University of Dublin, Professor Monroe of Edinburgh, Mons. Petit, etc., and affirm, that when a bullet grazes upon the head, so as to lay the skull bare, there ought to be no hesitation in applying the trepan; because after such strokes, we have almost always seen the dura mater suppurate at the injured part."

The author illustrates his views by the following cases: "During the campaign of 1777, a small detachment of the 16th regiment of light dragoons, reconnoitring about eight miles from Philadelphia, in America, fell in with a company of the enemy's rifle-men, whom they immediately charged with their usual gallantry; several of these were wounded, and the rest made prisoners by our troops. It happened at this time to be my turn of duty, and Mr. Welford's, an ingenious surgeon in our service, to attend the prisoners of war. Among the wounded brought to the hospital, six were cut in the head, three of whom were fractured, as was visible on the parietal bones.

"They were all plentifully bled and next day their bowels emptied. On the third day we applied the trepan. In two of them the fracture ran so long, with a considerable depression, that it was found absolutely necessary to apply the trepan three times to enable us to raise the depressed and broken pieces of the bone, its whole length having suffered from the blow. . . . The other three prisoners had the scalp cut about three inches, two of them on the left parietal bone, and the other on the right. But as Mr. Welford and myself could not perceive either fracture or contusion of the bone, we resolved to content ourselves for the present with using the cooling regimen, and treating them as simple wounds. However, on the ninth day, in the morning, their wounds put on an unfavorable aspect, they had a restless night, were feverish, with other concomitant symptoms, which usually attend on injuries of the dura mater. Mr. Welford being of my opinion, to proceed immediately to examine the bone, we began with the patient whose symptoms were most severe.

"The bone was no sooner laid bare, when we discovered the pericranium a little loose, and under it the bone felt as if it had been rasped with a file, and appeared a little discolored, but we could not perceive the least depression or fracture. The trepan was instantly applied, and the dura mater found perfectly detached, with slight suppuration. The trepan was soon after applied to the other two, and appearances found nearly similar. They were all robust healthy young men, and their cures completed in a much shorter space of time than is usual from such accidents. The cure of the three last was accomplished a long time before the former."

The author states that the battle of Germantown, fought on the 3d of October, 1777, "afforded another remarkable instance of the effect of bullets grazing on the skull." This was the famous attack of the Americans upon a stone building in which the British took shelter and fired upon the attacking party from the windows. Among the Americans taken prisoners Mr. Neale states that ten men of the Fifth Virginia Regiment were wounded in the head, the balls grazing the skull. The wounds were all in the area of the parietal bones. Five of the number were trepaned on the fifth day before any bad symptoms appeared, and five were trepaned when bad symptoms indicated suppuration. In no case was there either fracture or depression. In the first five cases slight suppuration was found, but in the other five suppuration was abundant. They all recovered and did well. From his experience the author concludes that in similar cases the trepan should be applied about the fifth day.

Mr. Neale combats the statement of some au-

thors that a large fracture of the skull is less dangerous than a slight one with very pertinent examples. "In every fracture of the skull," the author directs that "the dura mater should be sufficiently disclosed by the trepan or by raising up one or more of the fractured pieces," for the reason that in these cases suppuration is very likely to occur and prove fatal, owing to the inability of the pus to escape.

The author states that if the ball is sunk and lost within the skull the wound is always mortal, because of the inability of extracting it. Hence he lays much stress upon the symptoms of penetration of the brain which are loss of the intellectual faculty, inabilty to stand erect and convulsions. "For the honor of the profession therefore," he says, "let no surgeon ever suppose that a ball can be lodged behind the inner table of any part of the skull, when the patient, after receiving the wound, can stand erect, and continues the enjoyment of his intellectual powers." He relates the mistake of Mr. Rush in the treatment of John Mellish, Esq., who was shot in the forehead by a footpad on the Colnbrook road. The ball did not penetrate but rebounded, yet the surgeon treated it as a penetrating wound and it proved fatal, probably from failure to trephine and thus relieve a subdural abscess.

In wounds of the neck the writer advises the utmost caution in the use of the probe and remarks, "All that art can do, after the external incisions are made, is to assist nature with emollient poultices, often renewed, and the application of such medicines as will bring on a speedy separation of the eschar, without raising a plentiful suppuration, for that might occasion such a fusion of the matter as would lay the larnyx, blood-vessels, and muscles all bare." He reports the case of Captain Hawkshaw of the Fifth Regiment of Infantry, who was wounded in the neck by a musket ball, which entered the Coraco hyoideus muscle, on the right side, passing through and through behind the gullet, which it grazed. Blood gushed out in torrents from his mouth and nostrils as well as from the wound. The hemorrhage was checked, as no large vessel was involved, the wound was enlarged as much as the parts would admit, a soft dressing applied and the neck covered with an emollient poultice. Although he had lost a large quantity of blood, he was bled copiously, and laudanum administered. Fearing a secondary hemorrhage, a surgeon watched him constantly. On the following day he could swallow only with great difficulty and nourishment had to be given by a tube. The dressings were removed on the third day, and suppuration having begun, warm balsamic digestives were applied. For thirty days he was fed on cow's milk, panada with an occasional spoonful of wine. The Peruvian bark was now administered copiously, and in three weeks he was able to swallow solid food. In another fortnight his wound was perfectly healed, and in every respect he was restored, as the author states, "to his pristine health."

Wounds of the clavicle are dangerous only when the ball penetrates the chest. If the bone is fractured simple care must be taken to keep the shoulders back with a bandage lest the arm sink in toward the breast. He relates the case of a soldier whose collar bone was shattered by a glancing ball at the battle of Germantown, and says he could mention many more.

Wounds of the scapula are illustrated by a grapeshot fired from a cannon at the reduction of Fort Washington, New York, November 20, 1776. The writer saw the patient in consultation on the following day, and found the body and spine of the scapula shattered. He advised larger incisions to dilate the wound, and the free use of opium and Peruvian bark later when gangrene threatened. Splinters of bone were discharged from time to time, but in fourteen weeks he was restored to health, and during that time he took upward of four pounds of Peruvian bark.

If the wound penetrates the cavity of the chest, three points are to be considered: (1) fracture of the rib; (2) the injury inflicted on the internal parts; (3) the effusion of blood. The first indication requires incisions of proper length to dilate the wound so that the splinters of the fractured rib may be removed, and if the wound is sufficiently low "it may facilitate the discharge of whatever may be effused on the diaphragm." He states that "The surgeons of the allied army in America, made use of a narrow linen rag in dressing these wounds, somewhat like a seton, one end of which they introduced by the wound into the breast. But I did not see that any advantage was reaped by this practice; but rather the contrary, for we not only run a risk in introducing it, of separating the pleura from the inside of the ribs, or at least of disturbing that membrane, but farther, that seton in the breast is, truly, an extraneous body."

Instead of the tent he recommends nothing but a stoppel of lint, wrapped up in a piece of fine soft linen, and kept firm by an adhesive plaster. He was also opposed to throwing injections into the breast as recommended by some authors, believing that the compression of the lung thereby is very harmful. He adds: "In the cure of all wounds inflicted on the breast, whether they penetrate or not, whether the lungs are wounded or not, whether there is or is not a hemorrhage, we should, by means of a pretty tight bandage, in some measure check respiration."

The author speaks very favorably of wounds of the lung when the ball has passed through it and out again, and says he has seen many cases of recovery. He remarks: "At the battle of Brandywine, fought on the 11th of September, 1777, in which the Americans suffered considerably. . . . The first battalion of British grenadiers, in storming the enemy's works, had seven brave fellows shot through the lungs. The balls passed through and through. Five were shot through the right lobe and two in the left. The five former recovered but the two latter died."

It is nature alone that must cure the wound here he says, as well as those of the other viscera, the duty of the surgeon being to allay the inflammation.

If the ball has penetrated a considerable way in the lungs and rests there, the prognosis is unfavorable, because we can have no hope of extracting. There is only one case, in his opinion, in which we should even attempt extraction, viz., when the lung adhere to the pleura at the wounded part, and when at the same time, the ball can be felt by the rough smooth end of a large sound. He states that among the wounded of the Americans left in the field after action after the battle of Brandywine, three were suffering from balls lodged in the lungs, two were in the right and one in the left lung. He succeeded in extracting the balls from the right lungs, and both patients recovered, but he failed to extract the ball from the left lung and the patient died.

With regard to the dressings of penetrating wounds of the chest, he says we should not introduce such topical medicines as will promote the suppuration, as in wounds of the external parts, lest they be effused upon the diaphragm and excite a dangerous cough. We must be satisfied with pouring in a

drops of some suitable balsam. If, however, the lung is adherent to the pleura and the eschar still subsists proper injections may be made.

The author illustrates the treatment of these wounds by giving the case of a soldier, shot through the right lung during an attack upon the American general, Anthony Wayne. The ball entered between the fourth and fifth ribs, and at the point of exit fractured the edge of a rib. This patient was transported thirty miles, but in ten weeks he had entirely recovered and returned to duty. In an attack upon a stone house where the Americans were quartered, a soldier received a ball from the third story, which struck him between the seventh and eighth ribs on his right side, where it entered and lodged in his body. He passed large quantities of bloody urine for several days. Several surgeons saw him and regarded the wound as fatal. He was treated by copious venesections, losing 40 ounces of blood; opium at night and, after the seventh day, Peruvian bark in warm cow's milk which the author says, "served both as nutriment, and contained also the virtues of this admirable remedy, which agreed with him remarkably well." In ten weeks his recovery was complete.

Mr. Neale saw many cases of wounds of the upper and lower jaws and of the tongue. He says, "In some of these wounds I have seen the inflammation of the temporal muscle and of its tendon bring on convulsions; which, whenever they do happen, we must endeavor to prevent or appease by general remedies, and by emollient and discutient poultices." In wounds of the upper jaw his effort was to prevent fistulas. In fracture of the lower jaw approximation was maintained by strings around the teeth of the fragments and support of the jaw by apparatus. In wounds of the tongue scarifications were freely made to prevent gangrene and to reduce the swelling. He advises the surgeon to take great care to find out any extraneous bodies, such as the ball or pieces of bone or a tooth.

As to the dressings he says, "It is nature alone that dresses these wounds with her saliva; and the detersive injections which the surgeon applies serve only to keep the wound and mouth clean."

Wounds of the mediastinum our author regards as extremely dangerous, because this part is a membranous texture and very much subject to inflammation. Should an abscess be formed in the duplicature of this membrane, it may sometimes be evacuated by trephining the sternum, but more often they open into the chest, and cause an empyema, and notwithstanding all our art will destroy our patient. Gunshot wounds of the heart are always fatal and are more sudden than those inflicted by a sword "on account of the shock and perturbation, which always attend such a wound. Wounds of the tendinous portion of the diaphragm are always fatal, but those in the fleshy parts may recover. As to treatment, "Nothing but nature herself, assisted with general remedies, is able to cure wounds of this nature."

Wounds of the sternum require much the same treatment as wounds of the skull, but "The incisions that have been hitherto recommended, may be more requisite here than elsewhere, with a view to discharge the soft parts of their load of fluids and to prevent spreading suppurations among the investing fat and membranes of this part." All fragments must be removed, and if an abscess forms behind the bone as a consequence of the contusion its evacuation must be by trephining.

"A gunshot wound inflicted on the body of the spine, or back-bone," says our author, "in whatever part it may be, betwixt the first vertebræ of the neck and the os sacrum, are all mortal, if at the same time the spinal marrow has been lacerated." Paralysis may occur from simple bruising, or on the fracture of the processes, or even when the vertebral artery is divided. He merely advises that in the treatment the incisions must be free, not sparing the tendons so numerous here.

Mr. Neale regards as mortal, wounds of the stomach, intestines, pancreas, and liver, when the latter is wounded on its concave side, though he admits there have been a few instances of cure. Wounds of the large vessels of the abdomen are always fatal in his experience.

He thinks it vain to search for the ball, but advises to enlarge the wound except the peritoneum, unless the wound be upon the convex part of the liver not in contact with the diaphragm, in which case the wound of the peritoneum may also be enlarged. Wounds that penetrate the kidney require a special method of dressing to protect them from the irritation of the urine; for this he recommends besmearing the surfaces with greasy medicines after the wound has been well incised.

Wounds penetrating the pelvis are likely to be complicated with perforation of the bladder, and the author has seen many recover by enlarging the wounds so as to make a free exit and the use of the cathether to prevent distension of the bladder. Wounds of the rectum higher than the surgeon's finger can reach, are to be treated in the same way as wounds of the bladder, but when the wound is near the anus, incisions should be made not unlike those required in fistula. In the latter case "There are two very essential points to be observed in the course of dressings; the first is to preserve the diameter of the anus as much as possible by introducing a suppository perforated in the form of a cannula or pipe, as soon as the orifice seems threatened with constriction. The second is to prevent a looseness, that might disturb the condition of the wound."

Wounds of the extremities were treated on the general principles laid down in the early chapters of the work. Large incisions were made at once to give free access to the bottom of the wound; all accessible foreign substances were removed; simple warm digestive dressings were applied until the eschar separated; then balsamic dressings were used with the free administration of Peruvian bark. When the arm bone was broken he inclosed the part with two flexible splints, sometimes using paste-board, and sometimes the bark of trees retained by tapes. He gives as an example a captain, who was wounded by a grapeshot at the storming of Redbank Fort, on the north side of the Delaware, near Philadelphia. The ball entered the biceps muscle about five inches above the elbow, and running obliquely upward, made its exit out at the triceps muscle, causing a comminuted fracture. He recovered in thirteen weeks, though there were large exfoliations of bone. The treatment was full dilatation of both orifices of the wound, copious venesections and an incredible amount of Peruvian bark, viz., four pounds and a half.

Gunshot wounds of the forearm are regarded as more susceptible of bad symptoms than those of the arm, as the muscles of the forearm are conjointly wrapped up in a tendinous membrane—that is, an aponeurosis or expansion, detached from all the flexor and extensor muscles." The danger lies, the writer believes, in an inflammation of this membrane, and the accumulation of pus under it, causing the forearm to "swell up in a greater or less degree, and sometimes becomes so hard that a gangrene must speedily succeed if not prevented." Hence the

importance in the treatment of these wounds of pursuing the treatment so much insisted upon, viz., early dilatation. He says, "the incisions that are made should penetrate to the bottom, and unbridle all the parts, but chiefly the common tendinous membrane in every direction, especially when the radius or ulna is fractured." He relates the case of a cavalry officer who was on patrol at Brunswick in the Jersies, when a number of American militia attempted to take him prisoner. He escaped, but as he fled on horseback, a volley was fired at him and he received three wounds, one of which was in the fore-arm near the wrist. In spite of free incisions, venesections, and emollient cataplasms, the whole fore-arm became involved in the suppuration, and on the forty-third day after the accident he amputated the arm, and in eighteen days the wounds were completely healed.

Wounds of the wrist, metacarpus, and fingers are to be treated with free incisions, and every effort must be made to save the fingers, or even parts of them.

Gunshot wounds of the thigh were treated on the same general principles as those of the arm, but still greater stress is laid on the necessity of large dilatation. Owing to the large muscles, much fat and extensive aponeuroses of the thigh, the author says: "We must inflict more liberal incisions here than in another place, especially if the bone is broken or laid bare. I know that large wounds are followed by large suppurations, and that large suppurations exhaust the patients; but I know also, by experience, that when ample incisions are made, the parts will be much less disturbed in extracting the extraneous bodies, which will spare a great deal of pain and hasten the cure. . . . By these incisions we prevent congestions and suppurations that would in the end oblige us to make incisions of a much greater extent. . . . Supposing the femur is broke in pieces, and there is reason to hope the thigh may be preserved, we must, after all the intentions of art are fulfilled, manage the affair in such manner that the other remaining pieces of bone be kept fixed in their natural place."

The author's illustrative case is related as follows: "At the battle of Prince Town, in the Jersies, North America, on the 3d of January, 1777, memorable for the distinguished valour displayed by the 17th regiment of infantry, and two hundred of the 16th regiment of light dragoons, under the command of Colonel Mahood, who, on their march to join Lord Cornwallis at Brunswick, about fourteen miles distant, were unexpectedly attacked by the whole army of General Washington, and notwithstanding the superior numbers of the Americans, amounting by report to upward of ten thousand men, this gallant detachment cut their way through them and made good their retreat to Brunswick. This was reckoned one of the most gallant exploits of the whole war.

"In this action Serjeant John Miller . . . . was wounded in his right thigh, by a grapeshot fired from a cannon. The ball entered the vastus internus muscle a little above the center of the limb, and running obliquely upward, made its exit through the externus muscle of that name on the opposite side. The bullet pierced very deep and fractured the bone, and unfortunately for him, it shattered a penknife that was in his pocket, some of the splinters of which were carried into the wound, and dispersed among the interstices of the muscles. There was a prodigious laceration made in the thigh by this blow, and the muscles, both where the bullet entered and passed out were jagged and torn to a much greater degree than any other wound that occurred during the war from a similar shot.

"As soon as possible, I made a very large dilatation of both the orifices, and for the present applied a soft dressing, and secured the broken bone, as well as the great emergency of the time would admit, till we arrived at headquarters, when he was bled largely. . . . In the morning his fever ran high, and the inflammation and swelling of the limb I perceived to increase with great rapidity. I bled him again copiously, after which, a few grains of nitre, with testaceous powder, was taken every two hours.

"In the morning . . . a considerable discharge of thin bloody ichor came away, and with it a piece of his leather breeches, . . . the wound was now dressed with warm balsamic digestives, and over all an emollient poultice. On the fifth day a suppuration took place, and he began to take the bark which was increased by degrees to as much as his stomach would bear. This method was continued for fourteen days . . . when an abscess began to form on the thigh, about five inches below, but before it could be opened it began to discharge itself by a sinus into the internal orifice of the wound. The sinus was laid open its whole length, and in two days after, a piece of the handle of his penknife . . . came away with the dressings . . . and three more portions of the same extraneous body in the space of a few days afterward was extracted, a considerable distance from where the ball entered. . . . A large exfoliation of the bone followed this wound, which soon healed over, and his cure was perfectly completed, during which the took four pounds and ten ounces of the bark."

Wounds of the leg, like those of the fore-arm, require ample incisions on account of the extensive aponeuroses which envelop the muscles. Wounds of the tarsus are much more serious than of the carpus, and generally demand immediate amputation, but as some cases have been saved, the surgeon should be governed by the conditions of each case. Wounds of the metatarsus and toes are to be treated like those of the metacarpus and fingers.

The subject of amputations is alluded to only incidentally. In a note the author remarks: "There are no stumps which heal more kindly than those in consequence of an operation from gunshot, when performed early. In the mild season of America, they seldom exceeded a fortnight before the stump was completely healed."

The author closes his treatise with a chapter entitled, "An enquiry into the nature and causes of suppuration in gunshot wounds." At the close he thus gives his conclusion: "The efficient cause, therefore, of a suppuration, is the oscillatory motion of the sound vessels, especially of the sanguiferous kind, which, being more distended and beating more frequently than usual, when they dilate themselves, strongly compress and agitate the ruptured vessels which are full of stagnant fluid; so that it is easy to conceive that in a suppurating part there must be an inflammation, or, at least an intense heat."

From this review we conclude that the treatment of gunshot wounds during the War of the Revolution, 1775-1783, by British surgeons, was very conservative, and in accordance with the views of pathology then prevalent. It was believed that gunshot wounds caused a great perturbation of the fluids and solids of the part and commotion of the whole system, especially of the nerves. The first principle of correct treatment, therefore, was rest both to the body and to the wound. Transportation of the wounded was avoided, as far as possible, and, when imperative, was made as free from physical discomfort as circumstances would permit. Officers were carried by hand on feather beds in some instances. Opium for the relief of pain and to secure

sleep was called a "divine remedy." The perturbation caused by inflammation was relieved by copious venesections. To the practitioner of to-day the enormous loss of blood which these patients sustained at the hands of surgeons, would seem to be more fatal than the wounds. During the suppurative period Peruvian bark was a sovereign remedy, and the limit of its use was the capacity of the patient to take it. The greatest possible reliance was placed upon it, and more largely to that than to any single remedy does our author attribute his success. It is interesting to notice in this connection that alcoholic stimulants are not mentioned in this treatise.

The local treatment of the wound was also conservative in the highest degree, the great object of the surgeon being to avoid disturbing the injured parts. For this purpose the wound was at once freely opened so as to remove extraneous substances, the ligature of arteries, and to enable all the subsequent discharges free escape. The wound was never to be crowded with lint or other substance, lest the granulations should be injured; the utmost care must be taken in withdrawing matters from the wound to avoid opening closed vessels; dressings were to be changed only when the discharges appeared outside of the bandage. Though no disinfectants were used as such, yet balsamic preparations were employed in large quantities for their supposed powers of sweetening the wound and its discharges, and their detergent effects.

A scientific estimate of the comparative value of different methods of treatment requires a similarity of condition which we cannot obtain. But from this review it is apparent that the surgeons of the War of the Revolution had a remarkable success in the treatment of gunshot wounds, and it is doubtful if the wars of the last century would show better results, wound for wound, even if we could make the most accurate comparison.

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THE RATIONALE OF THE NATURAL ARREST OF CONSUMPTION; A STUDY EXPLAINING THE EFFECT OF SEA VOYAGES, OUT-DOOR LIFE, ETC., ON THE DISEASE, WITH SUGGESTIONS AS TO IDEAL TREATMENT.*

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There is probably no field in medicine that has been so thoroughly covered by experimental work as has been tuberculosis. The literature and experimentation on this subject is immense, but it seems to me that everyone has worked more to discover some new fact than to utilize the facts discovered by his predecessors in the field; or if not that, he has worked to prove some favorite theory; for example, numerous investigators have devoted much time to the perfection of an antituberculosis serum; yet so far as I know not one has brought forward any evidence to show that such a serum plays any part in the natural arrest of a tuberculosis; on the contrary, the evidence shows that this arrest, when accomplished, is done by a walling off and actual starvation of the invading bacteria.

From another point of view we know that an antitoxin checks the progress of a disease by inhibiting the growth of the microorganisms causing it, but we also know that in a caseated tubercle of an arrested tuberculosis the bacilli exist long after the possibility of an antitoxin circulating in the blood reaching them has ceased to exist.

*Read at a meeting of the New York Academy of Medicine, February 18, 1904.

If we assume that the bacilli are finally destroyed by the formation of an antitoxin within the tubercle, we also assume the impossibility of reaching them by the injection of an antitoxin into the circulation. I believe it safe to assert that, when Nature does not use an antitoxin in the cure of a given disease, that man will never be able to do so. The only specific action which can, so far as I can see, be attributed to the bacillus tuberculosis, is a local one affecting the tissues in its neighborhood, causing the so-called caseous degeneration; the rest of the phenomena observed can be accounted for by the inflammatory reaction resulting from the presence of a mildly irritating foreign body.

The study of the forces employed by Nature in dealing with this tubercle is the object of this paper. This study naturally resolves itself into the study of the pure tuberculosis infection and the study of complicating infections. In reviewing the literature of tuberculosis one is immediately struck by the different degrees of susceptibility exhibited by different species of animal to tuberculous infection; also a well-marked difference between animals of the same species.

The guinea-pig when subjected to an inoculation with the bacilli at almost any site, soon develops a general tuberculosis; the rabbit seems to be able to deal with the infection when it enters by the lymphatics, but succumbs when it is introduced into the general circulation; the goat seems immune to its action under almost all conditions.

The difference in susceptibility between civilized and uncivilized man is clearly shown by statistics. We also observe that the same animal under different conditions shows different degrees of susceptibility to the infection.

These phenomena for want of a more accurate definition, we call the resistance of the organisms to the infection: it probably comes about in obedience to the laws causing the organism to adapt itself to its environment. We know that the Laplander is less susceptible to the effects of cold than the African, and are content to say that it is a question of environment. We know that the Englishman is less susceptible to tuberculosis than the African, and we feel it necessary to assume all kinds of queer conditions in the tissues of the Englishman.

Whatever may be the cause, this resistance plays a most important part in determining the effect of a tuberculosis inoculation upon any given animal. In the guinea-pig it means death; in the goat, life; between these two extremes comes man. It seems to me that his resistance is comparable to that of the rabbit, *i.e.* able to deal with the tuberculosis if introduced by way of the lymphatics, but overwhelmed by it when introduced into the general circulation.

Let us imagine that a man has been infected by a tubercle bacillus in some part of his body, and watch what occurs. It would be picked up and carried to the nearest lymphatic gland, this gland would become the seat of a typical tuberculous process, becoming in time caseated or breaking down and discharging the so-called tuberculous pus; if no other infection has occurred, an examination of this pus will reveal the fact that it contains no tubercle bacilli but is sterile. The infection may or may not have been extended to other glands, but at this point the tuberculous process has been controlled, and under the proper condition the wound heals. If, as frequently occurs, the pus is not sterile, but contains tubercle bacilli mixed with pus cocci, the wound still heals if placed under the proper conditions, which are rest, drainage, and the prevention of infection from the outside.

If, on the other hand, the proper conditions for

healing do not obtain, the wound goes on indefinitely discharging pus containing pus cocci and tubercle bacilli.

Now, if in place of a gland, we imagine that the infection be located in some other tissue of the body, and remember that caseous degeneration is caused by the bacillus, and that the tendency of Nature is to wall off the infected area by the formation of new fibrous tissues, it follows that the rapidity with which the invading germ is walled off is directly proportionate to the vascularity of the tissue involved; we are thus in a position to foresee the slow progress of a tuberculosis in bone, or the rapid encapsulation and healing up of a tuberculosis process in the lung.

At first glance it would seem that a tuberculous process in the lung was rather a chronic one and, for many months this apparent difference between what I thought ought to be and what I knew was, puzzled me greatly. I had already reached the conclusion that the pus cocci were responsible for the duration of the disease, when I first saw an account of Prudden's admirably conducted experiments, by which he demonstrated that when the lung of a rabbit was infected with a pure culture of tubercle bacilli, that tubercles formed were walled off and remained as such; but, when the culture was mixed with pus organisms that the tubercle broke down and a cavity was formed.

This is in accordance with what we would expect in a tissue of such a high degree of vascularity as the lung. When once a tubercle located in the lung has been infected with pus cocci, we are then dealing with a disease known clinically as chronic ulcerated phthisis. The tubercle soon breaks down, leaving a cavity filled with pus, which finds an outlet through one of the bronchi. We now have a septic cavity which is subjected to constant inflation and deflation with air.

Under existing conditions in large centers of population, it is more than probable that this air will drag in some particle of dust loaded with pus cocci; keeping up and giving new life to the existing infection. To go back to our suppurating tubercle gland, which we will assume opened and discharged its contents, and that you have irrigated and dressed; now, suppose that once a day some malicious person would slip in, remove the dressings and carefully deposit a few pus cocci in the cavity, don't you think that the case would be an extremely chronic one? So it is in chronic ulcerative phthisis.

Nature has, in a more or less perfect manner, provided for the rest and drainage: First, by the formation of pleuritic adhesions; second, by the cough; but she has utterly failed to provide against infection of the tubercle with pus organisms, or its constant reinfection after once being infected; and to this failure is due the chronicity of the trouble.

Under these conditions one would expect that the success attending the treatment of a tuberculosis infection of the lung would depend on the degree of completeness with which we supply that essential for healing in which Nature has failed, viz., the prevention of reinfection.

Upon an examination of the literature on the subject, we find that this is actually the law by which we can judge the value of climate and mode of life to a tuberculous patient. Whether we put him on the coast where the prevailing winds are from the ocean, or send him to sit on the snow-covered verandas at the Loomis Sanatorium; or, in other cases, to the dry trans-pecos region, depends not on the tuberculosis process itself, but upon other conditions which affect each individual patient.

The one thing demanded by the tuberculous infection is that the danger of reinfection be minimized, and this is the one element which is common to all climates and modes of life which have been found to be of value in the treatment of chronic ulcerative phthisis. Conversely we find conditions favoring the presence of large amounts of infected dust in all places where phthisis does badly.

At this stage in our investigation it becomes proper to inquire, First, if we succeeded in preventing reinfection in the septic cavity in the lung, would that cavity heal? Second, To what extent and how, can this reinfection be prevented?

To the first, histology gives us no reason to believe that the lung is a tissue of less resistance and recuperative power than other tissues.

On the contrary, on account of its extreme vascularity, we expect it to have more. Therefore, under the former conditions, we should expect it to do at least as well as lymphatic glands do. In this connection I would quote at length from an article written by Dr. Alex. G. R. Fullerton of the Middlesex Hospital Medical School and published in the *Philadelphia Medical Journal* of November 2, 1901

"By keeping a patient who has a cavity infected by pyogenic cocci in an atmosphere of practically germ-free air, such as may be found at moderate altitudes, and by enforcing the nearest approach to physical rest possible, one cannot merely protect him against the risk of reinfection by pus organisms, but one also places him under conditions in which the work which has to be done by a damaged lung is reduced to a minimum. With the patient thus protected as far as possible against any reinfection of the cavity, one may confidently hope that the intensity of the present pyogenic infection will be reduced.

"It is a matter of common experience that when pyogenic bacteria are confined to a limited space and are kept from reinfection from the outside that their virulence becomes attenuated, and that after a time they tend to die out. Thus the streptococcus from an old empyema, old pyosalpinx, or chronic abscess of any sort, will often be found to have lost much or all of the virulence which it must have originally possessed. Charrin and Guillemomet have recently shown that the same attenuation of virulence in intestinal bacteria takes place when an animal without any special preparation is kept in sterile air and fed on sterilized food.

"In the absence of reinforcement from without the number of intestinal bacteria is markedly diminished, and the vitality of those that survive is distinctly lowered. If, therefore, a patient is kept under the conditions which I have spoken of, one may expect that improvement, so far as the pyogenic infection of the cavities is concerned, will follow. And it is probable that this is what happens in most of the cases in which apparent arrest of phthisis follows treatment in well-ventilated hospitals and sanatoria. Every one knows, however, the common after-history of such cases. . . . What has probably really happened is that with the disappearance of the secondary infecting bacteria the pulmonary phthisis has reverted to the former condition of uncomplicated pulmonary tuberculosis."

I have quoted Dr. Fullerton's article at length in order to show the trend of opinion in regard to the way an infected cavity would behave if reinfection were prevented. I do not agree with his deduction for the following reasons: (1) In the examples cited, viz., the empyema and pyosalpinx, etc., the condition of non-reinfection is absolute. In the experiments on the guinea-pig the same condition prevails.

The assumption that this condition prevails in well-ventilated sanatoria at moderate elevations is unwarranted by the facts. I cannot believe that Dr

Fullerton thinks that the pig would have manifested the phenomena observed if he had been merely removed to one of these sanatoria.

Dr. Fullerton further states that what probably happens is that the mixed infection is converted into a pure tuberculous infection. While this is undoubtedly true in some cases, I contend that those are the cases that get well and stay well. In this I am borne out by the analogy in the behavior to tuberculosis in other tissues.

We know that more people have tuberculous nodules in their lungs, no symptoms of which are manifest during their lives, then die of phthisis. It, therefore, seems to me unwarranted to say that the mere existence of this mass of tuberculous tissue in a man's lung would surely condemn him to a relapse upon his removal to a low altitude.

Could we not say that what probably takes place in these sanatoria is one of three things: (1) The conversion of the mixed infection into a pure tuberculosis; (2) the conversion of the mixed infection into a mixed infection of less virulence, consequent on less frequent reinfection; (3) the conversion of the mixed infection into a mixed infection of less virulence consequent to being reinfected with attenuated pus organisms.

It is a well-known fact that bacteria grown in unfavorable surroundings tend to become attenuated. Cold, dryness, and altitude are unfavorable conditions for the growth of bacteria, and most sanatoria possess one of these conditions.

What I believe really happens in these cases which relapse on return home, is as follows: The patient, more or less immunized to the action of streptococci, by the long duration of a suppurating cavity in his lung, goes to a sanatorium. There, as a result of less frequent reinfection or his being reinfected by less virulent bacteria, his condition improves. In these patients, even when pronounced cured, one can by careful auscultation over the site of the tuberculosis lesion, generally find pathological râles.

If one could open the lung at this stage he would still find a mixed infection, but of a low degree of virulence, and not of sufficient violence to produce sputum.

To recapitulate: We know that, in pure tuberculosis infections of the human body, Nature controls them by walling them off with new-formed connective tissue, and that the rapidity of the process is in proportion to the vascularity of the part affected.

We know that in chronic ulcerative phthisis the mischief and ultimate death of the patient is largely caused by the complicating infections. We further know that these bacteria if left to themselves and not reinforced by new infections, will become attenuated and finally die out. We know that dogs have been kept under conditions when infection by outside organisms did not occur. This is shown by the experiments quoted above; also by experiments of Wythall and Thierfelder.

Now, it seems to me that the deduction is inevitable, that if a patient suffering from chronic ulcerative phthisis be kept in sterile air and his person kept as near aseptic as possible for a sufficient length of time, he must, in obedience to the laws of healing, recovering from his lesion, so far as his ulcerative phthisis is concerned; *i.e.* his ulcerative phthisis will be converted into a pure tuberculosis, or what is known as latent tuberculosis.

Autopsies teach us that only about 40 per cent. of these cases of latent tuberculosis become active. Thus we could logically expect that out of every ten patients treated six would remain well, and four become reinfected, and be compelled to return for another period of treatment.

Many cases of ulcerative phthisis are converted into cases of pure tuberculosis by our modern methods of treatment, the results cannot be obtained with mathematical accuracy until we place our patient where reinfection is a practical impossibility.

RUNNING EAR.

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Of all chronic conditions that a physician is called upon to treat, a running ear is frequently the most annoying, as well as the most perplexing that he has to deal with, and its cure often taxes the skill of the physician and the patience of the sufferer.

No part of the human anatomy in such a small space as the middle ear borders on so many vital structures as it does. Its proximity to the brain is such, that a suppurating process in the middle ear can readily destroy these separating bony wall and attack the brain. Anatomically and physiologically the middle ear is not comparable with any other part of the body. In health it is probably the most easily deranged part of the organism; and in disease it is often the most difficult one to treat.

A discharging ear is nearly always the sequel of an acute otitis media, and its having become chronic is usually owing to lack of proper attention in the acute stage of the disease. The natural inference is, that if all discharging ears were properly treated at the outset, they would never reach the point of chronicity at which they become destructive to the hearing and difficult to cure.

In seeking a cause for running ears, we have but to keep in mind the close relationship existing between the ear and the nose; and to remember that the nasal organ in civilized man is seldom in a healthy state. At once it becomes apparent that nearly every disease in the ear has its beginning in the nasal passages. The comparative frequency with which infants develop a running ear can be explained, on the ground that their Eustachian tubes are disproportionately shorter and more pervious than in adults, and that their mucous membranes secrete more actively. In fact, the lymphatic connection between the nose and the ear is so intimate in young children, that even a gastrointestinal or a respiratory trouble is usually accompanied by congestion in the middle ear.

The inception of most discharging ears can be traced to an acute fever, in the course of which the inflammatory exudate from the middle ear is unable to escape through the natural passage—the Eustachian tube—and is forced to make an artificial opening through the drum-head. Assume that a person is suffering from influenza or scarlet fever, and that all the mucous membranes in the head are inflamed and are actively secreting; the middle ear, in common with the other cavities in the head, throws off an abundance of inflammatory exudate, which, under ordinary circumstances, is drained off by the Eustachian tube and is carried to the nose. Sometimes, however, owing to a diseased condition in the nose, the Eustachian tube becomes obstructed, and the fluid from the middle ear is dammed up behind the barrier. When this occurs, the increasing exudate, not being able to escape, through the natural outlet, soon fills the middle ear, and finally, by its pressure, bursts the drum-head and escapes. In most instances the flow that follows the spontaneous rupture of the drum-head lasts but a short time, and

when the activity of the disease is expended, the discharge subsides and finally dries up altogether. An experience of this kind has been the portion of most every person, and yet they appear to be none the worse off for it. In a certain proportion of cases, however, the discharge shows no inclination to stop without assistance, but lapses into a chronic suppuration. When this occurs, it is quite evident that an underlying disorder is interfering with Nature in her effort to throw off the disease. The impediment may be a diseased condition in the nose or throat; or it may be due to the lowered vitality of the ear, or imperfect drainage, or a debilitated physical condition, or a constitutional disease, such as syphilis or tuberculosis.

In former years a running ear was regarded far too lightly; its serious nature was not generally recognized, and many sufferers were allowed to die from a resulting brain abscess, meningitis, or septicæmia, simply because the real source of these conditions was not known. Even to-day, in the course of acute fevers, such as typhoid fever or scarlet fever, many deaths can be traced to an unrecognized and untreated chronic abscess in the middle ear.

A discharging ear is so commonly met with, that most people regard it simply as an inconvenience, rather than as an actual disease that may destroy one of their most useful faculties and may even menace their life. It is an old and mistaken idea that a running ear is a natural outlet and conducive to health, and that to stop it would be dangerous. This superstition is still firmly fixed in the minds of a great many people, and it is responsible for the many serious consequences that so often follow from allowing a running ear to go untreated. The belief, no doubt owes its origin to the danger that is known to accompany the sudden stopping of a discharge that has been active for a long time. When such an arrest occurs, it is an indication that the escape of the secretion has been interfered with, and that unless an exit is speedily reëstablished, it will give rise to dangerous symptoms. Such an accident points to deficient drainage, and cannot happen if treatment is being directed to the abolition of the pus formation and not to the prevention of its escape.

While it is true that numerous persons with a discharging ear are not greatly inconvenienced and live to attain old age, it is probable that these people owe their immunity from annoyance to an excellent constitution, which has enabled them to enjoy good health, notwithstanding the discharge. At best, a running ear is an affliction that compromises a person's comfort at all times. It may at any time burst into renewed activity and become troublesome and even dangerous.

In view of the knowledge that running ears usually date from childhood, a discharge from a child's ear should be given prompt attention. This timely attention will prevent increasing deafness when the child grows older, and it will forstall the discomfort and danger that so often attend a running ear. The chronic catarrhal deafness in adult life is often but the sequel of a running ear in infancy, which was allowed to go untreated. Not infrequently parents are told that nothing can be done for the running ear of their child, and they are comforted with the statement that if Nature be permitted to take its course, the child will eventually outgrow the discharge. Experience has shown that such advice is erroneous and even injurious. A running ear is not self-limited by any means, and unless its activity is checked at the outset, the hearing may be partially or wholly sacrificed. The destructive process is carried on so insidiously that its progressiveness is not noticed until the deafness has become pronounced.

Because of its constant tendency toward deeper extension and erosion, a discharge of long standing is attended with more danger and is more difficult to cure than one of recent origin. For this reason and for the additional one that the vitality of the ear decreases with age, a running ear in an elderly person is more perilous to life than in a young person, but on the other hand, a discharging ear in a child is more injurious to the hearing.

Aside from the fact that three persons out of every hundred with a running ear die from causes that are directly traceable to that affection, it has a tendency, also, to shorten life by virtue of being a drain to the system and an impairment to the general health. This has become so apparent to life insurance companies, that many of them either refuse to insure persons with this defect or else they rate them as bad risks.

In the early stages of a suppurative otitis, merely the connective tissue in the middle ear is involved, and the secretion comes from the unhealthy granular surface that has replaced the normal mucous membrane. In many instances the disease confines itself to the soft parts alone and does not extend to the bone. In the event that the secretion is very abundant and unable to escape readily, it exerts a pressure in the middle ear that interferes with the blood supply of the ossicles, and causes them also to become diseased. The disease attacks first those bones, the nutrition of which is poor, or the position of which in the ear is such that they are exposed to direct contact with the pus. The long process of the incus is usually the starting point of this necrosis, the bone next to become diseased being the malleus, the head of which is readily eroded by the destructive action of the pus. Rarely does the stapes or the inner wall of the middle ear become affected, which is indeed fortunate, for otherwise the facial nerve and the internal ear would be implicated more frequently than they are. Even though the oval and the round windows remain bathed in pus for years a chronic suppuration seldom finds its way into the labyrinth.

It seems unnecessary to mention that the drum-head is perforated in all middle-ear discharges. There may be one or more openings in the drum-head, which may range in size from a pin point to a pea; or even to the loss of the entire drum-head, as is sometimes seen after scarlet fever. Multiple perforations are generally indicative of tuberculosis and are usually incurable. What we generally see is a single hole in the lower part of the drum-head directly behind the umbo. The discharge from a perforation in the lower part of the drum-head is more amenable to treatment than that from an opening higher up, because the latter almost invariably points to necrosis of the ossicles. This is especially true of a hole in the upper posterior quadrant of the drum-head, for this area is directly over the stapedo-incudal articulation, and the aperture affords an exit for the pus as it travels down the long process of the incus. Above the short process of the malleus is a section of the drum-head that is seen with difficulty, but which has an important bearing in middle-ear suppurations. This is Shrapnell's membrane, or the membrana flaccida, which covers the attic of the middle ear, wherein lie the head of the malleus and the body of the incus. An opening in Shrapnell's membrane is indicative of necrosis of the ossicles, and a discharge from this source is often intractable and ceases only when the diseased bone has been removed.

Although a perforation in the drum-head is ordinarily attended with diminished hearing, this is not always the case. Occasionally the entire drum-head

is wanting, and all the ossicles excepting the stapes are destroyed, and still the hearing remains good and the ear is dry. A hole in Shrapnell's membrane impairs the hearing very little, because in most of these cases the middle ear proper is shut off from the attic by a scar tissue and the disease is confined to the attic alone.

The quantity of secretion that escapes from a discharging ear varies greatly, and in a measure is influenced by the age of the patient and by the location and extent of the disease. Because of the activity of the gland-life in infancy, the discharge from a child's ear is usually more copious than in an adult ear. In many instances the flow is intermittent and recurs only at certain times; in other instances the discharge is so slight that it hardens as soon as it becomes exposed to the air, and it is then often mistaken for hard wax.

All running ears can be classified under one of two heads, granular and bony, according to the source of the discharge. In the former the secretion comes from the unhealthy granular surface that has replaced the epithelial lining of the middle ear. This discharge is mucopurulent, bland and unirritating, and like most catarrhal secretions, it is odorless and not very destructive. On the other hand, the suppuration arising from diseased bone is very injurious in its action; its virulency usually being commensurate with its chronicity. This discharge is acrid and irritating, and besides being ill-smelling and profuse, it favors the development of fungus in the ear and erodes the canal as it escapes. The presence of diseased bone in the middle ear is shown by a long-continued and fetid discharge, which contains crumbs of diseased bone; by rapidly recurring granulations and polyps; by hyperostosis of the canal wall; by swelling of the neighboring glands, and by the discovery of diseased bone with the aid of the attic probe.

In uncomplicated suppurations the disease is confined to the middle ear alone and the resulting secretion escapes freely into the auditory canal. Occasionally, however, the exit of the pus is interfered with, and the flow is diverted to the mastoid cells. In the healthy ear the passage between the mastoid antrum and the middle ear is very small, and in a running ear it is still further narrowed by swollen mucous membrane, granulations, or cholesteatomatous masses. If pus should find its way into the mastoid cells of such an ear, it might not be able to escape through this narrowed opening, in which case it would attack the mastoid cells in the effort to find a vent, and set up a mastoid suppuration.

The treatment of running ears has within the past few years undergone marked changes, and to-day is based on pathological knowledge and clinical analysis. The object of the treatment is to stop the discharge; to improve the hearing and to abate the discomfort and danger incident to the discharge. To effect these ends, a thorough knowledge of the anatomy and physiology of the organs of hearing is needful; together with an intelligent comprehension of their relations with the nose and throat.

To stop a discharge suddenly is not our purpose; there are many ways of doing this, but the condition of the ear is not generally improved thereby, and there are many disadvantages, and even dangers attendant on this procedure. What we should aim to do is to bring about the gradual diminution of the secretion and its ultimate cessation. We must remember that we are dealing with a pus-secreting cavity, and we must be guided by the same surgical principles and follow the same surgical methods as are incumbent on us to follow when dealing with a chronic abscess in any other part of the body. This implies the strict observance of cleanliness; the establishment of free drainage and the stimulation of the diseased area to healthy reaction. With these rules constantly in mind, it is not difficult to institute a rational method of treatment, whereby most discharges can be cured or else greatly lessened without surgical intervention.

One of the most essential points in the treatment of every running ear is to ascertain the direct cause of the disease. Not infrequently a discharge fails to yield to treatment simply because of some disorder in the nose or throat, that keeps up an irritation in the ear, and when these passages have been restored to their healthy state, the flow ceases without further attention.

Astringents, when properly used, are of considerable service and seldom fail to lessen a discharge. It is best to begin with weak solutions, increasing their strength as soon as a tolerance for them is acquired, or else changing them if they fail to diminish the flow. The astringents that have given me the best results are a solution of silver nitrate, grains 5 to 80 to the ounce; zinc chloride, grains 2 to 20; carbolic acid, grains 10 to 120; formalin, grains 5 to 40, and tincture of iodine, grains 5 to 60. Insufflations of alum, tannin, aristol, and nosophen are useful in selected cases. Active granulations are best destroyed by applications of chromic acid; while polyps are best removed by the ring curette. If the hole in the drum-head is too small for the free escape of the secretion, it should be enlarged in the downward direction.

The indiscriminate syringing of suppurating ears is now generally and certainly very justly condemned. In certain cases irrigations are advantageous, but in certain others they do positive harm. Few patients can use the ear syringe properly; they leave behind more fluid than they displace, and the moisture, by acting as a poultice, encourages the discharge and keeps the drum-head sodden and open. Most running ears can be satisfactorily cleansed if the patient will blow the secretion out of the middle ear by the Valsalva method, and then wipe it dry with cotton wound on a tooth-pick.

Should it be desirable to have the patient irrigate the ear, a solution of bichloride of mercury 1 to 5000, or a solution of permanganate of potassium, 1 to 1000, makes an excellent cleansing fluid. If the syringing is not agreeable, and is attended with dizziness and faintness, it should be discontinued. The discomfort is due, most likely, to a large hole in the drum-head, which exposes the stapes to the direct and forcible impact of the stream of water.

The best ear-drops for the patient's home use are a twenty-per-cent. alcoholic solution of boracic acid. Powder should never be used by patients to blow into the ear; they are apt to blow in too much, and it may become caked and obstruct the flow of the discharge.

Ordinarily it is not justifiable to operate upon a discharging ear until the milder methods of treatment have been tried and we have been convinced that conservative measures are unavailing. If the discharge persists, it is quite evident that it comes from diseased bone; the removal of which is requisite to effect a cure. Two operations have been devised for this purpose. One consists in removing what remains of the necrosed ossicles, together with scraping away the diseased tissue in the middle ear. This operation can be done quickly and with little shock, and being done through the canal it leaves no visible wound, and the patient is not invalided for more than a few days. This curetting operation should usually be done before resorting to the more dangerous and difficult external operation, in which

the opening is made behind the ear and the mastoid cells, the attic and the middle ear are thrown into one large open space. The curetting operation will usually effect a cure if the ossicles alone are diseased and the walls of the middle ear are but slightly involved, but if the necrosis is extensive and includes the bony tympanic ring and the neighboring bone, it usually becomes necessary to perform the Stacke or external operation.

317 East Thirteenth Street.

NEURALGIA DUE TO DENTAL IRRITATION.

By WILLIAM J. LEDERER, D.D.S.,

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Neuralgia due to dental irritation, or dental neuralgia, is a paroxysmal pain caused by some abnormal condition of the teeth.

It may be local, diffuse, or reflected, according to the localization of the pain. We may have a painful spot, the whole area of nerve distribution may be involved, or the pain may be reflected to other nerves.

If we consider the anatomy of the trigeminus, we find that it is not only the largest of the cranial nerves, but its area of distribution is also widely spread, the nerve supplying sensation to the teeth and also being the motor nerve of the muscles of mastication. The trigeminus gives off the ophthalmic and superior and inferior maxillary divisions, each dividing into smaller branches, supplying the eyes, nose, ears, forehead, and scalp, the upper and lower lips, gums, tongue, and teeth.

A few ramifications of the maxillary branches arborize with the ophthalmic division and also with the facial and hypoglossal nerves. The intimate relationship its points of origin bear to the points of origin of the 6th, 7th, 8th, 9th, 10th, 11th, and 12th cranial nerves in the floor of the fourth ventricle, explains some of the reflex neuroses, which frequently are the result of dental irritation. The whole is a most wonderful mechanism constructed most intricately, and a disturbance anywhere along its course, no matter how slight, may involve any part or the whole area supplied by its branches.

The causes of dental neuralgia, from a dental point of view, are many, but like many other diseases it has predisposing factors. Anything that lowers the resistance of the system will modify the conditions resulting from dental irritation, and anæmia, syphilis, and especially gout and rheumatism predispose to neuralgia.

The exciting causes may be divided into those that are easily recognizable as: acute and chronic periodontitis; acute and chronic pulpitis; sensitive dentine, caries, pyorrhœa alveolaris, foreign bodies in the gum, alveoli, or pulp chamber, and atrophy of the gum.

There are other conditions, which are not so easily recognized but found only by careful exploration and differential diagnosis, and are exostosis, impacted teeth, and pulp nodules.

The first named conditions are easily recognized, and the neuralgia will usually disappear with the removal of the cause, provided the predisposing factors are not overlooked.

The difficult conditions to relieve are those which take their origin from the second named causes, the difficulty not lying in the treatment, but in the recognition of the cause.

If a patient presents with a neuralgia, whose etiology is doubtful, and it is suspected to be of dental origin, I have adopted a method of examination which often has proven valuable in determining the cause of the malady.

First. Each tooth is explored carefully, especial attention being paid to the gingival border and the general condition of the gum, as to tone. Each condition met with is recorded on an examination blank. The condition of the roots as to free exposures is carefully noted.

Second. Each tooth is carefully tested as to its sensitiveness to heat and cold, by means of the hot air syringe, and cold water.

Third. If no lesion has been found each tooth is examined as to its translucency with the electric mouth lamp, a valuable means of determining pulp changes.

Fourth. Each tooth is carefully percussed, which proves valuable to determine pericemental changes.

Fifth. Each tooth is tested with the electrical current as to its sensitiveness; this will frequently disclose pulp lesions, which otherwise remain obscure until much further advanced. The combination of these methods of examination, as a rule, will often disclose dental lesion, which, if one or the other method is employed alone, will escape the examiner.

Another feature of the examination should be a close questioning as to the systemic condition of the patient, so as to bring out any predisposing factors that might be present; and the dentist should, if necessary, communicate with the patient's physician. This is very important, as frequently success or failure will hinge on this point. Also the patient's occupation should be inquired into, as this frequently influences the constitutional condition.

The pathology of neuralgia of this type is somewhat obscure. Some investigators claim not to have found any structural change in the nerve tissue; others claim that the axis cylinder undergoes a modification; others, again, hold that the nerve tissue itself does not become altered, but that the small blood-vessels accompanying them do change, the connective-tissue elements in them undergoing an increase. It seems not improbable that this may account for the almost incurable cases of neuralgia in persons in middle life, brought on by a peripheral irritation, as a defective tooth, and which, even after the exciting cause is removed, do not abate. The paroxysms are relieved for a time by internal medication, but temporarily only. It may be a type of fibroid induration attacking the blood-vessels which are then unable to nourish the nerve tissue properly, the latter then undergoing some change that has not been demonstrated.

The prognosis of dental neuralgia is favorable unless it is associated with other conditions, as malaria or syphilis, when it assumes the infective type; it then ceases to be a true dental neuralgia and passes out of the hands of the dentist.

To treat dental neuralgia successfully, discretion and forethought are necessary. The mere mechanical removal of the cause will sometimes not be sufficient, but the constitutional condition of the patient must be considered. If the patient is anæmic, iron, in a suitable form, should be administered. If the patient shows a general debility, a good tonic, composed of iron, strychnine, arsenic and, perhaps, the hypophosphites, should be given. In cases of uric acid diathesis, lithia will be indicated and patients of this class are frequently subject to severe dental neuralgia, brought on by exposed roots. Excessive deposits of tartar are also found in some of these patients with gouty diathesis. Sometimes, especially in patients subject to pyorrhœa alveolaris (Rigg's disease), the diet should be paid some attention to—that is, coffee should be omitted entirely, and stimulants partaken of very moderately, if at all. The administration of the

iodides has proven successful in this condition, in my limited experience.

Patients with a malarial history can be benefited a great deal by the administration of quinine. This should be continued for a short time even after the paroxysms of pain have ceased. The two last named conditions, viz., the gouty diathesis and malaria, should always be looked into very carefully.

The exciting cause must, of course, be removed. If this is periodontitis, we should remove all irritants, such as tartar, and apply a counterirritant, such as tincture of iodine, tincture of aconite root and chloroform in equal parts, or paint the gum with cantharidal collodion. Constitutional treatment consists of the administration of a mild cathartic and bromides, or a mixture of quinine sulphate 3 ss, aromatic sulphuric acid 3 ii, and elixir of calisaya bark 3 xiv, in tablespoonful doses. I have used the coal-tar preparations combined with codeine and sometimes also with quinine with good results. A hot foot-bath will also prove beneficial. If there is an elevation of temperature I find a combination of one of the coal-tar antipyretics with quinine and Dover's powder, 3 gr. each, very useful. Also hot application to the face will prove of value at times. If the pulp is decomposing it should be removed and the roots treated antiseptically.

If sensitive dentine is the cause of the neuralgia, we are usually told to cauterize the sensitive spot with chloride of zinc in the front and nitrate of silver in the back of the mouth. However, I have found the vegetable astringents, like tannic acid, to act better; they seem to penetrate better than the other agents. I use the glycerite of tannin, to which enough tannic acid is added to make a fairly stiff paste. The secretions of the mouth should be rendered alkaline.

If caries is present, it is hardly necessary to mention the treatment. The recognition of the cause is sufficient. The presence of pyorrhœa alveolaris is also a subject that needs no further comment here. If the disease is the cause of neuralgia, it must, of course, be properly treated. In cases of true pyorrhœa I always prescribe iodide of potassium, and so far have had good results with it.

Foreign bodies in the gums or alveoli are frequently overlooked, and they may be the cause of reflex neuralgia. Pieces of toothpick, particles of lead or of other insoluble substances, as pieces of oyster shell, or minute particles of charcoal (which should not be used as a dentifrice, as it is insoluble in the oral secretions), or anything that acts as a foreign body and causes irritation, should be removed.

Injuries produced during tooth extraction, as fracture of the alveolus, may become factors in subsequent neuralgia. There is one condition met with occasionally that proves puzzling. People who have had their teeth extracted after some time become subject to a neuralgia. Gross calls this "neuralgia of the edentulous." This condition is met with more frequently in the upper than in the lower jaw, and is more prevalent among women than men. No doubt it is due to some injury of the fine nerve filaments. Gross ascribes it to compression of minute nerves, distributed through the wasted alveolar process, in consequence of the encroachment of osseous matter upon the walls of the canals in which these nerves are enclosed. The treatment consists in the removal of the affected alveolar process with sharp-edged bone forceps.

Atrophy of the gums, leaving the roots free and sensitive, which often causes persistent neuralgia, is best treated with the glycerite of tannin paste mentioned before. In these cases I give quinine, sometimes combined with iron and arsenic, also nux vomica, with good results. Sometimes acetanilide will do good service—in fact, some prefer it to quinine in neuralgia and periodontitis. Harlan gives acetanilide gr. viii in simple syrup and whiskey, one-half to be taken at once, the other half in five hours; Shoemaker gives acetanilide and lupuline, equal parts, in 10-grain doses. I use some of the coal-tar derivatives in combination with codeine or Dover's powder, with or without quinine—sometimes quinine alone, and have obtained satisfactory results.

Exostosis or hypercementosis is sometimes the initial cause of a dental neuralgia. It is ushered in with an uneasy feeling in the tooth affected, soon supplanted by a gnawing sensation, which at times takes on a neuralgic character. Some authorities claim that this condition can be reduced by the early administration of large doses of potassium iodide, and the local use of tincture of iodine. If the condition is advanced, the extraction of the tooth is the only remedy. This, however, is all well and good if the diagnosis of exostosis has been established, which is not always easy. Percussion of the tooth will sometimes disclose it, sometimes not. In cases of doubt, *x*-ray examination of the jaw will throw light upon the affection in more than one sense of the word.

Impacted teeth are also at times the cause of neuralgia, and if certain teeth are missing, which ought to have erupted according to the patient's age, an *x*-ray examination will facilitate the diagnosis. Once this is established, it is easy to obtain relief. The teeth most often producing these conditions are the wisdom teeth, and those situated in the vicinity of the antrum of Highmore. Pulp nodules or pulp stones are accretions of lime salts in the pulp of a tooth, which may be the cause of severe pain of a darting, shooting character. The removal of the pulp will put an end to the pain.

In many cases odontalgia is not a symptom of the malady, but the pain is reflected to another part. These cases are the ones that prove most puzzling, for the patient does not apply to the dentist for help, but goes to the family physician, who, lacking the dental training, does not always recognize the dental cause, but treats the case symptomatically, and the patient finds but temporary relief. Many interesting cases could be cited of various neuralgic affections in which the dental cause was obscure, and not determined until the oral specialist saw the patient. I shall mention but one that came to me recently. Miss S., æt. twenty-five, was referred to me by her family physician to see if I could account for a cervicobrachial neuralgia of the left side. I examined her mouth carefully, and found about a dozen teeth carious. On testing them with heat and cold, I found several with dying pulps. Her left lower wisdom tooth was badly broken down, and I extracted it with a negative result. The other teeth were dressed, and codeine was prescribed. Both without result, but as soon as a pulpitis of the second lower molar was reduced, her neuralgia, from which she had suffered four months, left her permanently. This case is reported simply to show the importance of a careful oral examination in all cases of neuralgia, the etiology of which is doubtful.

91 East Eighty-second Street.

Osteopathy in California.—The osteopathists of the Pacific Coast are numerous and aggressive. Their latest movement is the incorporation of a college, with capitalization of $50,000, at Los Angeles.

THE PHYSIOLOGY OF HUNGER.

By Dr. AXEL EMIL GIBSON,
LOS ANGELES, CAL.

THE majority of mankind associate the idea of hunger with the idea of poverty, want and suffering, and turn away from its contemplation with feelings of horror and disgust. Nevertheless, hunger, though representing the negative side of life, is as necessary a factor in evolutionary growth as is the food by which it is dispelled. Indeed, it might even be said that more than once this dreaded phantom has served as a prompter or incentive for individual efforts toward the attainment of fame and fortune.

Hunger, whether it be for bread or fame, is ever found to be a universal driving power, impelling the entities to an unfoldment and exertion of their slumbering powers. Hence it may be said that in a measure hunger lies at the base of evolutionary growth, and that civilization is deeper in debt to empty stomachs than to full ones.

Hunger is a sensation arising in the consciousness of the individual whenever the physiological balance between waste and repair is broken. Or perhaps more definitely, hunger, *i.e.* normal hunger, is the demand of nature made on consciousness for a replenishment of material to meet the needs accruing from a constantly proceeding expenditure in the vegetative life-process of individual existence whenever new fuel is needed.

As long as the individual adjusts his appetite to the suggestions of this faithful watcher, his physiological economy shows excellent results. The robust health of primitive man, his strength and endurance in the life-struggle, render sufficient testimony as to the promptness and triumphant intelligence exhibited by old mother hunger in the performance of her dietary administrations.

But imprudent man, as his sense-life grows stronger and wider, frequently thinks he can dispense with her services and indulge in the eating and drinking of whatever his fancy may suggest without waiting for the old monitor to give the proper signal. Thus interfered with, the function of hunger gradually loses its accuracy, becomes fitful and unreliable, and often clamors for supply for which the physiological conditions of the system indicate no need.

This opens up the reign of terror in which the individual swears allegiance to the tyranny of a corrupt and morbid appetite. Having discarded his servant hunger from his household, he elects Craving for his master, submitting himself to all the hardship and distress incident to lawless rulership. Chased like a madman from gratification to gratification, from candy stores and cafés to saloons and cigar stands, he spends the most and the best of his time and energy in administering to unnatural and unreal demands.

Meanwhile the *metabolism*—the assimilation and absorption of the body—is plunged into more and more distressing conditions of disorder and breakdown. Constructed on the principle of a furnace, the body in order to transform its nourishment into heat and energy requires for a proper combustion an adequate access to oxygen. And as in the case of a furnace an overcharge of fuel shuts off the supply of oxygen and thereby causes the fire to smolder, so in a similar way the flow and exchange of vital energy in the body is suppressed to a minimum when the individual overloads his digestive apparatus with food. If we are desirous of keeping our bodies at the highest mark of perfection and power we must refrain from choking the "fires of life" by pouring into our physiological furnace an excess of all kinds of combustible or incombustible material. In place of burning with the clear, lambent flame of perfect health and vigor, the "fires" under such management will turn into smoking, smoldering ash-heaps, productive of neither heat nor energy.

Then there is another danger which the individual in his present exposure must guard against. Enslaved by his tyrannous appetite, he has weakened his power of discernment, and as a consequence commits the fatal mistake of separating into halves and fragments what nature has prepared and turned out as whole and integral compounds. Not satisfied with the perfect combination of proteids, starch and fat, which the grain in its natural integrity presents, man in his unreason, by sifting the flour ruptures this integrity and thus disturbs the balance of nature's constructive processes.

The maintenance of life and health requires of the individual not only to *eat* but to *eat rightly*. In the metabolism of our body is found a condition known as the "nitrogen equilibrium" which means that within a given period of time the system has taken up an amount of nitrogenous food equal to the same amount of nitrogen used up and eliminated during a similar length of time. Hence a shortage in the assets of this vital economy will—if protracted—unavoidably lead to bodily decline and ruin.

Starch and fat generate heat and energy, while proteids (nitrogenous foodstuffs) supply material for the upbuilding and repair of tissue. Hence it becomes at once apparent that a protracted deficiency in the nitrogen supply means a breaking up of structural tissues—the muscles and bones of the body. As long as we heed Nature's instructions and use the foodstuffs in their simple natural combination, the problem of striking the "physiological balance" is easily solved; but the flour-sifting process separates the nitrogenous elements from the starchy, leaving us the latter wherewith to carry on the repair of our bones and muscles.

The same abnormal conditions are introduced in extracting and condensing sugar and salts. If we limited our use of these condiments to the extent they prevail in the fruit, grain, and vegetable, the balance of physiological waste and repair would be easily maintained. But by extracting the sugar from the vegetable—and the salt from the mineral kingdom, and introducing them as fundamental ingredients in our diet, we inaugurate abnormal processes of physiological activity, which means that we supplant the unity and integrity of nature's foodstuffs, with the diversity and imposition of an artificial and unwarranted separation.

The effects of this interruption of nature's methods is manifest in a host of metabolic disorders, of which the most formidable are those that come within the group of liver and kidney derangements.

Dr. Paul Bert, the famous French physiologist, has experimentally demonstrated that a dog fed exclusively on water will sustain life longer than a dog fed on bread of sifted flour. And the reason is evident: for water, which in itself contains a large percentage of life-supporting elements, has the power to maintain the metabolic balance of the dog, and enable him successfully to defy dissolution for quite a number of days. On the other hand, the dog put on the white bread diet, by his exclusive feeding on starch subjects his liver to a formidable strain, with no access to proteids for the repair of its used-up tissue. Hence in this case dissolution is actually hastened.

Dr. Robins, in his equally fascinating and instructive report of the Italian starvation-artist Succi's

forty days fasting, sheds much light on the subject of hunger. The progressive dissolution of structural tissues in the body during the fast is portrayed with scientific insight and accuracy. Step by step we are made to witness the physiological changes which in forty days reduced a well-formed and well-fed man to a tottering skeleton.

First 10 days' loss of weight amounted to 16 pounds.
" 20 " " " " " " 22 "
" 30 " " " " " " 28 "
" 40 " " " " " " 34 "

Total loss of body weight during the forty days' fast amounting to 26.55 per cent.

The progress of structural breakdown in starving subjects is registered in the elimination of *urea*—a nitrogen compound. For nitrogen, as we know, is taken into the body in the form of proteid, and deposited there in structural tissue. From this it follows that the elimination of nitrogen (represented in the urea) corresponds to the amount of bodily tissue used up during the corresponding length of time.

The amount of nitrogen which a healthy subject daily eliminates in the form of urea amounts to 3.5 grains for every pound of body weight. During Succi's first week of fasting he eliminated 3.04 grains per twenty-four hours; second week, 2.12 grains; third week, 1.66 grains. The fifth week the amount of urea rose to 1.8 grains, and the last four days to 2.10 grains.

This rise of elimination of urea toward the end of the fast marks the danger point of starvation—the second stage of "autophagy," or self-consumption. Having entered this stage the starvation is speedily approaching its fatal termination.

During the first stage of autophagy the subject feeds on his "circulatory proteids" (proteids suspended in the circulation and not yet "fixed" as structural tissue), *i.e.* the stored-up fats, sugar, albumin, glycogen, and adipose substances present in the body. The result of this consumption, though accompanied by a speedy loss of weight, is by no means fatal to the life of the individual. It is first when the bodily reserve funds are used up that the real danger threatens. The attack on the supporting tissues—the structural framework of the body—is of short duration. The breakdown and dissolution follow rapidly.

It is extremely interesting to compare the different degrees in which the different tissues are attacked and consumed in the course of a protracted starvation. Dr. Voit of Leipsic starved a cat for thirteen days, all the while carefully comparing and studying the changes taking place in the body. Thus, after thirteen days' starvation the cat had lost of

Bone	13.9	per cent.
Muscle	30.5	"
Liver	53.7	"
Kidney	25.9	"
Spleen	66.7	"
Testes	40	"
Lungs	17.7	"
Heart	2.6	"
Brain and spinal cord	3.2	"
Skin and hair	20.6	"
Fat	97	"
Blood	27	"

Hunger is a nervous act. When the stomach has run empty its motion ceases, and the nerve terminations in the gastric walls, stimulated by the accumulated secretions of the gastric glands, send irritations to spinal cord and brain per pneumogastric nerve. This irritation is interpreted by the individual self-consciousness in terms of hunger, the latter varying in degree and intensity according to the intensity with which consciousness responds to the gastric stimulation. Hence the difference in strength of appetite and hunger in individuals of normal health is to be found in the nervous rather than in the digestive system; in the state of consciousness rather than in the state of physiology. Persons whose minds are engaged in schemes and projects of general interest ignore the pleasures of the table, while others again, whose minds are constantly absorbed in matters of personal comforts and gratifications feel the stress of not only strong but also morbid appetites. For true hunger, *i.e.* hunger as a physiological and normal process, in contradistinction to craving, which is a pathological or morbid hunger—is possible only after the consciousness of the individual has become aroused to the desirability of some gustatory act. Then the sluices to the secretory glands are flung open. The streams of gastric juice thus turned out over the interior walls of the stomach, stimulate the nerve-endings of the gastric nerve-plexus, which, being in communication with the brain and spinal cord, send a storm of reflexes to these centers, and thereby give rise to the emergence in consciousness of the sensation called hunger.

Thus for the sensation of normal hunger three physiological factors must be brought into activity: an empty stomach, an intact nerve connection from the gastric nerve-endings to the brain, and the concentration of consciousness on the gastric nerve-reports.

Thus the individual consciousness, by forcing the flow of gastric secretion, gives rise to the sensation of hunger. This fact readily explains why the sight, smell, or even the mere thought of savory food may create hunger—or, let us rather say, craving. As a case in point, reference may be made to one of Dr. DuBois-Raymond's latest reports in the *Archiv für Physiologie*, in which he relates an experiment with a dog whose stomach was connected with the exterior of the body through a fistula. A piece of meat held before his eyes caused a stream of gastric juice to flow out from the open fistula, thus demonstrating that the consciousness of the dog, and not the presence of food in his stomach, constituted the primary cause for the gastric secretion.

Applying this fact to the human individual, we are entitled to the conclusion that the sensation of hunger can be modified by mental effort. By promptly refusing to entertain the mind with thoughts and images of food and its relish, the gastric secretion will receive no stimulation, and hence the hunger be kept in abeyance. The "posthumous notations" of Antonio Viterbi—a Corsican lawyer—who, in the year 1821, was sentenced to death for some political reasons, furnish some very valuable arguments in favor of this view. In order to escape the death on the scaffold, for which he had an uncontrollable aversion, he resorted to death by starvation; and while awaiting a slowly approaching dissolution, took notes of the rise and fall of the feelings coursing through his consciousness,

From these notes we learn that on the third day of his death-fast the sensation of hunger disappeared. His head was clear, his thoughts sharp and lucid, and his eyesight extraordinarily keen. As the days went by, he felt the coming and going of sensations of thirst, but not of hunger. His consciousness remained alert and rational to the last. On the eighteenth day of his self-imposed starvation, he died. Neither thirst nor hunger had seriously annoyed him, and his last moments were calm and painless.

The calm intelligence and full realization with which Antonio Viterbi approached his fate, naturally held his thoughts and imagination away from representations of food. Hence the reflexes transmitted from the gastric nerve-endings to the brain

failed to elicit a conscious response. Hence no flow of gastric juice, and no sensation of hunger.

The same physiological principle is manifested in the behavior of demented and hysterical persons, whose minds being busy with subjective images of fright and horror, have been found to starve for weeks without ever making known any sensation of hunger.

On the other hand, if we inquire into the mental conditions of starving sailors, straying travelers, and other unfortunates who have been forced to face starvation with their bodies in full health, and their minds bound with chains of torturing fascination to the imagery of a riotous appetite, we will find that their sufferings have been truly indescribable. Like a Tantalus in the tale, who, surrounded by all the sumptuous viands of a highly wrought and morbid imagination, which he found himself unable to seize and to enjoy, so these unfortunates, with their gastric juice flooding the walls of their stomach, and with storms of irritating impulses rushing through their brain, have suffered untold agonies of hunger and thirst. In most cases of this kind the victims lose their reason before they lose their lives.

By the strength of these arguments we are entitled to the conviction that there is a power resident in every individual, enabling him to control and subdue, more or less successfully, his morbid cravings for food and drinks. The secret of breaking, a habit or a passion lies in the simple rule: hands off! Keep the mind off the enticing subject. Refuse promptly the idea of its gratification by removing the image from the field of consciousness. The undue secretions of the gastric glands will soon cease and with them the morbid cravings.

A study of the physiology of hunger may thus furnish us a powerful lever in the upbuilding of character and manhood. Indeed, the only real value to be found in the study of any science, philosophy, or religion lies in the bearing such a study may have on the elevation and purification of the thoughts and motives of men.

Congenital Dilatation of the Colon.—The following case is reported by Valentine Levi: In making a *résumé* of the prominent symptoms in this case we find: (1) Enlargement of the abdomen; (2) obstinate constipation; (3) diastasis of the recti; (4) tympanites replaced at times by dulness; (5) dilatation and downward displacement of the stomach and transverse colon; (6) visible peristalsis; and (7) some emaciation. There are two points in particular that this case brings out that have not been mentioned previously, in this condition. First is the separation of the recti muscles, admitting it to be congenital, or could it not be an important factor in causing the dilatation of the colon? Second, how can we account for the movable dulness in this case, there being no ascites present? The author can only ascribe it to the presence of fæces in the lower part and gas in the upper part of the intestines. As the intestines have a greater range of motility, due to the marked relaxation of the abdominal walls, they are more easily able to follow the laws of gravitation with the change of position of the patient, though limited, certainly, by their mesenteric attachments. The left flank remained flat in either the upright or dorsal positions; now, if we consider the attachments of the colon, we will see that its range of motion, with the exception of the ascending colon, is more restricted than that of the rest of the intestines. We must remember, too, that the descending colon is one of the most common sites for fecal impaction.—*Annals of Gynecology and Pediatry.*

Vaginal Cæsarean Section.—Ruhl has performed this operation nineteen times, and points out the necessity for one step which is not usually emphasized. This is that the cervix should be bluntly dilated as much as possible before beginning the incision. If this is not done the cervix after the sutures are laid will often be even tighter than before and retention of the lochia is sure to occur. Preliminary dilatation also renders a less extensive incision of the anterior uterine wall sufficient for extraction, and therefore fewer sutures need be placed. Another point of importance is that the proper cellular plane be followed in dissecting up the bladder, as much hemorrhage can be avoided in this way. Cases in which a former vaginifixation has been done are extremely difficult, and to avoid injury to the bladder the old line of incision must be followed closely. The parts are also very inelastic in these cases, so that a long incision through the anterior uterine wall is necessary.—*Centralblatt für Gynäkologie*, No. 2, 1904.

Alopecia Congenita Familiaris.—Kraus reports four cases of alopecia congenita familiaris in the children of one family. The first patient, who died at the age of one and one-half years, was born with abundant black hair, which it lost after the first bath, it is said. The other cases were in the second and third children. The parents were supplied with normal growth of hair, and no pathological condition could be found among relations. Another patient was a girl, aged three and one-half years. She had long, black hair at birth, which began to fall out at the fifth week, and at about the ninth week there was total alopecia. No pathological appearances nor disease of the scalp were apparent. Patient was otherwise normal and strong; nails, teeth, eyelids, lashes, etc., all normal. (No hairs on body, not even lanugo.) Another case was that of a brother of the first patient, one and one-half years old, who had, with exception of a strip of finger width in the median line, a normal supply of hair. Loss of hair began in seventh week. No eyebrows or lashes present at birth, as in the other case, but these appeared later (in both cases). No hairs present on any part of the body, even no lanugo. Kraus excised a portion of the scalp from the girl in region of occiput, at the line of demarcation of growth of the hair on the neck; from the boy he took a portion from behind the ear. Upon examination of the specimens no hair or papillæ could be found anywhere. Two kinds of hair follicle were distinguished. A marked deviation from the normal condition was present in the sebaceous glands and errectores pilorum. Both presented marked transposition. The sebaceous glands were not situated at the side of the follicles, the axis forming an angle with the longitudinal axis, as is usually the case, but lay parallel to the longitudinal axis of the follicle. They also differed in shape and were not pouch-shaped, but appeared as ducts with slight enlargement at the bottom. As a result the errectores pilorum did not touch the fundus of the glands, but passed to one side without coming in contact with them. On the contrary, it was found that the sweat glands were fully developed. His deductions are that histological discoveries prove that the alopecia was due to a disturbance of the fetal change of hair. Concerning the relationship of alopecia congenita with disturbances of keratinization, Bettmann claimed that in none of the cases hitherto examined could hypotrichotic changes as those found in Bonnet's goat be demonstrated. While, on the contrary, Audry recently reported a case in which the scalp presented marked disturbances of keratinization, as well as other peculiarities. In a child, aged four, who was well developed, but born bald, fine hairs first began to return at the end of first year. Audry assumes that the scalp was affected by congenital keratosis, which prevented normal development of the hairs by penetrating into the hair sheaths.—*Archiv für Dermatologie.*

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STATE LAWS FOR THE PREVENTION OF TYPHOID FEVER.

THE widespread prevalence of typhoid fever in many sections of the United States, due to the pollution of drinking water, and the lack of suitable State Laws for the prevention of such contamination, is a serious reflection on the intelligence and common sense of the different municipalities concerned. Whenever a serious epidemic of the fever occurs, it is generally too late to stop its initiatory ravages, although no time may be lost in tracing the sources of infection. In a large majority of instances no danger is suspected until the mischief is done.

It is safe to say that no means of preventing disease are so much neglected as those of proper inspection of water supplies, and no greater damage done to the health of municipalities than the neglect to apply them. It requires no argument to prove that the entire system of water supply and sewage disposal requires radical reconstruction. The time is past when mere municipalities should be held responsible for water contamination in their own jurisdiction. Not only should each State take the matter in hand and compel uniform regulations, but with streams passing through other States there should be a system of interstate inspection under the charge of a national bureau. The necessities for the latter measure are shown in many sections having a common supply and a common outlet. The contamination of Lake Champlain by the outputs of many of the factories on its shore is a notable instance in point. The local health authorities are so powerless in the matter of applying restrictions to the intolerable nuisance that the War Department has been compelled to interfere and insist that the various mill owners shall cease the pollution so bitterly complained of.

It is a matter of congratulation that the State of New York has taken the initiative in the matter of controlling the sewage system of the commonwealth, and of thus preventing the contamination of water supplies. Although the system is by no means a perfect one, due to the present impossibilities of immediately altering old and long-established methods of drainage, there is in it a reasonable guarantee that the newer provisions instilled will effectually check the propagation of the time-honored but effete methods of drainage, and will eventually substitute more desirable and practical ones.

The present law provides that "No person, corporation, or municipality shall place or cause to be placed, or discharge or cause to be discharged into any of the waters of this State, unless the same shall have been permitted by the State Commissioner of Health, any sewage, garbage, offal, dead animal, dead fish, dead bird or part thereof, or any decomposable or putrescible matter of any kind or any substance, chemical or otherwise, containing the same in quantities injurious to the public health, or any refuse or waste matter, either solid or liquid, in quantities injurious to the public health, from any shop, factory, mill or industrial establishment; unless express permission to do so shall have been first given in writing by the State Commissioner of Health as provided in this article, except as hereinafter provided. But this act shall not prevent the discharge of sewage from any public sewer system owned and maintained by a municipality or the discharge of refuse or waste matter from any shop, factory, mill, or industrial establishment, provided such sewer system was in operation and was discharging sewage, or such shop, factory, mill, or industrial establishment was in operation and discharging refuse or waste matter, into any of the waters of this State at or prior to the time of the passage of this act, nor to any extension or modification of such shop, factory, mill or industrial establishment or reconstruction thereof, provided the refuse or waste matter discharged therefrom is not materially changed or increased; but this exception shall not permit any increase in the discharge of such sewage, nor shall it permit the discharge of sewage from a sewer system which shall be extended, modified, or reconstructed subsequent to the passage of this act."

The power is invested in the State Health Commissioner to grant or revoke permission for every new sewage system throughout the State, and to compel by penalty and fine the enforcement of the statutory regulations. His is very properly the central bureau of control, while the local authorities are in turn held responsible for any lack of supervision of water supplies and sewage outlets in their respective districts. This is as it should be, and gives the executive officer a proper and practical control of the entire system. From such a point of view, for instance, there are very many possibilities of preventing epidemics which have not existed before when the local boards acted independently of each other. That they have been incapable heretofore of meeting emergencies has been proven in the epidemic of typhoid fever at Ithaca a year ago, and in the more recent outbreak at Watertown. It is now only a matter of detail to insist that all cases of typhoid fever in any district of the State shall be immediately and directly reported to the central bureau at Albany, when prompt investigations as to the origin of an epidemic can be made and proper means instituted to prevent the dissemination of infection. The same precautions, would, of course, apply to any similar water-borne disease. It is lamentable to think, however, that with all these desirable features this admirable law is practically a dead letter, for the want of funds to make its provisions effective. That such is the case is no fault of the State Health Commissioner, as he has repeatedly applied for a suitable appropriation to carry on this part of his work. He still asks for $20,000 to that end. In no better way could the Legislature minister to the needs of public health than by granting the request. New York has shown a most commendable example to other States in having such a law on its statute

books, and it only remains for her now to prove its practical utility by her ability to enforce its provisions.

SHALL THE GENERAL PRACTITIONER DIVIDE FEES WITH THE CONSULTANT?

THE interest manifested by various correspondents in the question of division of fees between general practitioner and consultant proves, in some sense, the prevalence of the custom, and the need of some well-defined ethical principles that should govern both of the parties concerned.

One of the main troubles that would reasonably explain the condition of affairs is the necessarily keen competition for business among all classes of medical men, growing out of the overcrowded state of the profession. Under such circumstances there is always a temptation to cross lines in the struggle and skirmish for individual advantages. This has been the state of affairs more particularly since specialism has separated itself from general practice.

There is no doubt that the general business of the family physician has suffered in consequence of this innovation, but he is nevertheless made the better practitioner in the end, in benefiting directly and indirectly by the work of pioneers in all the special branches. The specialist, on the other hand, must curtail his work within proper limits, and confine himself entirely to the particular branch of his specialty. The conscientious general practitioner should always be ready to advise consultation with an expert, when such service is demanded, and when any operation requiring special skill in its execution is necessary he should temporarily resign the direct care of his patient to the specialist. On the other hand, the operator, as soon as he has rendered the particular service required of him, should deliver the patient to the former regular attendant. There should be no question as to the relative duties and privileges of either party in the transaction. This is the proper ethical line of division between general medicine and specialism, and needs no argument to prove the equity of its assumption. When this much is admitted, we may be perhaps better prepared than otherwise to discuss the question of division of fees between the regular attendant and consultant.

It is plain to be seen that as each has his place in the case, each should be paid for what he actually does. As the patient is the payer for both, he should be the one to be satisfied that the fees are properly apportioned. This is a purely business matter that can always be discussed on the broad principle of justice and right to all, as it places the giver and receiver in direct and proper contact with each other.

If the contrary is the case by any collusion of the recipients there is an implied reason for concealing dishonest practices. The operation or expert advice has its distinct price and should go entirely to the one who performs the special service, otherwise he is cheated of his just due. No middle man has a right to levy toll or commission, as he is in no way entitled to the profits of another's skill. If the consultant charges an extra amount to cover the commission he is plainly obtaining money under false pretences and defrauding a patient who trusts to his common honesty. The giver and receiver of the extra money are thus equally guilty of fraud. The fact is evident enough in there being something that must not be explained on the basis of an honorable understanding.

Another element of fraud in the business is the absence of unbiassed judgment in the selection of the consultant. Herein the patient is the direct and innocent sufferer. It is not the man who is best fitted to perform the operation or to consult on the case, but the one who will "divide up" most handsomely. Thus the patient, by the intervention of an interested agent, is deprived of the services of the self-respecting man whom he would be glad to choose for himself.

Taking, then, all the main facts into account in considering the question of sharing fees there can be no question as to the conclusions to be drawn. The practice is wrong from any point of view, and the man who gives or takes under the circumstances, is unjust to himself, his patient, and his profession.

CONCERNING THE PROPOSED INTRODUCTION OF WHIPPING INTO THE PUBLIC SCHOOLS.

DURING the Dark Ages, when retributive ideas of punishment were all but universal, the infliction of physical pain as a penalty for crimes, even the most trivial, was a well-established principle of jurisprudence. Then it was that the thumb-screw, the rack, and the fagot achieved their outrageous missions, secure of the countenance of Church and State alike. When, later, science began to penetrate the dark corners of men's prejudices, there was a notable relaxation of the rigors of the judicial code; but the final banishment of torture was only achieved after the barbed sarcasm of Voltaire had pricked the public conscience.

Since those days it is safe to say that, in civilized communities, at least, the ingenious deviltry of the torturer is in disgrace.

Now and again, however, the evidence is afforded that there are still those among us who, under a more euphemistic designation, would still set up torture on its gruesome pedestal. The horrible atrocities of the lynchers are an extreme illustration; while the proposition, recently put forward, to again confer upon the rod its baneful prerogative in the public schools, is a minor symptom of the same tendency.

It is against this subordinate sway of savagery—this proposition to rule little children by terror and by pain—that the MEDICAL RECORD most emphatically protests. The whip inspires terror of itself and not of the crime; its physical effects, quite aside from the pain engendered, are bad and may be deplorable; its moral influence is shameful and degrading. Nothing is more certain than that belaboring the buttocks—whether with strap, stick, or fist—as a rule—causes inordinate stimulation of the reflex activities of the cord, particularly of its lower parts. Hence the invoking of the whip by weakened debauchees to stimulate their diminished powers—a practice almost as old as history.

How, in view of such facts, guardians and parents came to adopt such a mode of punishing the young is difficult to determine. Lack of knowledge of possible consequences, is perhaps the most charitable explanation. Commenting on the physical and moral dangers of flagellation, Krafft-Erbing observes:

"*Libido sexualis* may also be induced by stimulation of the gluteal region (castigation, whipping).

"This fact is not unimportant for the under

standing of certain pathological manifestations. It sometimes happens that in boys the first excitation of the sexual instinct is caused by spanking, and they are thus incited to masturbation. This should be remembered by those who have the care of children.

"On account of the dangers to which this form of punishing children gives rise, it would be better if parents, teachers, and nurses were to avoid it entirely."

Further, and quite as important, there are the moral evils of whipping. To cuff, cudgel, and maltreat a child is to foster the rebellion of an outraged self-respect. Boys of hardy make, thus cruelly mishandled, are easily converted into liars and bullies; while in those of more sensitive organization, the imagination is dulled, ambition discouraged, and the spirit broken beyond all mending. And finally, to crown the scheme of fatuous ignorance and cruelty, there are the truant children, feeble-minded and epileptic, not a few of them, upon whom all a-quiver and irresponsible, the blind fury of the whip descends in an ecstacy of remorseless vengeance.

The lash has had its day. It is too late now to officially countenance the infliction of pain, either as a punishment for offences committed by children or adults. In all schools, and particularly in the public schools, there is a considerable proportion of backward, deficient, and feeble-minded children. These should be carefully segregated, observed, and instructed in accordance with their special needs. For the rest, let there be rewards, humane penalties, drill—military, perhaps; and last, but far from least, an abundance and variety of sports, not only for purely physical reasons, but as vents for that mischief that still lingers with us as a fantastic heritage of our simian ancestry. Nothing that is permanently good can be brought about by force or brutality. The infliction of pain is never an argument in favor of right or justice.

NON-NEPHRITIC RENAL ALBUMINURIA.

It is a somewhat unfortunate custom to apply the qualification "idiopathic" or "essential" to various disorders of obscure origin, and we doubt if anything is gained by employing the term "functional" instead. Disease, as an aberrant manifestation of life, never arises spontaneously, any more than does life itself. The causes may not always be obvious, but none the less they should not be ignored to the extent of failing to make careful search in every case for them. Increased knowledge of etiology makes for advance in prevention.

Among disorders whose causation at times eludes recognition is albuminuria, which under such circumstances is by some designated "physiological." As, however, albumin, in appreciable amount, is not a constituent of normal urine, its presence can never be considered physiological. Therefore, it would be better, for the present at least, to adopt the suggestion of Dr. Samuel West (*Lancet*, January 16, 1904, p. 143) and describe such a condition as "albuminuria in the apparently healthy." From a considerable experience and a careful study of the subject, Dr. West expresses the opinion that albuminuria may occur as a transitory symptom in persons who, except for this symptom, may be judged to be perfectly healthy, as they appear to be so at the time and remain so. Such albuminuria may occur also in persons who, although they appear at the time to be healthy, develop signs of disease subsequently. It is difficult to distinguish at a given time between those that will remain well and those that will not. It is difficult also to exclude with certainty many of the pathological causes to which the albuminuria might be due. In other words, although there may be no proof that these causes are present, there is equally no proof that they are absent, and in some cases the result shows that they were not absent. Speaking generally, the larger the amount of albumin in the urine, and the longer it persists, the greater is the probability that some permanent disease is present. Continued observation of cases of the kind under consideration shows that so-called physiological albuminuria appreciably increases the risk of life, and that this risk grows rapidly with every year of age after thirty years. Dr. West finally formulates the general conclusion that functional albuminuria is never, strictly speaking, physiological at all, but that it is, on the contrary, always pathological, though not necessarily renal.

An Act Defining Optometry, and Regulating the Practice Thereof.

An act has been introduced into the Senate of the State of New York, to legalize the "practice of optometry." The bill in question is speciously framed and is apt to lead astray those not possessing a knowledge of the matter. The reasons against licensing opticians are many and obvious. A large number of these merely pose as opticians, being absolutely incompetent and far more likely to do harm than good. When the fact is considered that a fair knowledge of the eye is only gained after many years of earnest and assiduous study, it will be understood that few opticians possess the necessary qualifications to lay claim to the title of expert. Again it would be manifestly unjust to place physicians upon the same plane as opticians. A medical man has to undertake a course of studies to prepare him for the work of treating diseases. It would, indeed, be hard, after having completed his appointed period of study, and after having demonstrated by passing examinations that he is qualified to care for the sick and physically defective, if he should find himself obliged to compete upon more or less equal terms, with others who have received little or no preparation. There can be no doubt that medical laws are necessary for the protection of the general public, but if the door is to be thrown open to those who have had practically no training, of what use are such laws. If opticians are licensed why not osteopaths, and others of the same genus. When the thin edge of the wedge has been once introduced, no one can forsee the end. The medical profession, therefore, should fight vigorously against any such infringement of their privileges as contemplated in the proposed legislation for opticians. If any person chooses to trust the care of his vision to an ordinary optician he has a constitutional right of exercising such a privilege, but to sanction the work of the optician by legal enactment is altogether quite another matter.

Opposition to Tuberculosis Hospitals.—An ordinance forbidding the opening of hospitals for consumptives within the city limits has been adopted at Los Angeles.

Professional or Registered Nurses as Witnesses.

An act has been introduced into the Assembly of the State of New York bearing upon the testamentary privileges of physicians and professional nurses. The first section of the amended act reads as follows: "Physicians or professional or registered nurses not to disclose professional information. A person duly authorized to practise physic or surgery, or a professional or registered nurse; shall not be allowed to disclose any information which he acquired in attending a patient, in a professional capacity, and which was necessary to enable him to act in that capacity. In the examination of physicians or professional or registered nurses as witnesses, it is enacted, that these may, upon a trial or examination, disclose any information as to the mental or physical condition of a patient who is deceased, which was acquired in attending such patient professionally, except confidential communications and such facts as would tend to disgrace the memory of the patient."

An act of the nature now before the New York State Legislature would seem to be somewhat superfluous. The fact is generally well recognized that a medical man must preserve a discreet silence with regard to any information he may receive from a patient. The same statement applies to a professional or registered nurse. The physician and the nurse alike have no business whatsoever with any matters outside their own province of work, and their ears should be deaf to extraneous subjects. With the physician, at least, it is a question of honor, and the man who failed to act up to the high level demanded of the medical profession would be rightly contemned by his brethren. If it is deemed necessary to seal the lips of professional and registered nurses by law, then let it be so. At the same time, it would seem that there is no valid necessity for such a measure, as the courts very generally recognize the physician's privilege in such matters.

The Prevention of Consumption.

Dr. Alfred Hillier has recently published a short volume with the above title. Dr. Hillier is secretary of the British National Association for the prevention of this disease, and has for many years made a close study of the malady. Some two years ago the author had in mind the writing of such a book, but thinking that Professor Koch was better equipped for the purpose, urged him to undertake the work. Koch, however, was unable to do so, but promised to revise and comment on it, and in other ways to give his aid. The book is written in popular form, and shows that "Tuberculosis may be cured, can be avoided, and ought to be prevented." It is stated that "Deaths from tuberculosis in England and Wales are estimated to amount yearly to 60,000, and in the rest of Europe to a million. In England one-half of the deaths between the ages of twenty-five and thirty-five are caused by phthisis. In the United States and Canada the proportion is about the same. In the larger centers of population in Europe the highest mortality is in Moscow, St. Petersburg, and Vienna, and the lowest in Amsterdam, London, Naples, and Buenos Ayres.

According to Dr. Hillier, the oldest writers were aware that consumption spread by contagion. The magistrates of Florence, in 1754, enforced certain regulations for the disinfection of the rooms in which there had been patients suffering from tuberculosis. In Rome, at a later period, somewhat similar rules were carried out. At the time when Italian art was at its height, consumption exercised influence upon art. Dr. Hillier writes that Bolticelli's favorite model died of consumption, and also says that the modern Rosetti had a consumptive for a model.

Concerning the spread of tuberculosis, Dr. Hillier is of the opinion that there can be no doubt as to the manner in which it gains an entrance into the human body. "The paths of invasion" are several. Heredity was formerly believed to be an important factor in the dissemination of tuberculosis. This idea has now been abandoned. The most common mode of entrance is by inhalation. Another form may "occasionally occur in kissing or in using spoons or plates which have been previously used by tuberculous patients." Inhalation, however, is probably the chief source of the propagation of consumption. The main danger arises from the sputum of those who are consumptive mixed with the substances thrown out in the act of spitting the tubercle bacillus. If it falls on the floor it may become dry, and may be inhaled and convey tuberculosis to those predisposed to the disease.

Dr. Hillier is a firm believer in open-air treatment of consumption, and favors generally the modern methods of endeavoring to prevent the malady. He also advocates the compulsory notification of cases of consumption to the health authorities, the establishment of sanatoria under medical supervision, and the supression of spitting in all covered places.

Although, to an American physician, the contents of Dr. Hillier's book will not be novel, yet it is well written, and presents facts in an attractive manner. The only part of the volume with which many readers will not be in agreement, is that which deals with human and bovine tuberculosis. Dr. Hillier is a disciple of Koch, and with him believes "that human and bovine tuberculosis are different forms of the disease." If read by the British public Dr. Hillier's work should act as a popular educator, which, indeed, was the author's idea in writing it.

A New Protozoon.

Leishmann, in the *British Medical Journal*, May 30, 1903, published a paper in which he put forward the hypothesis that a fever which occurs in India, known as Dum-dum fever was a form of trypanosomiasis. He further suggested that cases of Dum-dum fever and Kala-azar should be carefully examined for trypanosomes microscopically by centrifuging a quantity of blood, or by inoculation into monkeys.

The *Journal of the British Royal Army Medical Corps*, January, comments editorially on this matter, and says that Leishman's paper brought out a letter in the *British Medical Journal*, July 11, 1903 from Captain Donovan, I. M. S., in which he stated that he had also noted these bodies in smear preparations taken from three cases of natives who were thought to have died of chronic malaria At a later date, Donovan, finding identical bodies in the pulp and blood of a patient who came under his charge, sent smear preparations to Major Ronald Ross, Liverpool, and to Dr. Laveran in Paris. Dr Laveran concluded, from an examination of these specimens, that the bodies belonged to the genus Piroplasma, not to Trypanosoma, and proposed for them the name Piroplasma Donovani.

Ross, at the same time published papers in the *British Medical Journal*, November 14 and 28, 1903 on this subject.

He did not agree with either Leishmann or Laveran, but thought these bodies probably belong

to a new species of sporozoa, and proposed Leishmania as a fitting generic appellation.

The *British Army Medical Journal*, February, above referred to, publishes a translation of the investigations of Laveran and Mesnil regarding this protozoon, and thinks, from a consideration of their paper, and especially from the figure given therein, that Leishmann's bodies do show a marked likeness to the piroplasmata.

More convincing evidence, however, must be forthcoming ere any decided opinion on the matter is given.

An interesting fact in connection with piroplasmata is mentioned in the *British Army Medical Journal*, that these protozoa cause diseases of domestic animals in all parts of the world, as a rule by means of ticks, and that it is the progeny of the tick that has this infective power. "If then," the editorial in question goes on to remark, "Dum-dum fever is proved to be caused by a piroplasma, the insect-carrier should be looked for, and it is the ticks which should be viewed with suspicion."

It is not stated whether Dum-dum fever, which appears to be a form of dysentery, occurs outside India, but the probability is that it is not unknown in other parts of Asia, and perhaps in all tropical countries.

There may be a chance of investigating this point in the Philippine Islands, where, if such be the case, the opportunities for prosecuting research are exceptionally good.

Anti-malarial Campaign.

Now that the anti-malarial campaign will soon be in full swing, and the festive mosquito soon issue from his hibernating quarters, prepared for a test of the survival of the fittest, it is not without interest to consider efforts which have been successfully put forth toward the prevention of malaria in countries where this disease is much more prevalent than in our own. We refer to the recent report of Captain S. P. James, I. M. S., on the anti-malarial operations at Mian Mir in 1901 and 1902. These operations were conducted along two lines: (1) The destruction of mosquitos; (2) the destruction of malarial parasites in infected individuals, or the removal of these persons from the vicinity of the operations. The destruction of mosquito was attempted in four ways: (1) Smoothing the sides of water courses and freeing them from grasses and weeds; (2) bricking one course which ran through the artillery lines; (3) cleaning out and thoroughly drying water courses once in ten days—this was discontinued on account of the expense; (4) oiling irrigation courses and pools and filling in the latter where practicable. In order to carry out properly these measures constant work was necessary, as even a short interruption allows the former conditions to become reëstablished. For the destruction of malarial parasites in infected individuals, quinine was relied upon. This was given in sufficient doses to bring about the desired result. Infected persons who could not be so treated were removed from the region of the operations. The results of the work were chiefly estimated by the prevalence of malaria among the troops. The annual rate per 1,000 in Mian Mir is 663, but in the year 1902 this was reduced to 269. This shows a vast improvement, and the question arises as to which of the above methods was the most concerned in bringing it about. Captain James believes that it was chiefly due to the removal of infected individuals or their treatment by quinine. Investigations showed that the efforts put forth for the destruction of mosquitos had but little effect, as only a slight impression was made upon the number of these insects. Moreover, it is very expensive.

In our own country the warfare against mosquitos has been waged with considerable energy. It is as yet too early to say what ultimate results will be obtained, but it is probable that the methods hitherto used will be abandoned, both on account of expense and non-effectiveness. On the other hand, in most parts of this country malaria is not a disease of sufficient gravity to warrant the isolation of those infected with the malarial parasite. In those regions, however, where pernicious malaria abounds, measures for the isolation of those infected until the parasites are no longer present in the general blood circulation, deserve careful consideration. Generally speaking, in this country the prevention of malaria is very far from being on a satisfactory basis, and it is apparent that the disease must be attacked in a different manner than has hitherto been attempted.

Dysentery or Typhoid Fever?

In the *Bulletin of the Ayer Clinical Laboratory* of the Pennsylvania Hospital, October, 1903, Dr. Louis M. Warfield reports a case as acute dysentery, which is suggestive. The patient, a male forty-eight years of age, was admitted to the hospital on April 17, 1903. He complained of diarrhœa of three days' duration and gave a history of having been unable to work for three weeks previously, although he had not been confined to bed. During this period he had suffered from headache, giddiness, and vomiting. On admission blood was present in the stools, but the number of these did not exceed twelve in twenty-four hours. The tongue was coated and dry. The temperature was 101° F. In two days it reached normal, at which point it permanently remained. The urine contained albumin and casts and the total leucocyte count was 3100. On April 18 the Widal test was tried and found positive. The stools became copious and consisted wholly of mucus and blood. They contained no amœbæ but rod-shaped bacilli in fair numbers. From these stools a rod-shaped bacillus was isolated which by morphological, agglutination, and cultural tests was proven to be the dysentery bacillus of the acid-producing type. On May 1 the patient was discharged cured.

The interest in this case attaches to the fact that the blood of the patient agglutinated both dysentery and typhoid bacilli. Furthermore that the total leucocyte count was decidedly hyponormal while the clinical history was not unsuggestive of ambulating typhoid fever. It is to be regretted that an attempt was not made to isolate typhoid bacilli from the fæces and urine. In the want of such evidence it cannot, of course, be positively held that the case was one of typhoid fever, but it is very probable that it was such. The dysenteric symptoms were in all likelihood due to an added infection with the dysentery bacillus, but the opinion that the case was essentially one of typhoid fever cannot be discounted. The positive Widal reaction, the total hypoleucocytosis, and the previous clinical history are strong evidence in support of this view. It is this class of cases from which the most is to be feared in the dissemination of typhoid fever—that is, cases of typhoid fever which have not been recognized, and in which no effort is made to prevent the dissemination of typhoid bacilli by the fæces and urine. When such cases come under medical supervision they should be most carefully studied and every effort made to ascertain whether or not they are sources of danger. Until such measures are carefully instituted we may be sure that typhoid fever will continue to be an endemic disease of large proportions.

Measures looking toward safeguarding the avenues of infection of typhoid fever—such as water and milk supplies—are valuable, and should everywhere be put into operation, but we shall never strike at the root of the matter until more attention is paid to the destruction of the bacillus as it leaves the bodies of those suffering with or convalescent from the disease.

New York State Hospital for the Care of Crippled and Deformed Children.

The third annual report—for the year 1903—of this institution has recently been published. During the thirty-four months that the hospital had been in existence, with accommodation for only 25 patients, 52 patients have been received and treated during that period. Of this total, 33, or 63.46 per cent., were cases of tuberculous disease of the joints. Of the whole number treated 27 have been discharged. Of these, 55.55 per cent. were cured and 44.45 per cent. discharged as more or less improved, many of them practically cured. 51.92 per cent. of the whole number treated have been discharged.

The average time of treatment of the 27 patients discharged since the hospital opened its doors on December 7, 1900, has been one year, 3.6 months, and of the patients who are now in the hospital, the average residence is one year, four months.

On the first of October, 1902, there were 25 patients in the hospital. During the year ending September 30, 1903, 12 new patients were admitted. Of the 37 treated during the year, 24 were boys and 13 were girls, and of this number, 12, or 32.43 per cent. of the whole number, were discharged. Seven of these twelve were cured, and five were so far relieved, that in the opinion of the attending medical men, ordinary home cure, is in all probability, all that is necessary to complete the cure.

The report states that there were at least three hundred and fifty applications for admission during the past year, while the hospital will only accommodate twelve patients. Various sites for a new hospital are now under consideration which, when completed will hold a much larger number of patients. A new building is urgently needed, and considering the usefulness of such an institution, funds should be forthcoming to provide adequate accommodation for as many crippled and deformed children as is possible. The small hospital at Tarrytown has done excellent work, a proof that with extended facilities the good effected will be proportionately greater.

Probable Mode of Infection by the Filaria Perstans.

Dr. H. Charlton Bastian, in a short article contributed to the *Lancet*, January 30, calls attention to the No. 3 report of the British Royal Society Sleeping Sickness Commission, written by Dr. Cuthbert Christy. In this report it is pointed out that the distribution of Filaria perstans in East Equatorial Africa corresponds almost exactly with the area of "distribution of the banana cultivation and clothed people." Christy says "Wherever the banana is growing in the districts I have examined, there is found the Filaria perstans. What is more, it would seem that where the banana is most luxuriant there the inhabitants are most infected. The converse of this is also clearly correct; that is, where the banana is scarce there the percentage of Filaria perstans is small; and where there is no banana there is no Filaria perstans." The uses to which the banana is put are thus referred to: "The banana when fully grown is peeled, boiled, or steamed in an earthenware pot. The leaves are used for plates and dishes, for thatching houses, for clothing, for matresses to sleep upon, for pipe stems and many other things. Dr. Bastian states that nematoids are frequently to be found in the roots, stems, and leaves of plants, and that they are known to be found in the roots, at least, of the banana as it grows in Eastern Australia. From his own experience with wheat, feverfew, and the cucumber, and from information received from Australia with regard to the banana Dr. Bastian reaches the conclusion that the nematoid in question really belongs to the genus Tylenchus. The modes in which the natives use the different parts of the banana would make it possible for them to be infected either (1) through the skin, or (2) through the alimentary canal. In short, Dr. Bastian takes exception to the view now held that Filaria perstans infects directly through the skin, but is strongly of the opinion that the worms termed Filaria perstans are of the genus Tylenchus and infect through the alimentary canal.

Care of the Insane.

Despite all argument to the contrary, it would seem to have been proved almost conclusively that the number of the insane is increasing throughout the world. That such is the case in highly civilized countries, admits of no doubt. Statistics, although by no means always to be relied upon, are on this point so definite that they must be regarded as, to a large extent, trustworthy. In Great Britain at the present time a great hue and cry is being raised with regard to the physical degeneration of the race, but as the *Hospital*, January 16, points out. there is a tendency to neglect the equally serious mental deterioration which is assuming alarming proportions. The following figures, taken from the last British census returns, will show that the alleged increase of insanity is no idle dream: In 1871 there were, in England and Wales, 69,019 insane persons In 1881, 84,503; in 1891, 97,383, and in 1901 132,654.

But while insanity is thus on the increase, better methods of treatment have progressed *pari passu* and the asylum is not, as was once the case, the living grave of the insane person. Mental affection are treated with no small measure of success, and the man who has suffered from temporary mental aberration, and who for his relief has spent some time in an asylum, is no longer regarded as a marked person nor is his future wholly spoiled by the occurrence.

The most notable feature of the *Hospital* article is its advocacy of the employment of female nurses in the care of the insane. In some districts of Great Britain this system has been followed with much success. According to the *Hospital*, the admission is made by those who have had the longest experience, both in this country and abroad, that female nursing is preferable for sick and infirm men, and it is also believed by many that the presence of women in asylum wards obviates proportionately to the number and influence those regrettable personal conflicts which tend to occur from time to time when insane men are wholly attended by individuals of their own sex. There are, undoubtedly, many cases of insanity in which women are better fitted as attendants than men. On the other hand, a large class of insane persons require male nurses, as female attendants would not, by reason of their inferior strength, be able to restrain them when violent. Perhaps the best plan would be to have in every asylum a certain number of female nurses who could take charge of those patients deemed suitable for such care by the physicians.

Ludwig's Angina.

Dr. Gwilym G. Davis of Philadelphia writes in the February number of the *American Journal of the Medical Sciences*, on a case of Ludwig's angina.

The patient had had a bad tooth in the lower jaw for some time. A week previously the neck began to swell, and later the swelling rapidly increased, until on admission he was only able to part the jaws less than a centimetre; the tongue was thick, and filled the mouth, and it was also pushed upward by the swelling on the floor of the mouth. The neck was enormously swollen, the swelling extending from the zygoma above to the clavicle and sternum below, and from the edge of the trapezius muscle on one side to beyond the median line on the other. He had stertorous breathing, difficulty in swallowing, and could only talk in a whisper. Under primary anæsthesia, an incision was made in the line of the ulterior edge of the sternomastoid muscle, and two rubber drainage tubes passed parallel to the jaw and brought out near the median line. Only a very small amount—a few drops—of pus was obtained. The temperature was 101° F.; pulse 120; respiration 24.

An incision was made some distance below the angle of the jaw, and as soon as the deep fascia was opened a closed hæmostat was pushed ahead into the tissues and opened. In this way two passages were tunneled upward to beneath the lower jaw; also two across the neck, one curving upward toward the jaw, and the other downward toward the clavicle and sternum. Drainage tubes were placed in each, but no distinct collection of pus was found. However, on the fifth day after operation the discharge of pus was more free, and the patient was taking solid food. He was dismissed on the tenth day, with the discharge almost stopped, and his general and local conditions excellent.

In his comments on the case Dr. Davis says "Some authors regard the disease as resembling erysipelas. This seems to me to be only so to a small extent. I believe it to be a distinctly local condition, propagated by traveling by direct continuity of tissue, and capable of being relieved by free opening of the infected area." In the case dealt with by Dr. Davis there was a direct causal relation between the diseased teeth and the onset of the inflammation. This fact, together with the prompt subsidence of both local and constitutional symptoms, as the result of local treatment alone, all point to the disease as being a distinct local infection, and not erysipelatous in character. Complete anæsthesia is dangerous in these cases, and the safest course would be to use local anæsthesia or none.

A Cystoscopic Jubilee.—It is proposed to send a congratulatory cablegram to Prof. Max Nitze of Berlin on March 9, the twenty-fifth anniversary of the first demonstration of the cystoscope by him. The cablegram will be as follows: "Prof. Max Nitze, Berlin: Your colleagues and pupils congratulate themselves and the profession on the twenty-fifth anniversary of the demonstration of the cystoscope. *Vivat magister!*" All who desire to add their signatures to this message of congratulation, are requested to send at once a copy of the signature, with the city of residence (written in one line of paper not over four inches broad) to Dr. Ferd. C. Valentine, 31 West Sixty-first street, New York. Those sending names are asked to forward at the same time twenty-five cents for each word of signature and address.

News of the Week.

A Graceful Recognition of Prof. Robert F. Weir's Long and Valuable Services.—At a recent meeting of the Faculty of the College of Physicians and Surgeons, the Medical Department of Columbia University in the city of New York, it was unanimously

Resolved, That this Faculty desires hereby to express its great appreciation of the eminent services rendered to his alma mater by Robert Fulton Weir, M.D., a graduate of this college in the class of 1859, and an officer of the said college for the past thirty-six years. Twenty years ago Dr. Weir was appointed Professor of Clinical Surgery, and ten years ago he was called as Professor of Surgery to the seat in the Faculty from which he has lately intimated his wish to retire.

Dr. Weir's distinguished career as a teacher has been coupled with a career no less distinguished as a private and a public practitioner of surgery. He was for twenty-seven years visiting surgeon to the New York Hospital, and he has held the same office at St. Luke's Hospital, the Bellevue Hospital, and the Roosevelt Hospital. His colleagues on each side of the Atlantic have borne witness to his high professional repute by electing him President of the New York Academy of Medicine, President of the American Surgical Association, and Honorary Fellow of the Royal College of Surgeons of London. Of Dr. Weir's colleagues in this Faculty many have enjoyed the benefit of his teaching, and all unite in this proffer of sincere respect and hearty thanks.

Resolved, That the foregoing resolution be entered at large in the minutes of this meeting, and that a copy thereof be engrossed, signed by the President of the University and by the other members of this Faculty, and presented to Dr. Weir.

Nicholas Murray Butler, Ph.D., L.L.D.
Jno. G. Curtis, M.D.
William T. Bull, M.D.
M. Allen Starr, M.D., L.L.D.
Geo. S. Huntington, M.D.
T. Mitchell Prudden, M.D.
Edwin B. Cragin, M.D.
Walter B. James, M.D.

The Sanitation of the Isthmus.—The Committee on Medical Legislation of the American Medical Association, consisting of Drs. C. A. L. Reed of Cincinnati, Wm. L. Rodman of Philadelphia, and Wm. H. Welch of Baltimore, has addressed a request to President Roosevelt urging *First:* That a representative of the medical profession be appointed as a member of the Panama Canal Commission; *Second:* That Colonel William C. Gorgas, Surgeon U. S. Army, be appointed to such position; *Third:* That the committee be given a personal hearing on this question before the commissioners are finally selected. In support of this request the committee "urges that, under both of the French administrations at the Isthmus, the engineering problems themselves, to the chagrin of the medical profession of the world, failed of accomplishment largely through the frightful mortality among officers and laborers consequent upon lack of authority on part of medical officers entrusted with the work of sanitation; that the same conditions of insalubrity exist now that existed then, and that, consequently, the sanitary problems are to be recognized as second in importance, if second at all, only to those connected with the engineering department. As a consequence, the committee, in furtherance of the principle established by the Congress, urges that the technical skill involved in the solution of medical and sanitary problems be likewise invested with highest administrative au-

thority through actual representation in the personnel of the commission. This committee begs to add that it recognizes, and in the recommendations herewith submitted has been governed by the fact that the commissioners, to carry out the objects of their official existence, must possess administrative ability of the highest order; and that no person, whatever his technical qualifications, ought to be appointed who does not possess personal integrity, a knowledge of men, familiarity with affairs, acquaintance with values, the faculty of organization and executive ability backed by courage, both of the highest order. These qualifications exist in the medical profession as well as out of it, and the committee is assured that they are to be found in eminent degree in Colonel Gorgas, whose appointment is hereby solicited at your hands."

A Reserve Medical Corps for the Army.—A bill is now before Congress providing for an increase in the medical corps of the army. In addition to the Surgeon-General with rank of Brigadier-General, there will be 16 colonels, 24 lieutenant-colonels, 110 majors, and 300 captains or first lieutenants. It further provides for a reserve corps of medical officers available for military service. To this end the President of the United States is authorized to issue commissions as first lieutenants therein to such graduates of reputable schools of medicine, citizens of the United States, as shall from time to time, on examination to be prescribed by the Secretary of War, be found physically, mentally, and morally qualified to hold such commissions, the person so commissioned to constitute and be known as the medical reserve corps. The commissions so given shall confer on the holders all the authority, rights, and privileges of commissioned officers of the like grade in the medical corps of the United States Army, except promotion, but only when called into active duty and during the period of such active duty. Officers of the medical reserve corps shall have rank in this corps according to date of their commissions therein, and when employed on active duty shall rank next below all other officers of like grade in the United States Army. Contract surgeons now in the military service, who receive the favorable recommendation of the Surgeon-General of the Army, shall be eligible for appointment in the reserve corps without further examination. In emergencies the Secretary of War may order officers of the medical reserve corps to active duty in the service of the United States, in such numbers as the public interests may require, and may continue such officers on such duty so long as their services are necessary. Officers of the reserve corps will be entitled to the pay and allowances of first lieutenants of the regular medical corps, with increase for length of service now allowed by law, income to be computed, however, only for time of actual duty. No officer of the medical reserve corps will be entitled to retirement or retirement pay; nor will he be entitled to pension except for physical disability incurred while in active duty, and in line of duty. This bill has received the approval of Secretary Taft, and will doubtless be passed by the Senate and House.

The Study of Leprosy.—The Board of Health of Hawaii some time ago formulated a plan for the systematic study of leprosy at the settlement of Molokai. The plan included a request for an appropriation from Congress for suitable provision for a bacteriological laboratory at the leper settlement, and for residences for investigators. The Territory of Hawaii would provide maintenance and assistance, and an invitation would be sent to the leading institutions and societies in the world which provide for original research into such subjects, to send capable investigators. Surgeon-General Wyman, in pursuance of the same object, has invited Dr. Charles B. Cooper of the Board of Health of Hawaii, Dr. J. F. Smith, secretary of the Superior Board of Health of San Juan, P. R., and Dr. J. C. Nolte of the State Board of Health of Louisiana to become members of a committee to undertake an exhaustive investigation and study of leprosy. This committee is to suggest lines of investigation to competent observers willing to undertake the work, and also to collate the results of experiments and observations made in connection with its work, and to report at suitable times on the progress of the work.

Centenarians and More.—Sophia Gab, probably the oldest woman in Chicago, died there last week. She was supposed to be 129 years old. Born a slave, she spent most of her life on a plantation near Richmond, Va. When released from slavery during the Civil War she was eighty-seven years old. A still more remarkable story of longevity is contained in the notice of the death of Noah Raby in New Brunswick, N. J., on March 1. It is asserted, with much circumstantiality, that he was born in Gates County, N. C., on April 1 (significant date!), 1772, so that had he lived one month longer he would have been 132 years old. He entered the United States Navy about as soon as the United States had a navy, and after serving for a number of years, was honorably discharged in 1809. He never married, but had smoked and chewed tobacco for 122 years, and had at one time been a heavy drinker.

For Superintendent of the State Hospital for Consumptives.—Only two of the five candidates passed the recent State Civil Service examination for the position of superintendent of the new State Hospital for Consumptives, to be located at Raybrook, in the Adirondacks. The successful candidates were Dr. John H. Prior of Buffalo, who is a member of the board of managers of the institution appointed by the Governor, and Dr. Frederick L. Hills of Binghampton. The salary of the position is to be $3,500 a year and maintenance. The three applicants who were unsuccessful on the examination passed the written test, but failed, it is said, in the practical part, which included the physical examination of patients and diagnosis of the disease.

Against Patent Medicine Portraits.—A bill has been introduced into the New York Assembly, the purport of which is to prohibit after May 31 next the publication by any newspaper or other public periodical except medical or surgical journals, of "any picture, device, or representation of one or more man, woman or child, or of the features or any part or parts of the human body in connection with or as part of any advertisement of any patented medicine, drug, or surgical instrument." We hope the bill will not pass, for we should miss the pictures of the hearty whole-souled gentleman who has lost and found his manhood, and of the sweet young thing whose bowels have been moved by something more tangible than compassion, and of the placid, white-haired octogenarian whose functions have been miraculously regulated by the vegetable compound of a lately deceased benefactress of her sex.

New York Antitoxin in Chicago.—A number of druggists, it is said, have applied to the director of the Chicago municipal laboratory for permission to handle the antitoxin secured by the city health department. They will sell the remedy at 75 cents for 1,000 units, $1.25 for 2,000 units, and $2.25 for 3,000 units. The Chicago Health Department has lately been getting its supply from the New York Board of Health, on the plea that the regular manufacturers charge too much. The question of propriety of the

New York Board of Health supplying Chicago with antitoxin for free distribution to the poor might be open to discussion, but there can be none concerning the impropriety of furnishing the druggists with the remedy for sale to the general public.

A Bill to Abolish the Officer of Coroner.—A bill has been introduced by Senator N. A. Elsberg into the New York State Senate providing for the abolishment of the office of coroner in New York City upon the expiration of the terms of office of the present coroners, and enacting a bureau of medical examiners in the department of health to exercise the powers and perform the duties now lodged with the coroners. The bill provides for one chief medical examiner, and other medical examiners not to exceed six for the borough of Manhattan, four for the borough of Brooklyn, and two each for the boroughs of the Bronx, Queens, and Richmond. These medical examiners are in the first instance to be appointed from the coroner's physicians in office when the change is made, and afterward from the eligible lists prepared by the Civil Service Commission.

Mt. Sinai Alumni Association.—The seventh annual reunion and dinner of the Associated Alumni of Mount Sinai Hospital was held at the rooms of the Freundschaft Society, Seventy-second Street and Park Avenue, on Wednesday, February 17, Dr. G. L. Brodhead presiding. The following officers were elected for the ensuing year: *President*, Dr. Edwin Sternberger; *Vice-President*, Dr. Charles Goodman; *Secretary*, Dr. Leo B. Meyer; *Treasurer*, Dr. Eugene H. Eising.

Junior Staff for Orange Hospital.—The work of the Orange Memorial Hospital has grown so rapidly that it has been found necessary to enlarge the corps of physicians and surgeons. In order to meet this contingency, the board of governors of the institution has appointed a junior staff, consisting of Dr. Douglas Aymar Cater, Dr. Edgar Calvin Seibert, Dr. Walter D. Dodge and Dr. Linn Emerson of Orange; Dr. A. W. Bingham, Dr. Stephen G. Lee and Dr. C. R. Neare of East Orange, and Dr. Richard D. Freeman and Dr. Henry A. Pulsford of South Orange. It will be the duty of these physicians to act as assistants to the senior staff, and in addition they will take charge of and develop special departments in the hospital.

The Jenkins Medical Association held its regular monthly meeting on Thursday evening, February 25, at the residence of Dr. Edward F. Brush, Mayor of Mount Vernon, N. Y. The paper of the evening, entitled "Scientific Infant Feeding," was read by Dr. H. D. Chapin of New York. After adjournment an elaborate banquet was served. Among those present were Drs. E. J. Harrington, Robert T. Howe, Henry Moffat, Jas. T. Gibson, A. M. Campbell, Edw. Duffy, F. W. Shipman, W. D. Granger, G. S. Mooney, O. L. Austin, E. M. Hermance, J. A. Knapp, A. C. Benedict, N. A. Warren, A. F. Currier, J. W. Bowden, and H. E. Smith, all of Westchester County, and Drs. H. D. Chapin and Wm. M. Leszynsky of New York.

Congressman Baker's Freak Bill.—Mr. Robert Baker, Representative in Congress from the Sixth New York District, writes us disclaiming all responsibility for the absurd bill, one provision of which—that, namely, establishing a department of public health—we quoted in a recent issue. The bill was introduced by him, he says, on request of Mr. Cowdon of Washington. Mr. Baker refuses to stand sponsor for it, for he writes that he is an individualist and is opposed to every form of paternalism in government.

Diphtheria on a Warship.—A telegram from San Juan, P. R., dated February 25, reports that an outbreak of diphtheria has occurred on board the United States training ship *Monongahela*. The entire crew has been ordered ashore, and the ship will be disinfected. Twenty-two cases of apprentices suffering from sore throats are under observation in the tents of the Marine Hospital.

Jubilee of the Class of '79, Coll. P. & S.—The twenty-fifth anniversary of the graduation of the class of '79 of the College of Physicians and Surgeons was observed by a dinner at the Hotel Manhattan last Saturday evening. There were ninety-nine members in the class, of whom about one-fourth are now dead. The president of the class, Dr. T. Dwight Palmer, is dead, but the secretary, Dr. William F. Wright of Manhattan, and the marshal, Dr. Everett J. McKnight of Hartford were present.

Reporting Cases of Contagious Disease.—Scarlet fever, measles, and diphtheria are prevailing to an unusual extent in this city now, and it is said that many cases occur that are not reported to the Board of Health. In order to jog the memories of those who forget to notify the Bureau of Contagious Diseases, the Health Commissioner has announced that the rules of the department are to be strictly enforced, and all physicians have been warned to report every contagious case that comes under their notice, or else suffer the penalty of a fine.

The Mount Sinai Hospital.—Preparatory to removal of the hospital to its new buildings at Fifth avenue and One Hundredth Street, the admission of patients at the old hospital has been discontinued. A reception will be held at the new buildings on the afternoon and evening of March 15 and 16. On the following Monday patients will be admitted to all departments.

New Hospital in Porto Rico.—The Presbyterian Hospital of San Juan was opened on February 27 with appropriate ceremonies. The hospital cost $20,000, which was raised in New York. Governor Hunt delivered an address.

Hospital Cars for Consumptives.—An innovation in train operation will soon be put into effect on the Santa Fé Railway, between Chicago and Kansas City, to Colorado and New Mexico health resorts, and to California points, over practically the entire system. This will consist in the running of hospital cars at intervals on through trains. These cars will be specially equipped, and no one except sick persons will be allowed to ride in them. At the same time consumptives will not be allowed to occupy seats or berths in the Pullman coaches. The care of consumptives has always been a burden to the railroads. After a berth has been occupied by a consumptive, it must remain unoccupied until the end of the run, when it is disinfected.

First-aid Material on Railways.—The Pennsylvania Railroad has ordered "first aid to the injured" boxes and stretchers to be carried on all baggage, mail, express, work, and wrecking trains. They will also be kept in yards and stations.

Dr. W. P. Northrup delivered the annual address before the J. C. Wilson Medical Society (composed of undergraduates and graduates) of Philadelphia on February 19. The subject was: "Joseph O'Dwyer, M.D.: His Methods of Work: The Measure of His Success: the Interest of Both to Young Graduates."

No Municipal Training School for Nurses in St. Louis.—The nurses for the City Hospital at St Louis are drawn from the St. Louis Training School, but recently an ordinance was introduced in the City Council asking for a municipal training school for

nurses. Only nurses recommended by the St. Louis Training School are accepted in the City Hospital, and this discrimination against outside schools has aroused considerable controversy. The ordinance introduced was intended to overcome this discrimination. Assistant Health Commissioner Francis and Dr. John Young Brown, Superintendent of the City Hospital, after a conference, decided that the present system is satisfactory, so the ordinance will be withdrawn.

Dr. Francis Delafield, who has been ill with lobar pneumonia for several days, is, his many friends will be pleased to know, doing well, and all indications point to an early recovery.

Dr. Frederick Peterson has sent to Governor Odell his resignation as a member of the State Commission in Lunacy. Dr. Peterson is president of the board. It is understood the resignation may not take effect for some time.

Typhoid Fever in West Virginia.—The health authorities of West Virginia are endeavoring to cope with a grave epidemic of typhoid fever in the mill district at Benwood. The disease is raging in the foreign settlement, and the Slavs are crowded so closely together and are so hard to deal with that the health department is totally unable to bring about sanitary conditions. Forty and fifty Slavs have been discovered sleeping in one small apartment, the beds being run on double time, the night force having possession during the day and the day mill hands coming in for the night.

Dr. H. J. Bogardus, for some time one of the surgeons to the New York Orthopedic Dispensary and Hospital, has been appointed surgeon to the orthopedic department recently established at Christ's Hospital, Jersey City.

Drs. Stella Stevens Bradford and N. Gilbert Seymour have been appointed by the trustees, Clinical Assistants to the Tuberculosis Clinic, Outpatient Department of Gouverneur Hospital.

Dr. H. J. Strack of Cincinnati was recently appointed District Physician for the Sixteenth Ward, to succeed Dr. Paul DeCourcy, resigned.

Measles Epidemic.—At the Home for the Friendless in Cincinnati fourteen of the twenty babies in the institution are suffering from measles. The disease was introduced by a child returned from the Cincinnati Hospital, which broke out with the disease three days after its arrival.

Gift of a Hospital.—James La Bouteaux, a wealthy farmer of Delaware County, Ind., has presented his county with $20,000 to build a county hospital, the only condition being that it be named for his deceased wife, Huldah La Bouteaux.

Dr. Ogden C. Ludlow, a valued member of the MEDICAL RECORD staff, has been suffering for some weeks from typhoid fever. The disease has been of comparatively mild form, and we are very glad to be able to announce that he is now practically out of danger.

Columbus Typhoid Epidemic.—The number of cases of typhoid fever in Columbus, Ohio, this winter has reached 1,500, with a death rate of 8½ per cent., 123 being the total number of deaths.

Kentucky Medical Bill Passed.—The House of Representatives at Frankfort, Ky., has passed a bill recognizing the regular school, also the Homœopathic, Eclectic, and Osteopathic Schools of Medicine on the State Board of Health and the State Board of Medical Examiners. The bill now goes to the Governor for approval.

Prize Essays on Tropical Diseases.—The prizes in the gift of the *Journal of Tropical Medicine* for essays on subjects connected with tropical diseases have been awarded as follows: The Belilios Prize of £10, for the best essay on "The System of Drainage and Sewerage (Domestic and Municipal) Best Suited for Tropical Climates," has been awarded to Major F. Smith and Captain J. W. Cornwall. The Lady MacGregor Prize of £10, for the best article on "A Critical Examination of the Practical Value of Antityphoid Inoculation," has been awarded to Major F. Smith. The Sivewright Prize, for the best essay on "Intestinal Affections in Warm Climates," was not awarded.

A Dinner to Dr. D. B. St. John Roosa.—On Tuesday evening a dinner was given at Delmonico's in honor of Dr. D. B. St. John Roosa and also to commemorate the inauguration of post-graduate medical instruction twenty-one years ago, with which Dr. Roosa has been so prominently identified.

The occasion was one long to be remembered by the large number of representative medical men present from this and other cities. Old and young practitioners who had not met for years gathered around the festive board and united in cheering and congratulating the recipient of the honors of the hour. When a loving cup was presented to Dr. Roosa by Dr. Andrew H. Smith on the part of the faculty of the Post-graduate Medical School, the entire audience arose and testified its appreciation of the sentiments which prompted the gift.

The toasts offered were also in keeping with the purposes of the gathering and in the main were confined to topics bearing on the progress and prospects of the higher medical education.

Dr. Wm. Osler of Johns Hopkins University presided, and in his usual felicitous manner made the introductory speech, taking for his subject the "general requirements of the medicine of the future." Among the things that had been already accomplished was the making a medical education a part of the University course, thus awakening the public to the need of higher medical education, also the establishing on a sound basis the National Medical and State Associations, and taking from the schools the former control of the profession. The duties now before the profession were to make places in the hospitals for the third and fourth-year students, and to establish schools for investigation in every medical department. He confidently believed that the time would come when there would be a merger in medical teaching, and that each of the smaller cities at least would have but one medical school instead of wasting time, money, and energies in striving to operate three or four weak and inefficient institutions. Interstate reciprocity was also a necessity, each State having a common standard of requirements for medical license.

Dr. Clarence J. Blake of Boston spoke on the "need of post-graduate instruction for the specialist," and the necessity for a high standard of requirements in these advanced branches of study

The "Need of Post-graduate Study for the Surgeon" was the subject treated by Dr. William J Mayo of Rochester, Minn. He gave a very interesting account of the progress of post-graduate study in the Northwest, and proved how much could be accomplished by singleness of purpose and earnestness of effort on the part of men determined to make the most of limited opportunities. The "need for increased endowment for medical institutions" was exhaustively discussed by Dr. W. W. Keen of Philadelphia. In a stirring address he graphically illustrated the mere commercial value of medical research by proving what had been accomplished in guaranteeing communities against smallpox, yellow fever, plague, cholera, and typhoid fever. "But a few years ago a single case of cholera down the bay meant millions

lost to your merchants. To-day a case does not create a ripple of excitement, because the community knows your medical men have these diseases by the throat.

"Our work in Cuba has been epoch-making, and the merchants from New Orleans to New York are reaping the benefits of this unselfish labor. To-day in India 100,000 persons a year are offered up on the altar of the plague, yet our work has diminished the susceptibility to that disease 77 per cent.; and we believe the day is coming when the plague, like yellow fever, will be wiped out."

Mr. William Potter of Philadelphia, as the only layman among the speakers, offered a graceful tribute to the unselfish labors of the profession in the matter of disease prevention and of the great value to the community of institutions for medical research. Then followed Dr. W. M. Polk, who spoke upon "civic pride in medical institutions", and convinced his hearers that no such condition existed as yet in New York and would not until the medical colleges arose to better opportunities for progressive usefulness. Lastly, Dr. Roosa gave a review of twenty-one years of post-graduate work, and concluded his address by a graceful and touching allusion to the kindly spirit that had actuated the gathering.

Obituary Notes.—Dr. WILLIAM RANKIN, Jr., for over thirty years a practising physician of Newark, N. J., died at his home in that city, on February 26, aged fifty-six years. He was a graduate of Rutgers College in 1868, and of the College of Physicians and Surgeons in this city in the class of 1871, and also studied in Vienna. He was for years on the visiting staff of the Newark Charitable Eye and Ear Infirmary, and Secretary of the old Newark Library Association, and a member of the American Ophthalmological Association, the American Otological Association, the New Jersey State Medical Society, and the Essex District Medical Society. A son and two daughters survive him.

Dr. GEORGE W. NEVILLE, a pioneer physician and preacher, and a Union leader in the days of border fighting, is dead at Bethel, Kan., aged eighty-two years. At the beginning of the Civil War he recruited the second battalion of Missouri State Militia, and in 1862, with one hundred recruits, he repulsed an attack upon Harrison Mills, Mo., by three hundred of Quantrell's guerillas.

Dr. MARCUS HENRY SLOSSON, one of Cincinnati's oldest physicians, died at his home in that city on February 22 at the age of eighty-five years. He was at one time Dean of the Pulte Medical College.

Dr. R. J. WILDING of Malone, N. Y., died suddenly on February 24, of heart disease, at the age of sixty-nine years. He was born in England and was a licentiate of Apothecaries' Hall, London, in 1856.

Dr. OTIS AVORY, ninety-six years old, without doubt the oldest practising dentist in the world, died on February 22 at Honesdale, Pa., where for more than half a century he had practised his profession. Probably the first dental diploma or certificate ever issued was given to Dr. Avery on December 6, 1833, by Dr. Ambler of this city. Six years later, in 1839, the first dental college in the world was established in Baltimore.

Dr. DAVID D. TOAL died at his home in this city on February 26, at the age of sixty-six years. He was born in Ireland, but was brought to this country when two years old. He was a graduate of the New York University Medical College in the class of 1867.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

CONFISCATION AS A MEDICAL REFORM—THE VISION IN RHEUMATOID ARTHRITIS—CANCER AT THE THERAPEUTICAL SOCIETY—MR. BALFOUR—MEDICAL ATTACHES FOR THE WAR—ASYLUMS BOARD—ROYAL ARMY MEDICAL CORPS PARLIAMENT.

LONDON, February 12, 1904.

A MONTH ago I mentioned to you a proposal to confiscate the right of medical men to dispense. The suggestion seemed so absurd and was accompanied by such a monstrous provision penalizing men for using rights to obtain which they had expended much time and money that most people at first regarded it as a mad project undeserving of any serious attention. Nevertheless it has not been abandoned, and our branch of the British Medical Association is going to hold a discussion upon it. Meantime it has been talked about in some quarters, and the *Lancet* has uttered a mild but quite distinct disapproval and admitted correspondence showing the folly of the scheme.

There are some other instances of mischievous meddling by the so-called ethical committee of the association, but few such outrageous proposals as this—to fine a practitioner £100 the first time he dispenses his own prescription and exclude him from the register on a second offence against this proposed confiscation of his rights. It seems incredible that educated men in this century should make themselves responsible for such a project. Yet it would appear that a few consultants, with probably little to do and eaten up with the notion of their own importance and the dignity of their profession, have come to the conclusion that dispensing tends to degrade a doctor and diminish his social importance. Poor victims of their self-conceit! Can they really suppose that they would improve their position by dishonestly depriving others of their rights? In many cases such deprivation would mean ruin, and if the advocates of the scheme do not know this they should be ashamed of their ignorant meddling with things which they do not understand.

As I have said before, there is no fear that Parliament will entertain such a scheme of confiscation for no benefit whatever to the public, and only the persistence of a few foolish persons could make it worth a moment's consideration. But that persistence makes it necessary to speak out. Some quote the law in France and elsewhere. I have had the opportunity of seeing the state of the profession in most continental countries, and I assert that the English system is in all respects preferable. But I have not space to argue the matter at length to-day. The bare proposal should rouse the general practitioners from their dangerous apathy, for it reveals how little some care for his rights—to say nothing of his welfare. They have already given away much by establishing midwives as an inferior order of practitioners. They are about to do nearly the same with nurses, and unless the general practitioner wake up and assert their rights they will soon be deprived of more. One member of the association has given notice that he will propose the adjournment of the discussion to 1909. He might as well say 2009. But the direct negative would be best and should be voted by a great majority, leaving the proposers alone in their naked selfishness and dishonesty.

Patients with rheumatoid arthritis often suffer with various anomalous symptoms which may or may not seem specially connected with the disease. It is noticeable, therefore, that cases are often recorded in which such symptoms are spoken of as associated with the rheumatoid affection. A paper at the Ophthalmological Society was read on the 28th ult. by Mr. W. M. Beaumont of Bath, in which he stated his observations on eye symptoms in such patients, and called special attention to contraction of the field of vision—a symptom of rather common occurrence. But he also mentioned transient obscurations of vision, ephemeral palsies of the external ocular muscles, anæsthesia of the conjunctiva or the cornea as not infrequent. He compared compound charts of male and female patients—twenty-four of the former and fifty of the latter—and found them alike, thus excluding hysteria as a cause of contraction of the field. He constructed these charts by noting the number of degrees from the fixation point outward in the twenty-four men, adding together and dividing by twenty-four to get the mean. The other meridians were treated in the same way, and thus an average field obtained. The same process was adopted for the fifty women. He found among his rheumatoid cases no central scotomata, no evidence of optic atrophy, no more than a proportionate contraction of the color

field. He commented on the Raynaud-like symptoms which sometimes were present and referred to Dr. Samuel Lodge's observation of contraction of the field in Raynaud's disease. He suggested that the contracted field might be due to the syncopal condition of the terminal retinal vessels. Further he showed diagrams of the field of vision in rheumatoid arthritis to prove that expansion of the field took place under the inhalation of amyl nitrite, whereas in healthy people no such expansion occurs.

With regard to the recent researches on cancer, some of which I have noticed in previous letters, I may now remark that Professor Farmer has communicated a paper to the Therapeutical Society which Sir Wm. Dyer, president, pronounced most valuable, adding that it proved how useful the science of Botany might be made to the medical profession. In the paper Professor Farmer epitomized the results of his researches in collaboration with Messrs. Moore and Walker, which show that cancer cells differ in development from normal somatic cells and the cells of other tumors, and resemble in a remarkable manner that of the reproductive cells. In both plants and animals the nuclei of the somatic cells divide longitudinally into rods or chromosomes, while those of reproductive cells divide transversely into oval or ring-like chromosomes, forming only half the number of those of the somatic cell nuclei. Cancer cells divide like these and possess the power of destroying somatic cells in contact with them, as is the case in the embryo sac of plants. This type of division will be found in some cells of all malignant growths, but not in the benign. Sometimes the somatic cells of plants change by this mode of division into reproductive cells, the cause of which has not been ascertained. The anomalies observed in malignant growths may obscure, but do not affect the change; they may perhaps be due to nutritional and other disturbances which are known to affect the nuclei of normal cells.

Dr. Wild asked whether the heterotypical division is met with in rodent ulcer or thyroid tumors. Dr. Rolleston said cells had two functions, metabolic or anabolic, but when the former is in excess they increase tumultuously and destroy other tissues, as in malignant disease. He asked if the heterotypical division had been found in the preliminary stage of mammary cancer. Sir H. Beevor remarked that the leaves of Begonia when bruised produced new plants, and asked if their cells exhibited similar change, to which query Professor Farmer was able to reply negatively, but in regard to this and other questions further investigation is necessary.

The Asylums Board has decided to expend £50,000 in building a new training ship to accommodate 600 boys.

The revaccination bill cannot come on before April. Other bills of interest to the profession are equally unfortunate in the ballot. The Government will introduce a bill to amend the Public Health Acts.

The Central Midwives Board professes itself unable to add the training of the Rotunda to its recognized curriculum, as the rules have been approved by the Privy Council. The board knew that the Rotunda was the first school of midwivery in the United Kingdom, or if not it was unfit for its duties.

Our Government is sending medical attachés to the seat of war to observe and report on the medical aspects of the struggle on both sides.

The Prime Minister has passed through his influenza satisfactorily. With the sanction of Sir D. Powell and Dr. Venning he will leave London for a ten-days' holiday in the country.

The Countess Howe distributed the prizes at the annual meeting of the London Volunteer Companies of the Royal Army Medical Corps, and unveiled a tablet recording the names of eighty-six members who served in South Africa. It seemed specially appropriate for her ladyship to perform this duty, as more than half the men named on the tablet were in the Imperial Yeomanry Hospital and Bearer Company, the origination of which was due to the countess. At the conclusion of a little speech Lady Howe asked leave to present a silver cup for proficiency in hospital duties.

The Teeth as a Factor in Digestive Diseases and Disorders.—J. A. Storck thinks that during dentition disturbances of the stomach and bowels increase in frequency. Cases of indigestion due to the neglect of the temporary teeth are frequent. If deformities of the vault, palate, and teeth are corrected in early infancy, much discomfort may be avoided and the patient saved from becoming a chronic dyspeptic. Bacteria multiply in a dirty mouth and tend to cause a loss of appetite. Digestive disturbances often disappear after proper care of the teeth.—*New Orleans Medical and Surgical Journal.*

Progress of Medical Science.

Journal of the American Medical Association, Feb. 27, 1904.

Table Wines: Are Their Use to Be Encouraged?—H. O. Marcy refers to the fact that water in fluids submitted to low temperatures becomes ice crystals entirely free from admixtures which the fluids contain. Newly-made wines submitted to this process part with their bulk without loss of their alcoholic or other essential qualities. Fruit juices submitted to the same process are easily concentrated in the most remarkable degree. Most delicious beverages can be made of these. They are beneficial, retain the flavors of the fruit, and their use is to be encouraged, as they are likely to lead to a lessened use of tea, coffee, and especially alcoholic stimulants. In the place of table wines as now used by the comparative few, and now believed to be demonstrative of positive injury when habitually taken, there will be furnished to the many the fresh juices of the grape and other fruits, which, constantly used from youth to old age, will be found healthful and invigorating.

Report on Two of the Children Operated on by Lorenz.—Detailed notes of the cases are given by H. M. Sherman. In one case the left thigh was found flexed on the pelvis to about a right angle, and abducted till it lay in the frontal plane of the body. Neither outward nor inward rotation was apparent. The leg was flexed on the thigh, but could be extended. In other words, the limb was in the attitude in which it was put in the plaster dressing by Lorenz. There was some atrophy of the muscles of both the thigh and leg. The femoral artery could not be compressed between the finger and the femoral head, as is normally the case, but the head was recognized external to the artery, and more superficially placed than usual in a position beneath the anterior superior iliac spine. The greater trochanter was in a plane posterior to that in which the head lay. It was placed at the level of the acetabulum. Whether or not it lay in the same frontal plane as the acetabulum could not be determined The head was in a subcutaneous position in the outer part of Scarpa's triangle, while the trochanter was somewhere behind and internal to it. The condition was not one favorable to any stable support of the pelvis on the femur, and an operation was done by the author, who fully describes it. He does not see how the patient was at all benefited by the Lorenz operations. In the second case, palpation following the removal of the splint showed the head of the femur to be in the outer part of Scarpa's triangle and very near to the skin. There was a little active motion, and more passive motion. The child had walked in his splint, but could not do so after the splint's removal. The conditions, on examination, were so similar to those in Case 1 that the author presumed the same amount of mischief was done, that the capsule had been torn and the head thrust through the rent out into the surrounding muscles, that around it had developed an adventitious thin capsule, and that the untorn portion of the capsule reached up behind the head to the upper part of the neck near the trochanter, while the acetabulum was still closed by the capsule stretched across it, from rim to rim. The author then describes the conditions found four months later, the leg having meantime been in use, and he cannot see in this case that the Lorenz manipulations have been of any material benefit. Skiagrams taken immediately on the removal of the Lorenz plaster splints illustrate the author's contentions.

Medical News, February 27, 1904.

The Internal Treatment of Diseases of the Bladder.—Louis Stern calls attention to the merits of the drug helmitol. His experience with its use has extended over six months. He finds that it can be given in much larger doses than urotropin, without exciting irritation, and that it is more uniform in its action. The reaction of the urine seems to exert no influence upon its sterilizing effect, and this factor can be ignored during its administration. In most of his cases the writer has had no opportunity to make thorough examinations of the urine, so he has not been able to determine its degree of antiseptic power. In cases in which the urine was turbid and filled with mucus or pus, it rapidly cleared up and lost its offensive odor. The drug seems to have some pain-relieving quality, for even before the urine had become perfectly sterile the tenesmus was often greatly diminished.

Chloroform in Labor.—Edwin Ricketts believes in the value of chloroform in labor. He quotes Simpson's rules for its use at this time. The inhaler should never be allowed to rest on the patient's face. The anæsthetic should be often replenished on the inner surface in 5 to 10-drop applications. Before administering the drug, the patient's confidence should be gained. The drug should never be forced on a patient. The patient should be in-

structed how to breathe it in slowly, and shallowly at first. Previous administration of morphine or whiskey is seldom necessary. Tongue forceps are an abomination. Anointing the face is unnecessary. The face should not be covered with a napkin or handkerchief, but the cloth should be held in the hollow of the left hand of the anæsthetist. The facial expression, the color, pupils, and breathing of the patient can then be kept under observation. The writer believes that pulmonary tuberculosis, with any of the heart lesions, diabetes or albuminuria are not contraindications to the use of chloroform.

Thrush.—H. Illoway, in describing this disease, says that though most often a trifling affection, that is readily cured with the aid of some simple remedy, it may nevertheless at times become a very serious trouble—serious enough to take the life of the child. It is known that the disease may develop in an infant otherwise healthy and with an oral cavity in a normal state. The parasite is always introduced from without. Even in many grave cases of gastrointestinal disease seen by the writer, careful attention to hygienic requirements wherever faithfully given, prevented its development. The infant thus afflicted will not or cannot nurse. As a consequence inanition soon sets in and a rapid deterioration of vitality ensues. In earlier years the writer used the hyposulphite of soda in combination with glycerin and distilled water. This was given internally, and applied topically with a large camel's hair pencil. In severe cases he uses half a drachm of tincture of iodine in three and one-half drachms of glycerin. This mixture is applied with a large camel's hair pencil to the tongue, gum, and cheeks. The effect is remarkable, the parasite apparently melting away.

New York Medical Journal, February 27, 1904.

Frontal Sinusitis and Ophthalmoplegia Interna Partialis.—H. M. Fish gives the histories of five cases, and concludes that the most constant symptom in frontal sinus disease, and hence the one most complained of, is eye-strain or asthenopia due to a paresis of accommodation, and this holds true with both acute and latent sinus disease with exacerbations. In general, he concludes that ophthalmoplegia interna partialis coming on suddenly, appearing at different intervals and of variable degrees (position of near point changeable) in an emmetropic eye, or one made so by correction, when not attributable to some known cause, is very suggestive of a sinus involvement.

The Comparative Digestibility of Raw, Pasteurized, and Sterilized Milk.—T. M. Price has made a series of six experiments by feeding to calves milk in the three forms indicated in the title of the paper. In all but one of the series the digestive coefficients were in favor of the raw milk. Sterilized milk, which is generally supposed to constipate, produced the opposite effect in the calves. He admits that it is difficult to determine without further experiments how these results would compare with the results from these same varieties of milk when given to infants. There is a wide difference between the digestive organs of calves and infants, and the former are less sensitive than the latter, but any milk condition which proves harmful to the calf should certainly be looked upon with suspicion with reference to the human infant.

The Necessity of a Reliable Sign of Complete Anæsthesia.—C. S. White does not believe that we have any reliable sign of complete anæsthesia. The loss of the corneal reflex is unreliable. The condition of the pupils cannot be relied on. He states that in several instances coming under his personal observation, the anæsthetic was given slowly but the pupils did not contract, although the patient was undoubtedly under the influence of chloroform, and in another instance, in order to keep the patient relaxed, the iris was scarcely visible and did not react to light, while the pulse remained good and no especial evidence of shock was reported subsequently. Simply because the patellar reflex is lacking or the jaw clonus is present, we cannot say that a pathological condition exists. The rule holds good with the action of the pupil. Occasionally the pupils are irregular, and in another instance adhesions may be an obstacle to the free action of the muscle, and in highly nervous or sensitive individuals, the iris may be most capricious. All in all, this is a guide that is far from infallible and entirely too much confidence is placed in it. A sign which has appeared more constant, is the stretching of the sphincter ani; the patient if deeply anæsthetized remains perfectly quiet and breathes naturally during this period; but for obvious reasons this test is not applicable in all cases.

American Medicine, February 27, 1904.

The Treatment of Cervical Adenitis.—F. S. Bulkeley concludes his paper with the following summary: Many cases of cervical adenitis will be seen in which the avoidance or minimizing of scar is of great importance, and in which radical operative measures are not demanded. In such cases aspiration, or the use of a seton, or both, while not infallible, may prove successful. While such measures might be successful in cases of tuberculous glands, they are attended with possible dangers, and when tuberculous glands do not subside under medical treatment, excision, done with extreme care and reasonably early, is the method of choice. Neither aspiration nor the use of a seton should be resorted to in cases involving the deep cervical glands.

The Pathology of Leukæmia.—Edward T. Williams declares that as there are two distinct forms of leucocytes, originating respectively in the marrow and lymph-glands, pathology shows that there are also two distinct forms of leucæmia, according as the primary disease (leukosis) is seated in the marrow or glands. In medullary leukæmia, the commoner of the two forms, the primary disease is in the marrow. The red marrow loses its color and becomes whitish pus-like (pyoid). The microscope shows a marked hyperplasia of marrow cells of all types. The eosinophiles particularly are present in large numbers. Among these are numerous spermin crystals, the common products of decomposing nuclein. The red corpuscles are diminished in number with an unusual preponderance of erythroblasts, as in pernicious anæmia. Secondary deposits of the same character are commonly found in the spleen and lymph-glands, and often in the liver, kidneys, lungs, and other organs. The blood is always surcharged with the same elements. Lymphatic leukæmia is a rarer disease and differs essentially from that just described. The primary affection is in the lymph-glands. These glands are enlarged, whitish on section, and overloaded with lymphocytes. No form of marrow cells or eosinophiles is found in lymphatic leukæmia. Secondary deposits of a similar character are found in the spleen and marrow, and sometimes in other organs. The blood is surcharged with lymphocytes, great and small. These facts seem to prove the duality of the leucocytes.

Retroperitoneal Infection a Result of Appendicitis.—I. S. Stone after concluding that very many fatal cases of appendical disease are directly due to retroperitoneal infection, considers the question of the spread of infection to the deep-seated tissues and organs in question. It may proceed directly through the peritoneum to the cellular tissue behind from an intraperitoneal abscess (necrosis). It may reach the cellular tissue from a rupture (perforation) in a congenitally displaced appendix (retrocæcal), or rupture into the mesoappendix, and this may be accomplished without intraperitoneal infection. Infection may travel by way of blood or lymph channels. Communication between the appendicular and the portal veins by way of the ileocolic and splenic veins is direct, and accounts for many of those dangerous infections of the liver and other organs. The direction of the diseased appendix has much to do with the results of its infection and possible perforation. Persistent high temperature and quick pulse after appendicectomy should always suggest "posterior" complications. In the "delayed cases" such symptoms are very significant. When retrocæcal or retroperitoneal infection is suspected as a complication of appendicitis, a careful search for the infected area, as a rule, should be made, and drainage by the posterior route be provided whenever practicable. In certain septic cases, investigation of the retroperitoneal space should be made with the same care as that of the cavity of the peritoneum. Every "delayed case" should be considered with anxiety, lest there should be retroperitoneal infection. A guarded prognosis should be given in every case of appendicitis ushered in by, or complicated by, chills or any symptoms of sepsis. In operating on such cases, retroperitoneal infection should be considered as already started. The discovery and proper treatment of such infection is quite as important as the usual intraperitoneal technique. In view of the possibilities of retroperitoneal infection, a great responsibility is assumed by advising non-intervention in appendicitis.

The Lancet, February 20, 1904.

Cæcal Concretions.—A. Forsyth believes that the cul-de-sac of the cæcum often contains concretions. They are below the ileocæcal valve through which fresh fæces pass freely over them, and are not dislodged by the ordinary enemas. Under the name of "loaded cæcum" he recognizes a pretyphlitic stage of appendicitis. Some of these patients are melancholy women who become emaciated and despondent; some are young, healthy men, who rely on aperients to keep their bowels open, but go about their work with the same saddened anxious face and malnutrition. A third type is the "borborygmous" type, the patient who goes about all the time with the bowel full of gas. Persistent ene-

mata carefully given with large internal doses of olive oil will generally clear out the cæcum, and the exciting cause of many appendicitis attacks is thus removed.

A Case of Backward Dislocation of the Humerus Caused by Muscular Action.—The case is reported by Mansell Moullin and A. Keith, their patient being a stocky man of middle age, who received his injury while at tennis. Trying to take a ball breast high with a backhand stroke, he missed his aim and immediately his arm dropped by his side useless, and he felt a violent pain in his shoulder. When seen by the surgeon the patient was sitting in the characteristic attitude nursing his elbow, which was flexed and pointing slightly forward. The whole shoulder seen from the outer side had a peculiarly squared appearance. The arm was a little abducted and rotated inward; there was a great hollow under the deltoid in front, so that the anterior portion of the glenoid fossa could be felt through the muscle, and there was a corresponding prominence behind. Active movement was impossible, and any attempt at passive motion caused great pain. The patient was placed under an anæsthetic, and as soon as the muscles were relaxed the arm was slightly abducted, drawn downward, and rotated outward. The head of the bone slipped in at once and there was no further trouble, the patient regaining perfect use of the arm in the course of a few weeks.

The Use of Antistreptococcic Serum in the Treatment of Scarlatina and Diphtheria.—F. P. Mackie notes the discrepancies in the reported results in various diseases from the use of the serum, and they are due to the fact that bacteriology has not yet decided the relationship between the various forms of cocci met with in quite dissimilar maladies. His experience with serum in scarlatinal disease is summarized in the following statements: (1) Antistreptococcic serum is of distinct value in a certain number of cases of scarlet fever, particularly in those in which the throat lesion is severe and toxæmia is going on. (2) Bacteriological examination will give no sure guide as to the cases in which serum will be beneficial, therefore it is advisable to give the serum early and to make the bacteriological examination afterward. (3) The serum ought to be given early in the disease, just as in diphtheria. The longer the disease has lasted before the serum is used the less likelihood is there that it will be beneficial. Antistreptococcic serum is too often brought in with the strychnine and oxygen when it is unreasonable to expect it to do good. (4) If the first dose or two have no effect on the temperature its continuation will probably not be of any value. (5) The serum is liable to produce urticario-erythematous rashes. (6) Even in those cases in which it does no good there is no evidence to show that it does harm.

In regard to the use of antitoxin and antistreptococcic serum in diphtheria cases, Mackie's experience has been the common one that the severity of a given case varies directly according to the admixture of the streptococci with the Klebs bacillus. He is strongly of the opinion that when there is good evidence of sepsis—*i.e.* sloughing of the throat, marked cervical swelling, and a high fever, the serum should be given in addition to the antitoxin. He adds that in most cases of diphtheria in which death occurs during the first ten days, the patients die from the septic rather than the diphtheritic element. Moreover, most post-tracheotomy fatalities in diphtheria cases result from septic infection, and here the serum is certainly indicated.

Cancer in Australia.—In the previous issue, G. C. Adams discusses this question, concluding in the present number. The paper is in general a comparison with cancer in other countries and a consideration of a specific treatment for the prevention and arrest of the disease. He concludes (1) that cancer is not due to a bacterial or parasitic origin; (2) that cancer is a constitutional disease due to a specific or malignant virus originating in the blood and chiefly manifesting itself after thirty-five years of age and at its greatest virulence between fifty and seventy years of age; (3) that malignant disease may be congenital and certain forms acquired by infection or contagion; (4) that the principal factor in the cause is hereditary tendency; (5) that the principal exciting factor is prolonged local irritation acting on a constitution suffering from an inherited tendency or which has been debilitated through want of treatment of one or other of the following diseases in their order of frequency: syphilis, alcoholism, obesity, rheumatism, gout, and tuberculous disease; (6) that the principal dietetic factors in the causation are sugar, beer, and alcohol; (7) that the principal hygienic factors in the causation are woods and forests whose dropping foliage decomposing causes stagnation of water; also badly formed streets and defective drainage in cities, and the overcrowding of the badly housed and fed population of cities; (8) that cancer is a preventable disease, but the absolute cure is only to be found in the means for preventing its exciting causes and completely removing the same; (9) that the sanitary indigenous foliage of the following natural orders—(*a*) myrtaceæ, (*b*) lauraceæ, and (*c*) coniferæ—appears to exert a specific influence in rendering the native-born population of the countries where they grow almost immune from malignant diseases other than might be caused by prolonged irritation (the Australian eucalyptus, belonging to the myrtaceæ, exert the greatest influence in this direction); (10) that a eucalyptus oil obtained by means of a scientific preparation from various species grown in Australia possesses a specific action in arresting the pathological progress and process of malignant disease; and (11) that all internal and local treatment of a poisonous or irritating nature should be absolutely avoided, more particularly such local treatment as the *x*-rays and Finsen light, as they are likely to set up secondary conditions around the site of lesion. Far better is early and prompt removal when the malignant growth is accessible.

British Medical Journal, February 20, 1904.

A Case of Primary Quadruple Amputation: Recovery.—E. Harrison reports this case. The patient had been run over by a train so that the four extremities were crushed. A subcutaneous injection of strychnine was given, as well as an intravenous infusion of decinormal saline fluid. Four pints were infused in which was ℥x of adrenalin. Two surgeons performed the operations. The right leg was amputated about four inches below the knee; the left thigh about the junction of the upper and middle third, while both fore-arms were amputated about two inches above the wrists. The patient made a satisfactory recovery. The infusion with saline fluid and administration of adrenalin, together with rapidity in operating, were doubtless important factors contributing to a successful issue.

The Treatment of Appendical Abscess in the Recto-vesical Pouch.—Edmund Owen, in speaking of the various positions in which the appendix may be found, says that there is no organ in the body which is so regardless of anatomical proprieties as the appendix. There are two grave objections to opening an appendicular abscess through the vagina or rectum. The first is that the operator cannot tell exactly what he is doing. The second is that the operation may be followed by a fecal fistula which absolutely refuses to close. By adopting the abdominal route, the surgeon may be able not only to clear out the abscess, but to remove the diseased appendix. The writer believes that if an individual has had one unmistakable attack of appendicular inflammation, the appendix would better be resected as soon as the inflammation has quieted down. He has been much impressed with the danger of delay in operating, of the comparative slight amount of risk which the early operation involves, and of the great sense of relief and freedom from anxiety which it affords.

Congenital Narrowness of the Pyloric Orifice a Cause of Chronic Gastric Disease in the Adult.—A. Ernest Maylard considers that the normal caliber of the pyloric orifice during life and under relaxation is from 12 to 15 mm. In one of his cases the writer found, when operating, the orifice incapable of admitting the apex of the index-finger. This experience first led him to doubt that these narrowed orifices were spasmodic in character, but were rather due to some abnormality in development than to any acquired cause. The writer thinks this condition due to an excess of reduplication of the pyloric fold, whereby the valve width is increased but the orifice correspondingly diminished. It is, therefore, purely anatomical and congenital in its origin. The most suggestive symptoms of the condition are as follows: The existence of obstinate gastric symptoms during young adult life, not to be accounted for by any of the usually recognized causes, functional or organic. Often the patient is in a fairly good social position, and often one of a family otherwise healthy in all its branches. The patients are mostly women under the normal standard, both in stature and build. Great improvement always comes from dieting, while a renewal of the symptoms takes place with the return to a normal state of living. The writer believes that the proper treatment is gastrojejunostomy, performed with due regard to the normal disposition of the parts after operation.

Aseptic Surgery in Theory and Practice.—Charles Barrett Lockwood has for some years used a mixture of alcohol, water, and biniodide of mercury for disinfecting the skin. As to the use of gloves, the writer has found it practically impossible to complete an operation without tearing or puncturing the fingers of the gloves. He cannot perform certain operations, especially ab

dominal operations, to his own satisfaction if the sense of touch is hampered with gloves. For operations upon septic cases he believes that gloves ought to be worn, especially if other operations are impending. The degree of certainty with which the skin of the patient can be disinfected depends upon the region. The patient's skin is far more difficult to disinfect than the hands of the surgeon or of his assistants. The writer declares himself as exceedingly dissatisfied with the result of his efforts to disinfect skin. As to sutures, on the whole there is no better material than twisted silk for buried sutures and ligatures. In spite of the efforts of numerous investigators and inventors, catgut still remains an object of suspicion. The writer thinks this is to be deplored because it is an admirable substance for a variety of surgical purposes. He invariably uses catgut for septic wounds. It is invaluable for operations about the rectum and perineum. It is also best to use catgut when there is reason to suppose that the wound is tuberculous. But although some specimens may contain no infective organisms, they may contain ptomains which set up and localize suppuration. The writer has not had very gratifying results from the use of silver wire, but he approves of the use of a layer of silver foil for covering wounds. The wound by this means is kept dry, with the entire absence of any trace of redness or œdema. The writer finally treats of the question of sponges. He declares that he is by no means convinced that sponges prepared by the sulphurous acid method are infective. But, he adds, we greatly need a thorough investigation of disinfected sponges by the most rigorous and recent bacteriological methods.

Deutsche medizinische Wochenschrift, February 4, 1904.

Attempts at a Serum Diagnosis of Carcinoma.—Mertens describes attempts he made to elaborate a precipitin reaction for carcinoma, but like Engel, who recently published similar experiments, his results were unsuccessful. He injected rabbits with extracts from carcinomatous growths, and endeavored to obtain specific precipitations with the blood of carcinoma patients, The results were inconstant, not all the cancer patients reacting positively, while some healthy individuals did give a reaction. The author is not discouraged, however, and discusses the possibilities of the production of a curative serum.

The Value of Rubber Gloves in Manual Extraction of the Placenta.—Baisch enumerates the features which make this one of the most hazardous obstetrical operations, chief being the facts that it must often be performed hurriedly without time for proper hand sterilization, and that during the act of removal all germs present are necessarily actually inoculated into the huge open wound represented by the interior of the uterus. Under these conditions the use of rubber gloves is of the greatest advantage, and since their use the mortality in these cases has fallen to 0 per cent. in the Tübingen clinic, while in other large institutions it is in the neighborhood of 3 per cent. In Tübingen the number of patients running an absolutely normal course after manual extraction is 70 per cent. in Berlin and Munich; where gloves are not used it is 51 per cent, and 38 per cent. respectively. In addition to the actual advantage attending the use of gloves is the consolation, in case the patient does badly, that nothing was left undone to ensure her safety.

Phthisiogenesis and the Struggle against Tuberculosis.—E. v. Behring takes the ground that the tendency to acquire tuberculosis is formed in infancy, and that the so-called predisposition to the disease consists in an infantile invasion of the blood and lymphatics with tubercle bacilli. Pulmonary tuberculosis is to be regarded as the last stage of this early infection, which during childhood runs a latent course, but induces an increased susceptibility of the lymphatics and vessel walls to the tubercle toxin. The author's view of the tuberculous disposition is therefore different from that usually accepted, as he considers that it is not acquired through transmission by inheritance, but only through infection in infancy. In order to combat the infections in the cradle which may become pulmonary lesions later in life, the author says that until the time arrives when we begin to employ for infants the same protective inoculations he has successfully used in calves, we must prevent the tubercle bacillus from gaining access to the mouths of babies, and must administer tubercle antibodies with their milk. Owing to its mode of formation, freshly secreted milk contains antibodies in abundance, but many factors, such as heat, cold, long standing, the development of bacteria, etc., quickly destroy them. The author proposes to ensure their preservation by adding formalin in the strength of 1–10,000, to the fresh milk. This does not impair its nutritive value, and the results in the raising of calves have most effectively demonstrated the value of the plan.

Berliner klinische Wochenschrift, February 8, 1904.

A Contribution to the Therapeutics of Neuralgias and Myalgias.—Meyer says that the ordinary coal-tar analgesics, as well as the various systems of hydrotherapy, massage, etc., often fail to subdue obstinate neuralgic conditions. In such cases he has found that hydrochinon does excellent service. He employs it in doses of one to four grams daily, and usually gives it in solution at bed-time. The solution should be fresh, and not be exposed to the light. No unpleasant effects were noted, except in one case in which nausea, tachycardia, and vertigo were produced, but quickly subsided on stopping the drug.

A Case of Congenital Bronchiectasis with Transposition of the Viscera.—Siewert describes the case of a young man of twenty-one who since childhood had had attacks of coughing, accompanied by the sudden expectoration of large amounts of purulent fluid. He was poorly developed mentally and physically, and a physical examination showed complete transposition of the viscera. There were also signs of a cavity in the left upper lobe anteriorly. In the absence of all evidence of tuberculosis, gangrene of the lung, etc., the author diagnoses the condition as a congenital bronchiectasis. This is a very rare condition, as only four cases were found reported in the literature.

Münchener medizinische Wochenschrift, February 9, 1904.

A New Symptom in Œsophageal Carcinoma.—Steiner describes a case in which the œsophageal bougie was observed to be drawn downward during inspiration and to move upward during expiration. The phenomenon was ascribed to adhesion of a carcinomatous mass to the diaphragm and the autopsy confirmed this view.

Permanent Tubage in Œsophageal Stricture.—Schiele treated an œsophageal stricture due to carcinoma at its lower extremity and which threatened to become impermeable, by carrying through it a short drainage tube on a bougie. The tube was perforated in the customary way, and to keep it from slipping into the stomach its upper end was perforated by a thread the ends of which were tied to a suitable tooth. The patient was in this way enabled to swallow fluids and semi-solids while the dilated lower segment of the œsophagus was kept drained. The tube was changed every five days and occasioned no discomfort.

Diagnosis with the Œsophagoscope.—Stark calls attention to the value of this instrument, which owes its development largely to the efforts of v. Mikulicz. The author places the patient in the recumbent position on one side and thoroughly cocainizes the pharynx, larynx, and upper part of the œsophagus. It is a mistake to hyperextend the head, as this flattens the œsophagus against the vertebral column and renders the introduction of the instrument more difficult. The technique of the examination is not difficult and the author was successful with every one of his last one hundred cases. Of forty-six patients recently examined, seventeen were carcinomatous, three had cicatricial lesions, two had foreign bodies, two had diverticula (traction), two had diverticula (Zenker's), three had diffuse dilatation, six had neuroses, one inflammation, and in ten complicated conditions existed which did not permit of diagnosis.

Artificial Ischæmia.—Müller has performed over seventy major operations on dogs, using suprarenin solution as a hæmostatic and reaches most satisfactory conclusions. The object of the experiments was to determine the value of this agent in controlling the hemorrhage from parenchymatous organs, particularly the liver and kidney during incision and resection. In order to produce satisfactory anæmia in such organs solutions of 1-1000 or 1-2000 are required, but in the skin, fatty tissues, and muscles a strength of 1-5000 or 1-10000 is most suitable. The agent does not appear to be poisonous in quantities ever likely to be used. The vasoconstriction is produced within two minutes and lasts for several hours. Resections of the liver may be performed entirely without parenchymatous bleeding by injecting the solution along the line of proposed incision; and deep dissections of the neck, chest, etc., may be bloodlessly performed in the same way. Slightly pink solutions are safe to use, but a deeper discoloration indicates dangerous decomposition. Capillaries and small vessels are completely occluded, larger vessels are constricted. There is no danger of secondary hemorrhage. When diluted with decinormal salt solution the injection of suprarenin is painless. The author has not yet repeated his observations on man, but is convinced that the agent will be found just as useful in major operations as it has already shown itself in minor surgery.

Book Reviews.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital; one-time Clinical Professor of Diseases of Children in the University of Pennsylvania; Member of the Association of American Physicians, etc. Assisted by H. R. M. LANDIS, M.D., Assistant Physician to the Medical Dispensary of the Jefferson Medical College Hospital; Member of the Staff of the Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis. Volume IV, December, 1903. Philadelphia and New York: Lea Brothers & Co., 1903.

THIS volume contains, among other interesting matter, a chapter by J. E. Hemmeter, on diseases of the digestive tract; one by J. C. Bloodgood, on various surgical conditions, including an excellent review of the literature of tumors, benign and malignant, with some interesting illustrations; William T. Belfield contributes a chapter on genitourinary diseases, and J. R. Bradford one on diseases of the kidney. The practical therapeutics are brought well up to date by H. M. Landis. As a whole, the volume compares very well with those that have already appeared in this series, the editor and publisher both evidently having a fixed determination to make the work all that they have promised for it.

FOURTH ANNUAL REPORT OF THE WORK OF THE CANCER LABORATORY of the New York State Board of Health, conducted at the Gratwick Research Laboratory, University of Buffalo, for the year 1902-3. Albany: State Department Printers, 1903.

JUST at this time, when the subject of cancer is exciting so much interest the world over, the report from the laboratory established exclusively for the study of this scourge, must challenge our attention. The report before us deals with an investigation of cancer districts; the etiology of cancer, its biology and chemical study; toxic and vital theories regarding its causation; statistics; the physics and therapeutic value of the cathode and ultra-violet rays; closing with an epitome of the history of carcinoma by Roswell Park, M.D. The work, taken as the result of careful investigation in a most important field, will be of decided interest to all those whose labors lie in the same direction.

ÜBER DIE PROGNOSE DER SYPHILIS. Vier Vorlesungen gehalten in den ärztlichen Fortbildungskursen zu Aachen, 1902-1903. Von Dr. G. MAYER, Geh. Sanitätsrat. Berlin: S. Karger, 1904.

THIS is a brochure of eighty-seven pages only, dealing, however, with the most important subject. It is arranged in the form of four lectures. The first, on the prognosis in syphilis in general specific brain and spinal-cord affections and general paralysis. The second, taking in tabes, syphilitic nerve affections, and syphilis of the heart and blood-vessels. The third is upon syphilis of the lung and liver. The fourth, includes syphilis of the kidney, diabetes and gout in their relation to syphilis. The chapters are all written in a pleasing style, and the subject matter is surely worthy of the careful consideration it has received.

A TREATISE ON ORTHOPÆDIC SURGERY. By ROYAL WHITMAN, M.D. Second Edition; revised and enlarged. Philadelphia and New York: Lea Bros. & Co., 1903.

THE second edition of this excellent treatise should meet with as cordial a reception as the first. Most of the chapters have been revised and extended; new illustrations and *x*-ray pictures have been added. Congenital hip dislocations, coxa vara, and tendon grafting, which have in recent years actively engaged the attention of the orthopedic world, are extensively discussed by the author.

THE PURIN BODIES OF FOODSTUFFS, and the Rôle of Uric, Acid in Health and Disease. By I. WALKER HALL, M.D., Assistant Lecturer and Demonstrator in Pathology, the Owens College, formerly Senior Demonstrator in Physiology at the Owens College, Victoria University of Manchester; Hon. Pathologist to the Salford Royal Hospital. Second Edition (Revised). London and Manchester: Sherratt & Hughes, 1903.

THE second edition of this small book deserves greater commendation than the first, if that were possible. A new chapter appears upon the action of drugs on purin excretion. Also some new tables and methods of estimation and preparation are appended. A noteworthy portion of the book is devoted to bibliography. This is exceedingly extensive and forms a veritable library of reference. The construction of the text is condensed and every word is made to count. As a book of reference and instruction upon the subject treated it is by far the most valuable that has yet appeared.

MAMMALIAN ANATOMY, WITH SPECIAL REFERENCE TO THE CAT. By ALVIN DAVISON, Ph.D., Ex-fellow of Princeton University; Professor of Biology in Lafayette College. Philadelphia: P. Blakiston's Son & Co., 1903.

THIS work is intended for the use of the undergraduate student in biology. The major portion is devoted to the gross anatomy of the cat, the various structures being taken up in their logical sequence. The introduction contains a small section on the minute anatomy of the tissues and the preparation and preservation of material for such purposes. There are 108 illustrations, all of which are well executed. The practical questions and suggestions which are appended to each chapter will be of great service to those compelled to take up the study of this subject without the aid of an instructor. As a work on comparative anatomy it cannot fail to find its place.

PATHOLOGIE UND THERAPIE DER RACHITIS. Von Dr. WILHELM STOELZNER. Berlin: S. Karger, 1904.

THIS monograph is written with characteristic Teutonic thoroughness, and rachitis is considered from every possible point of view in the most exhaustive manner. Much has been gathered from the European literature that is not generally known in this country, and the chapter on etiology is particularly interesting. The author considers all existing theories untenable, and tentatively submits that the disease may be due to the functional insufficiency of some organ analogous to the thyroid. This view is founded upon the general similarity between rachitis and cretinism, and the author suggests that the adrenals may possibly be the organs at fault. Therapeutically he has found a solution of phosphorus in cod-liver oil the most valuable agent.

DIE ERSTEN ZEICHEN DER NERVOSITÄT DES KINDESALTERS. Von Prof. H. OPPENHEIM. Berlin: S. Karger, 1904.

IN this address the author of what is perhaps the best known German textbook of nervous diseases rehearses the various abnormalities of psychical development in children which are often the first aberrations of a mentality tending toward later disaster. While such peculiarities may be, and often are, outgrown, still their timely recognition may be the means of preventing serious difficulties in after years and they deserve the attention of all interested in the problems of childhood.

LES TROUBLES GASTRIQUES DANS LA TUBERCULOSE PULMONAIRE CHRONIQUE. Par Le Docteur E. DU PASQUIER. Paris: G. Steinheil, 1903.

THE author discusses the clinical and prognostic features of the gastric disorders usually accompanying pulmonary tuberculosis, basing his conclusions on a series of eighty-four cases in which analysis of the stomach contents was made. He points out the paramount importance to the tuberculous patient of a good digestive apparatus and emphasizes the necessity of the examination of test-meals in order to carry on the treatment successfully. Every other consideration should be subordinated to the assimilative function and no drugs continued if they react unfavorably on the stomach.

CLINICAL TREATISES ON THE PATHOLOGY AND THERAPY OF DISORDERS OF METABOLISM AND NUTRITION. By Prof. Dr. CARL VON NOORDEN, Physician in Chief to the City Hospital, Frankfort a. M. Translated under the Direction of BOARDMAN REED, M.D., Professor of Diseases of the Gastro-intestinal Tract, Hygiene and Climatology, Department of Medicine, Temple College; Physician to the Samaritan Hospital, Philadelphia, etc. Part IV. The Acid Autointoxications, by Prof. Dr. Carl von Noorden and Dr. Mohr. New York: E. B. Treat & Co., 1903.

THIS little compend is a valuable addition to this series. The author presents the results of his investigations into the derangements of metabolism which are concerned with the formation of an excess of acid in the body. This subject is one of great interest to the clinician, for it is true, as said in the preface, that those physicians who successfully treat chronic diseases must carefully observe the digestion, excretion, and assimilation of their patients.

TUBERKULOSE-ARBEITEN AUS DEM KAISERLICHEN GESUNDHEITSAMTE. 1 Heft. Mit 5 Tafeln. Berlin: Julius Springer, 1904.

THIS contribution is divided into two parts, of which the first, by Kossel, Weber, and Heuss, is a comparative study of tubercle bacilli obtained from different species of animals. The results seem to show that in the majority of cases human tubercle bacilli differ in morphology and in cultural and pathogenic characteristics from those found in tuberculous cattle. Occasionally, however, bacilli are found in man which cannot be differentiated from those causing *Perlsucht* in cattle.

The second part, which is by Weber and Bofinger, discusses fowl tuberculosis and tends to show that the tubercle bacilli of fowls and of mammals possess clearly marked points of difference. The bibliography of both sections is especially valuable.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held February 18, 1904.

Dr. ANDREW H. SMITH IN THE CHAIR.

The Hospital Car: Its Equipment, Uses, and Importance.—Dr. WM. W. SANFORD read this paper, and said that when the plan of having such a car was suggested to the Erie Railroad officials, a combination baggage car and smoker was selected for the purpose. By removing the double row of seats sufficient room was secured for six ordinary hospital beds supplied with mattress and rubber sheets. In the baggage compartment were operating table, sterilizers, oxygen, drugs, etc. Such a car would prove to be almost invaluable. The doctor showed drawings of a typical hospital car, and this he believed should serve as a type of several cars which should be distributed at certain distances along the roads. He then gave the details of the interior arrangement of such cars, which would be of great value to the companies, as well as to the injured, because of (1) saving of valuable time; (2) bringing to their aid a sufficient number of physicians and nurses; (3) equipment being always at hand. He believed that at present the large number of deaths from railway injuries was due to lack of immediate surgical and medical treatment, the lack of facilities for treating these patients, and the lack of time. The need of such cars seemed to him imperative.

Dr. ANDREW H. SMITH referred to the diminished liabilities of the companies from the results of accidents, and stated that things were different to-day from what they were a few years ago, when the life of a man was considered to be equivalent to $5,000. Then the companies were in pocket if the people were killed outright; if then they were injured and not killed there was scarcely any limit to the amount of damages claimed. To-day life was estimated by the earning capacity of the individual. In case an accident takes place and the company had made no provision for the care of the injured he said the sympathy of the juries would be against the company; but if such cars as suggested were provided sympathy would change in favor of the company.

The Rationale of the Natural Arrest of Consumption; a Study Explaining the Effects of Sea Voyages, with Suggestions as to the Ideal Treatment.—Dr. W. B. MCLAUGHLIN of Austin, Tex., read this paper. (See page 367).

Dr. GEORGE L. PEABODY said he failed to see how a practical turn could be applied to Dr. McLaughlin's remarks or how any practical deductions could be drawn from this artificial environment. A near approach to such a sterilized atmosphere could be had when people lived in the deserts of Egypt. Years ago a colony of consumptives had lived in a hotel near the pyramids, and they, he thought, breathed sterilized air. The same thing could be accomplished in mid-ocean. But how such could be brought about artificially seemed to him a very difficult problem. He spoke of a semi-charitable, organization society that, a few years ago, was engaged in establishing a home for the treatment of consumptives, and one of the Board of Managers asked him to make some suggestions, that they did not want to feel restrained by ordinary limitations, but they wanted certain compartments where patients could breathe air from the heart of the Adirondacks and other compartments where they could breathe the air of mid-ocean, etc. Of course such a thing was practically impossible. To him it seemed difficult to give a practical hearing to Dr. McLaughlin's extremely good theoretical remarks.

Dr. JOHN B. HUBER said that tuberculosis when due to the tubercle bacilli was not particularly fatal, and only when the mixed infection occurred was the disease rendered serious. Therefore, it was of great importance to attempt to do away with the possibility of mixed infection. Sterilized air was important, too, but there were other things to be considered, such as dry air for some, moist air for others, sea air for some, and land air for others, etc. Tuberculosis was the resultant of many factors; the tubercle bacilli were originally saprophytes, and fed upon dead or decomposing material. An interesting subject referred to the devitalizing tissues of the body, and, he said, tuberculosis depended upon the condition of the bacillus and other microorganisms as well as upon certain predispositions, vicious heredity, alcoholism, poverty, and the like, in the body which made it susceptible to the onset of various bacteria.

Col. W. C. GORGAS said that the main idea of the paper was new to him, but he believed it to be very important as bearing upon municipal sanatoria. He emphasized the importance of a liberal supply of air. Patients taken to such a municipal hospital or sanatorium and treated in the way proposed he believed would get well in three or four months instead of eight or ten months, and so would be a great saving to the city.

Dr. S. A. KNOPF advocated better teaching of the masses, that rooms should be better ventilated, that the dark, foul, and filthy rooms should be abolished, and, therefore, much could be done in a prophylactic way. The value of sea air was shown in those children especially who were sent to the sea-side with tuberculous bone and joint disease. In many coughs disappeared. A sojourn at the seaside seemed invigorating and so did good. In dealing with the tuberculosis problem, he said we should seek continually after the ideal, but we should also do away with what was impractical. To obtain an aseptic atmosphere was impractical, but it was practical to teach the masses the love of pure air. He said that if the municipalities did their duty they would see that the street cars were better ventilated, and make other changes which would result in making traveling facilities better and less dangerous.

Dr. MCLAUGHLIN believed that if what he proposed could be carried out it would be a great advance in the therapeutics of tuberculosis. So far as sterilizing the air was concerned, he said that a great step toward this end would be in removing the dust.

Dr. S. A. KNOPF referred to the death of Peter Dettweiler at Cronberg, Germany. He gave much to the cause of phthisiotherapy, his greatest achievements being the incorporating of the rest cure on a reclining chair in the open air and the foundation of the first sanatorium for the consumptive poor. He said that Germany was much indebted to him for its numerous sanatoria.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON MEDICINE.

Stated Meeting, Held January 19, 1904.

LEWIS A. CONNER, M.D., CHAIRMAN.

Chronic Valvular Disease of the Heart; Pulsating Liver.—Dr. S. S. BURT presented a case of chronic valvular heart disease in connection with the paper which he presented later. The patient was a man, thirty-four years of age, who came first under observation in 1899. He had been an intemperate drinker of beer for twelve years, having taken at times as much as one hundred glasses in twenty-four hours. Shortness of breath on walking began about five years before. At that time he complained of dyspnœa, enlargement of the legs and abdomen, and of prostration. Examination showed œdema of the lower extremities, cyanosis of the lips, marked pulsation of the vessels of the neck, ascites, hypertrophy of both sides of the heart and excessive dilatation. The liver extended from the fourth rib down to the level of the umbilicus on the right side. There was a heaving, expansile pulsation of the liver, due to regurgitation into the hepatic veins themselves. He was treated by paracentesis abdominis and saline laxatives, with strychnine and rest in bed. In a few weeks he was improved in almost every way, and finally the tricuspid thrill disappeared, though the mitral systolic and presystolic murmurs were still present. At

the present time, there was a distinct systolic murmur over the mitral area; there was regurgitation of the blood in the superficial and deep veins of the neck; there was moderate pulsation of the liver; the legs were only very slightly œdematous. Aside from the congested state of the liver, due to the heart disease, it was probable that the man also had hypertrophic cirrhosis of the liver.. The speaker said that he had seen very few cases of pulsating liver secondary to a cardiac condition in a very large experience with heart disease. He had occasionally met with tricuspid regurgitation secondary to mitral disease, but none so extensive as this one.

Ascites; Hepatic Cirrhosis; Tuberculous Peritonitis.—Dr. WILLIAM B. NOYES exhibited a small section of the liver taken from an Italian, forty years of age. who had been in the service of Dr. F. C. Keller at the Columbus Hospital. The man had been in the habit of drinking three or four glasses of whiskey a day, and before breakfast. Shortly before admission to the hospital, the abdomen began to swell and become painful. On examination, the liver and spleen and genitals were œdematous. There was no jaundice. Over four quarts of clear and highly albuminous serum were drawn off from the abdomen. The urine was free from albumin. On December 6, six quarts and a half were again drawn off. The liver dulness was increased one hand's breadth below the margin of the ribs. The patient died on December 10. At the autopsy, the peritoneal cavity contained 4,000 c.c. of clear yellowish serum. The peritoneum was studded with minute white tubercles. The omentum was agglutinated to the intestines. The liver was bound down on all sides to the adjacent viscera. It weighed 67 ounces. There was marked perihepatitis. The bile ducts were dilated and filled with masses resembling inspissated bile. There were no tubercles in the liver. There were no stones in the gall-bladder, and the common duct was patent. The intestine was covered with minute tubercles. The duodenum and jejunum were closely adherent to adjacent viscera. The right lung was collapsed and consolidated from the pressure of a large pleural effusion. The supposed increase in liver dulness was due to a solid mass of omentum, the result of tuberculous peritonitis. How much of the ascites was due to the tuberculous peritonitis, and how much to the condition of the liver, it was impossible to say. The liver was the seat of a hypertrophic cirrhosis. The speaker said that clinicians very commonly classified cirrhosis of the liver under two heads, hypertrophic and atrophic, but, according to the pathological classification of Adami the subject was much more complex. Adami divided cirrhosis into seven varieties, viz.: (1) Portal; (2) biliary; (3) pure cellular cirrhosis; (4) arterial cirrhosis; (5) central lobular cirrhosis; (6) secondary cirrhosis, and (7) sporadic cirrhosis. The liver under consideration appeared to belong to the variety of obstructive biliary cirrhosis, this diagnosis being made chiefly from the obstruction of the bile ducts. The microscopical examination showed a very fatty liver and a very small amount of connective tissue in a very early stage of formation. If the man had not had the tuberculous peritonitis, which caused his death, he would have probably lived a long time despite the hepatic cirrhosis.

Dr. S. A. KNOPF thought there was no other way of distinguishing ascites due to cirrhosis of the liver and ascites dependent upon tuberculous peritonitis than by withdrawing some of the fluid and injecting it into guinea-pigs.

Dr. BURT referred to a case of cancer in which the performance of paracentesis abdominis resulted in a fragment of cancerous tissue coming away in the fluid. This led to the diagnosis of colloid cancer, a fact which was very suggestive of what might perhaps be accomplished by this mode of investigation. Fluid removed in this way should be subjected to microscopical examination as a routine measure.

Dr. S. A. BROWN referred to a case of peritonitis with loculated fluid. About sixteen ounces of fluid were withdrawn for diagnosis. On examining this after sedimentation, small colloid masses were visible and were very characteristic. The diagnosis of colloid cancer was confirmed by the autopsy.

Dr. L. A. CONNER said that the demonstration of tubercle bacilli in the serous fluid removed by aspiration was often very difficult, and the necessary delay of six weeks or more after the inoculation of a guinea-pig was a serious objection to that mode of investigation. But between an inflammatory exudate, such as occurred in tuberculous peritonitis and a stasis exudate, such as occurred in portal obstruction or cardiac disease, there were distinct differences, such as in the specific gravity and the presence of traces of nucleoproteid. The hydræmic transudates gave a very low specific gravity, usually 1008 or less; the stasis transudates of cirrhosis or cardiac disease gave a specific gravity of 1009 to 1012, and the inflammatory exudates usually showed a specific gravity of 1018 to 1025. In tuberculous peritonitis the specific gravity was usually 1015 to 1025. If the albumin were estimated by Esbach's method, or better still, by weighing, some differences would be observed. In the hydræmic transudates there would be hardly more than a trace of albumin, in the stasis transudates the amount of albumin was usually 1 gm. to the litre, or 0.1 per cent., although it was sometimes as much as 1 per cent.; in the inflammatory exudates the quantity of albumin was very large, sometimes as high as 2 or 3 per cent., or 20 to 30 gm. to the litre. The nucleoproteid was much more apt to show in the inflammatory than in the other exudates.

Dr. Burt said that it had been recently demonstrated that nucleoalbumin could be shown very nicely by intravenous inoculation of the material into animals. Within a few minutes the whole venous system became clotted, and the animal died. If the heart were rapidly opened, a long string of blood-clot could be drawn out.

Multiple Serositis and Extreme Myomalacia.—Dr. LEWIS A. CONNER presented pathological specimens taken from a Chinaman who entered the Hudson Street Hospital a few weeks ago in a moribund condition. A diagnosis of pneumonia was all that there was time to make. The autopsy revealed, in addition to the pneumonia, a condition of multiple serositis, a complete synechia of the pericardium, adhesions of the pleural cavities at their bases, extensive perihepatitis and perisplenitis, and more or less chronic peritonitis. The heart was of special interest. The two layers of the pericardium were everywhere adherent, and there was a dense fibrous mass binding down the heart. The organ itself was considerably dilated. There were a few antemortem clots in the dilated ventricle. The most noticeable feature was a large area of diffuse yellow material in the wall of the left ventricle. It was firm in consistence, and the microscope showed an extreme condition of fatty degeneration of the heart muscle, in some places going on to the point of liquefaction. The coronary vessels were examined with great care, but were found to be practically normal, though the small branch of the coronary artery running to this softened area was very small. However, on examition of the intima and sections very little pathological change was discovered. It was, therefore, very difficult to explain satisfactorily the great diminution of this vessel and the softening of the heart muscle. The great mass of fibrous pericardium lay directly over the thin-walled arteries, and this suggested the possibility that this dense fibrous casing for the heart might, in some way, have caused sufficient constriction to give rise to this very extensive softening.

Dr. C. E. QUIMBY suggested that it would be well for physicians to bear in mind that there were many defects in creation, and that there was no more reason to expect perfection in all of the organs and tissues of the body than to expect every person to have the same size and shape of nose.

Miscellaneous Points on the Palpation of the Chest.—Dr. WILLIAM N. BERKELEY read a paper with this title. He said that, as a rule, the books on physical diagnosis were rather lacking in information on palpation for diagnosis. The average physician seemed to think that, in comparison with auscultation, all other methods of physical diagnosis were insignificant.

Vocal Fremitus.—The speaker said that fremitus might be classified as: (1) Rhoncal; (2) tussive; (3) borborygmic; (4) pleuritic; (5) succussive; (6) cardiac and vascular, and (7) vocal. His remarks at this time were limited to the consideration of vocal fremitus. When egophony was absent, it might be made apparent to the ear by the phonation of the short "oo" as in foot. Vocal fremitus was more reliable when the patient could retain the pitch throughout the test. The vibrations of the voice had a quality as well as a pitch and an intensity. The variation of the fremitus with the varying loudness or intensity of the voice was familiar to all beginners. The lower the pitch, the fewer the vibrations present, and the fewer these vibrations, the more perceptible the individual waves became to the palpating fingers. With women and reasonably intelligent children over six years of age, marked improvement in the fremitus could be obtained if the patient were told to speak in as deep a voice as possible instead of in the usual shrill tone. Palpation of the fremitus should be done with the palmar surface of the forefingers of the hand the observer is most accustomed to use. He did not think the side of the palm was a good surface for the performance of palpation. Two symmetrical areas of the chest should, of course, be compared, but this comparison should be made, not with the two hands, but with the same hand. A highly trained tactile sense was often capable of extraordinarily fine discrimination. It was usually stated that fremitus was conveyed to the chest through the windpipe. This doubtless was true, but it seemed reasonably sure that the elastic walls of the trachea and bronchi also assisted to an appreciable degree. Fremitus was likewise conveyed by the vertebral column and the ribs. Accumulations of fat and muscle on the exterior of the chest were not so destructive of fremitus as was usually supposed. Fremitus was usually universally larger on the right side than on any corresponding portion on the left side. He believed in 60 to 75 per cent. of patients, with the patient in the usual position for examining the back, right vocal fremitus below the angle of the scapula was absolutely larger than over any part of either the right or left chest. The excess on the right side was supposed to be due to the relative anatomy of the right and left bronchus. The excess of right fremitus was physiologically greater in persons between ten and twenty-five years of age than at any other age, a fact to which his attention had been called by Dr. A. A. Smith. This was probably of developmental origin. A numerical comparison of the normal right and left fremitus might seem far-fetched, yet he ventured to affirm that if the right subclavicular fremitus were denominated 3, that of the corresponding portion on the left side would be 2. He had found that a diagnosis of consolidation at the right apex, when the larynx fremitus was to the right fremitus as 4 to 2, or 6 to 3, was usually confirmed by the other signs. The causes of left-sided fremitus excess were: (1) Consolidation of the left side; (2) influences on the right side which dissociated the visceral from the costal pleura; (3) obstruction of the right bronchus, and (4) transposition of the viscera. Plaques of mucus, stenosis, foreign bodies, diphtheritic membrane, and the pressure of aneurysms, glands, and mediastinal tumors were among the obstructions of the bronchus to be thought of. In old women and small, anæmic children the relation might be changed by holding the chin high and rotating the chin to the left, thus artificially compressing the right bronchus. Supposing the loudness and pitch of the voice to be constant, the whole problem in vocal fremitus was to determine whether it was increased, diminished, or absent.

Dr. BURT said he would like to know why, on listening over a pleuritic effusion, vocal fremitus would be absent on palpation but would be present on auscultation. Vocal fremitus he esteemed very highly, and for that reason he greatly appreciated the paper presented by Dr. Berkeley.

Dr. JOHN HUBER thought the paper was very interesting in connection with the diagnosis of early phthisis, for tuberculosis of the bronchial glands was now generally considered to antedate the affection of the lung parenchyma. Possibly this involvement of the bronchial glands could be detected by vocal fremitus.

Dr. C. E. QUIMBY said that the ear was vastly more sensitive than the fingers, and that this seemed to him to explain the fact that vibrations could be detected by the ear when they were imperceptible to the finger. He would deny that, over fluid, one could sometimes obtain vocal fremitus and at other times could not. He believed that fluid in the chest, which would cut off vocal fremitus in one case, would do it absolutely in all cases in which fluid was present under similar conditions. Years ago he had arranged an apparatus in connection with the Helmholtz resonator by which one could optically demonstrate a valvular murmur by means of a glass flame. He would suggest that the same thing could be done more conveniently by the use of a powder It was also desirable to make use of a resonator that can be tuned to the pitch of the murmur or special vibration.

Dr. S. A. KNOPF said that there was evidently much yet to be learned concerning the science of physical diagnosis. He had been deeply impressed with the remarks made by the reader of the paper as to the sounds which the patient should be made to express. It was his custom to ask his patients to make a humming sound, and then ask them if they felt the vibration of their voice in any special direction. It was interesting to note that when there was beginning consolidation on one side or the other, the patient would often point to this spot as being the place at which the vibration of the voice was conscious to himself. Dr. Knopf said he had used this method as a means of diagnosis for a long time. When asking the patient to make a humming sound he also placed his hands over the chest, and thus readily appreciated the vibration.

Valvular Disease of the Heart and Its Treatment.—Dr. STEPHEN S. BURT read this paper. He said that without doubt many persons whose valvular defects had been proper compensated for were seriously injured by treatment. Treatment was not indicated unless the compensatory hypertrophy was followed by secondary dilatation. If there were progressive sclerosis, the duration of the compensation was always uncertain. Mitral stenosis and mitral insufficiency were about equal in their eventualities. Valvular disease in the first half of life, if properly compensated for, was not unusually especially dangerous in connection with pneumonia or with the use of anæsthetics, but the opposite was true in later life. The physician should endeavor in every case of organic disease of the heart to explain to the patient, without exciting his apprehensions, just the significance of the particular affection of the heart from which he was suffering. Plenty of sleep and fresh air, and habitual light eating were important factors in keeping up good health in such persons. Alcoholics should generally be avoided. Very hot baths, including the Russian and Turkish baths, were exceedingly dangerous, as was also swimming. Bathing was largely a matter of personal peculiarity. To condemn a person with heart disease to a life of inactivity was the height of bad management; such persons should have moderate exercise in the fresh air, but no violent muscular exercise should be allowed. The important thing was to insist upon moderation in everything—mental and physical exercise, eating and drinking. When rupture of

compensation occurred there would be dilatation of the heart, shortness of breath, possibly cyanosis, and cardiac palpitation. With regard to irregular pulse in mitral lesions, he would say that there need be no particular alarm on this point. Irregularity of pulse in aortic disease was commonly a serious manifestation. When hypertrophy of the heart had been overcome by dilatation there was but one course to pursue, and that was to make the patient understand the exact nature of his condition. When there was disturbed equilibrium, rest was of paramount importance; indeed, it was often all that was required. Massage, in properly selected cases, was often serviceable. The various baths, such as the Nauheim baths, were more suitable for functional than organic lesions. Where venous engorgement was excessive, and there was much distress therefrom, great relief could be obtained from venesection. Many of the cardiac symptoms were effectively relieved by small doses of calomel. After a large experience, he looked upon digitalis as one of the few drugs that were indispensable. It could only work mischief, however, when there was a perfect adjustment. This drug slowed the heart and strengthened its contraction. The proof of the value of the remedy rested upon the good results that followed its employment, and worth more than a vast amount of ingenious theorizing. When there was much anasarca it was sometimes necessary to overcome the tention by puncture of the limbs before the digitalis would act properly. Ordinarily, the tincture of digitalis should be given in doses of from ten to twenty minims, and the infusion in doses of one to four drachms at intervals of three or four hours. When, for any reason, it was desirable to substitute some other drug for the digitalis, the next best one was strophanthus. It should be given in doses of five minims every four hours. Strychnine was a useful cardiac stimulant, but should not be given in large doses for any great length of time, as this was liable to be followed by exhaustion. Hydrothorax, either bilateral or unilateral, as a cause of difficult breathing was now and then overlooked. Even though the effusion were a passive one, aspiration would often favor its reabsorption. During convalescence, those who neglected cautious but regular and systematic exercise out doors were apt to do indifferently. When the lesion was the result of an extinct endocarditis instead of an ever-advancing cirrhosis, the outlook was correspondingly encouraging. It would be a wise precaution for every one who had begun to take the downward course after broken compensation to place himself under constant medical supervision, even though apparently well. It should be remembered that rupture of compensation was the beginning of the end, however long deferred by intelligent management.

Dr. C. F. Wainwright said that if the profession generally realized the necessity for making a diagnosis of the initial lesion, and then would properly treat it at that time, he believed the majority of acute inflammations of the valves would recover, and that there would be comparatively few cases of chronic valvular disease coming for treatment. He would take exception to the amount of treatment given by the author to the heart independently of the blood-vessels. He personally was of the opinion that if it were possible to restore compensation by directing attention to the general circulation, the heart would be protected for a greater length of time. By the use of heart stimulants the energy of the heart itself was taxed, and there was only a definite amount of such energy available. He understood the reader of the paper to say that he would give digitalis in all valvular lesions, but personally he believed the use of digitalis was very dangerous in the case of aortic insufficiency associated with anæmia of the brain. The physiological action of digitalis was to prolong the diastole and increase the anæmia. Broadbent had reported several cases occurring in his own experience in which sudden death followed the use of digitalis under such circumstances. No one who had not endeavored to make the diagnosis of valvular lesions by inspection and palpation alone had any idea of how extremely important and useful were these methods of examination.

Dr. Achilles Rose said that it was sometimes of more importance, in cases of heart disease, to examine the abdomen than to distinguish the fine points elicited by auscultation. Thus, whenever a splashing sound could be elicited it was evidence of atony of the stomach. Relief of the gastroptosia would often prove more serviceable to the patient with heart disease than would the administration of digitalis. By reducing the size of the belly the work of the heart was materially diminished.

Dr. Conner said there was one feature of the treatment of these cases of chronic valvular disease that he desired to emphasize, and that was the great importance of rest in bed. Osler was fond of taking a case of uncomplicated mitral stenosis and placing it in bed, and then allowing students to watch the benefit derived from this without any other treatment. At times, it was nothing less than amazing to note the degree of improvement resulting from enforced rest.

Dr. Burt, in closing the discussion, said that he recognized the danger of using digitalis in cases of aortic insufficiency and aortic obstruction. When it was used in such cases, the patient must be very closely watched.

Physicians' Club of Chicago.

At a meeting, held February 16, "Graft" was the subject for discussion. Mr. Clarence Darrow, a lawyer defined graft as "the effort of any human being to take from society or from another human being or animal more than he really gives to society in return." Great grafts are done inside the law. The wise grafter never undertakes to get something contrary to the law. He undertakes to fix the law so that he can get something according to the law. It is more profitable and safer. The cheap grafter, who does not understand his business, and does things by retail instead of wholesale, who has little voice in making or administering laws, undertakes to graft contrary to the law. Great capitalists graft inside the law. It is easier for them to choose their agents and their tools to fix the law the way they want it, and they get what they want without running the slightest possible risk. The grafter is a product of his environment. There is considerable grafting in the legal profession. Indirectly, that is what the legal profession is for, said Mr. Darrow. It is a business chosen by certain men because they think by pursuing it they can get more than they can by pursuing any other business they are familiar with. He said it speaks well for the medical profession that there are few doctors in Congress or in legislatures. Dr. Harold N. Moyer discussed medical graft. He said he has made inquiries from a large number of members of the profession, and has been unable to find anybody who knew anybody who grafted, or knew anything about graft, in the medical profession. He has found one or two men who said they knew of somebody else in the profession grafting, but upon running the inquiry down, he found it was false, and he received the word of the man himself to authenticate it. Dr. J. Clarence Webster asked about the Chicago surgeons in high places who contrive with country practitioners to send them patients. Such men existed, and one could put his fingers on them. It is not necessity that stimulates these men to carry out this nefarious practice, which is not only detrimental to their self-respect, but a temptation to weak brothers with whom they come in contact. Within the last month he saw a circular signed by a surgeon who is connected with one of the well-known hospitals of Chicago. This circular was sent around to various pysicians in Illinois and neighboring States, offering bribes for patients sent to him. He knows of the same

thing having been done by a professor in one of the best medical schools in a neighboring State. These men are not starving. They do not require to do that business, but they do it. What is the explanation? Not necessity, but deviltry—degeneration, and as long as men in high places do this, he said it is absolute folly to expect the struggling practitioners, who are in the position of being bribed, not to be bribed. Dr. Palmer Findley said the burden of medical graft falls upon the young physician and surgeon. He does not think any surgeon has to graft for bread and butter. Going out into a neighboring town two or three months ago to operate on a poor farmer's wife for a small fee, a physician, after the operation, showed him a card from an agent of a surgeon in Chicago, offering 50 per cent. commission. This practitioner also showed him a letter from a local surgeon who solicited cases for 25 per cent. commission. Another case was mentioned of a physician in the same town who had gone personally to the attending physician in a case in behalf of a Chicago surgeon, and had openly declared time and again that he was receiving a division of fees. The remedy should be the one President Roosevelt suggested for trusts—publicity—publicity through organizations, so that it will be impossible for men who are professors in leading medical schools and officers in medical societies to divide fees or give commissions. Mr. Wm. H. McSurely defined a grafter as one who allies or attaches himself to some outside interest, some interest apart from the main motive of his life, for the purpose of getting from that outside interest something that will be beneficial to the main motive of his life. He then spoke of lawyers and doctors as church grafters; the society grafters, etc. Dr. G. Frank Lydston spoke of the physician in politics and public affairs, saying that the doctor who devotes a portion of the years of his life to politics and to the public service is forever damned in the eyes of both the public and the medical profession. The reverse is true of the lawyer. In politics the lawyer attracts attention to himself. He said there were very few lawyers who rendered services in the interest of the public without salary, although this was frequently done by physicians.

College of Physicians of Philadelphia, Section on General Medicine.

At a stated meeting, held February 8, Dr. W. Egbert Robinson presented a patient with chronic polycythemic cyanosis, occurring in a Russian, fifty years old, occupied as a teacher of language, with a history of generous use of alcohol and tobacco, but a denial of venereal infection. In addition to the cyanosis and the increased number of red blood cells—above nine million—spleen and liver had become markedly enlarged within a relatively short time. The number of leucocytes was increased, but the hæmoglobin-percentage was diminished. The question was raised as to the advisability of splenectomy. Dr. Wm. G. Spiller presented a communication entitled "Remarks on the Uncinate Group of Fits, and on Extensive Hemorrhage Occurring in Epilepsy." Hughlings Jackson has described cases in which movements of mastication and of swallowing occur, or vision becomes obscured, or a sense of taste or smell appears, or a dream-like state develops, sometimes followed later on by convulsive manifestations, and to which he has given the designation uncinate group of fits. Dr. Spiller related a series of cases of this kind, and also one of epilepsy in which there was extensive subcutaneous hemorrhage, and still another in which apparently cerebral hemorrhage or thrombosis occurred as a sequence of the epileptic status rather than as a cause. Drs. David Riesman and Francis T. Stewart presented a communication entitled "Persistent Sialorrhea Following Herniotomy," reporting the case of a man in whom such an association appeared on the day following operation and had persisted for many weeks, despite varied treatment. The condition was considered reflex. Other varieties of sialorrhea are local, as from inflammations in or about the mouth; toxic, as from mercury, pilocarpine, iodine; psychic, as from the thought of food; vicarious, as in the presence of disease of the pancreas. Dr. James M. Anders read a paper entitled "The Relation of Typhoid Fever to Tuberculosis," in the course of which he related six cases from various sources, including two under his observation, in which the two diseases were asociated and each appearing to exert a modifying influence upon the other.

Philadelphia Pediatric Society.

At a stated meeting, held February 9, Dr. Theodore LeBoutillier reported a case of scurvy, occurring in a child following the substitution of barley-water and the like for milk in the course of treatment for gastrointestinal disturbance. Improvement set in at once after regulation of the diet, with a proper milk-mixture and vegetable juices. Dr. G. G. Davis exhibited a new club-foot stretcher for inveterate cases of club-foot. This consists of two heavy arms of metal jointed at one extremity and provided with plates to receive the heel and the ball of the foot, the pressure being applied from above to the arch of the instep. Dr. James K. Young exhibited a portable appliance for the application of plaster casts. This consists of a frame constituted of two parallel longitudinal and transverse bars each that can be detached and joined together, and between the transverse portions of which a strip of muslin is stretched, the subject being received in the prone attitude upon the latter. Drs. S. McC. Hamill and F. T. Stewart exhibited a specimen of intestinal adhesion, probably of traumatic origin. The patient had been exhibited at a previous meeting, and gave a history of an injury to the right loin, followed by the development of a swelling in this situation, presenting variations in size. The mass was believed to be an enlarged and displaced kidney. Subsequently, blood was passed repeatedly by the bowel, and suspicion of malignant disease of the intestine was aroused. Operation was undertaken and a mass of adhesions found in the right hypochondrium. An apparent constriction of the bowel at this point was excised and end-to-end union undertaken. The child, however, failed to rally, and death resulted. On examination of the specimen obtained through the wound of operation, it was found that the ascending and transverse colon had been adherent and connected by a communication of opening. Dr. Edwin E. Graham reported a case of intussusception, with remarks on the treatment. The patient was a child with a history of constipation from birth, for the relief of which laxatives and enemata had been repeatedly employed. Symptoms of intussusception of the bowel developing, a tumor was detected on introducing a finger into the rectum. Irrigation of the bowel was practised and the tumor palpable through the anus disappeared, although the original symptoms persisted. The condition of the child becoming increasingly grave, operation was resorted to, the intussusception released, but the shock and other symptoms failed to yield and death resulted. On post-mortem examination, it was found that the intussusception had not recurred, and the conclusion was reached that death must have resulted from the shock and other attendant phenomena. Dr. S. McClintock Hamill read "The Report of the Milk Commission for the Year 1903." The milk from five dairies is being certified, as complying with the bacteriological and chemical requirements established by the commission. One dairy was dropped for non-compliance, and another withdrew voluntarily. The milk and cream are examined systematically for their bacterial content, their reaction and the percentage of proteids, fat and carbohydrates, and when deemed necessary inspection of the dairy and the herd is made without previous notice. The good results

of the work are shown in the constancy with which the requirements of the commission are attained by those attempting do so.

Pathological Society of Philadelphia.

At a stated meeting, held February 11, Dr. W. B. Stanton exhibited a specimen of aneurysm of the arch of the aorta mistaken clinically for pulmonary tuberculosis. The patient presented cough, expectoration, wasting, dulness at the apices of the lungs and moist râles, death taking place from heart-failure, but the autopsy disclosed two large aneurysms of the aorta, one of which was of extraordinary size, with thick walls and lined by a considerable amount of laminated clot. Drs. C. W. Burr and D. J. McCarthy exhibited a specimen of multiple thrombotic softening with tumor-infiltration of the brain. The patient admitted syphilis and gave a history of repeated attacks of loss of consciousness. During life he presented right hemiplegia with word-blindness and from time to time he had attacks of more or less general convulsions. After death several areas of softening were found in brain and cerebellum, while the left cerebral hemisphere was enlarged and of increased consistency, and it was believed to be the seat of an infiltrating subcortical neoplasm. Dr. McCarthy exhibited also a specimen of probable tuberculoma of the skull from a girl who in early life had a fall, followed by convulsions, and later by ataxic gait, nystagmus and loss of vision, with secondary optic atrophy. After death a tumor apparently in part caseous, in part calcareous, was found in the left cerebellar fossa and causing pressure-softening of the cerebellum. Dr. R. C. Rosenberger read a paper entitled "Some Recent Contributions to the Study of Serum Reactions." Among the diseases named in which the agglutination and sedimentation of the bacilli causative of various diseases were induced by blood or blood-serum from patients suffering from the respective diseases were typhoid fever, paratyphoid fever, pneumonia, tuberculosis, dysentery, cholera, tetanus, relapsing fever, plague, Malta fever, and affections due to colon-bacilli and to streptococci. Dr. Robert N. Willson, Jr., and Dr. Coca exhibited a section of liver and one of spleen from the body of a man who during life presented a history, symptoms, and physical signs of pneumonia, but in which post-mortem examination revealed the existence of acute miliary tuberculosis. Dr. Alfred Stengel exhibited a large number of urinary calculi passed by a man who for many years had presented symptoms suggestive of renal calculi, but who only recently began passing the small globular concretions at the rate of about forty a day.

Cincinnati Research Society.

At a monthly meeting of the Cincinnati Research Society on February 18 a demonstration was given by Dr. S. P. Kramer, in which he attempted to prove the "Nature of the *X*-ray." He stated at the outset that he was working on the assumption, which was as yet purely hypothetical, that the ray was a bombardment of five metallic particles. He said that facts pointing in this direction were the deposit which occurred on the inner surface of the tube after use, the fact that as the density of a material increased its penetrability to the *x*-ray decreased, the fact that a vane placed between the electrodes in the Crooks' tube was made to resolve by the ray playing upon it, the fact that the *x*-ray burn was different in character from the ordinary burn and acted as if some noxious agent were deposited in the tissues preventing healing. In support of this hypothesis he himself had demonstrated that the tube loses weight by continuous use (.0011 in one hour), also that the negative which has been exposed to the *x*-ray is not rendered soluble by $Fe_2 Cl_6$ as is the negative of the ordinary photograph. He also pointed out that a Leyden jar so held that the electric spark just failing to discharge was made to discharge by turning the *x*-ray upon it. Dr. M. L. Heidingsfeld added to these demonstrations that he had found by chemical examination that the deposit on the inner surface of the tube contained platinum.

A paper was then read by Dr. M. L. Heidingsfeld entitled "Nævus Linearis." He reported three cases, and called attention to the unilateral character of the disease and the great diversity of the pathological appearances at different times, and often in the same case. He showed photographs of the cases, together with photomicrographs. Under the microscope some of the lesions resembled the ordinary clavus, others the venereal wart, and still others sarcoma. In one case a nodule had been removed in the belief that it had become sarcomatous.

Cincinnati Academy of Medicine.

At a regular meeting of the academy, held February 15, a paper was read by Dr. F. D. Phinney entitled "Some Points on the Pathology and Routine Examination of the Ocular Muscles." He said in brief that greater care should be exercised in the investigation of the etiology of the ocular deviations, for only by a correct understanding as to the muscle or function primarily at fault can we hope for any degree of success in our therapeusis. While many deviations may primarily be due to a purely muscular abnormality, the greater number are dependent upon some derangement of the convergent or divergent function. An esophoria may not only be due to a convergence excess but to a divergence insufficiency, or we may find either one of these conditions engrafted upon the other. In fact, it is the general rule for a deviation to become generalized throughout the whole field, so, that in cases in which asthenopic symptoms are pronounced for one distance only, we later find them manifested both for distance and near. The problem before us is to determine in these complicated cases which was the primary affection. Tests should be made both for distance and near, and several different tests should be employed so as to check off results and avoid any additional sources of error. The screen and parallax tests seem so far to give satisfactory results, especially when used in conjunction with the Maddox rod and phorometer. The usual custom of simply testing with prisms, base out or base in, must give unsatisfactory results if we allow ourselves to depend on this alone. The prism convergence or ability to overcome prisms base out is by no means a constant quantity and may vary considerably in the same individual at different times. For near it is difficult to see what real information this test can give. While many deviations of considerable amount appear to cause but little trouble, we frequently find that those of very minor degree give rise to marked symptoms of asthenopia.

After the discussion of this paper a paper was read by Dr. C. W. Tangeman entitled "Purulent Conjunctivitis." He spoke of the immense importance of this disease and of the large percentage of the blind of the world for which it was responsible. He gave a brief outline of the etiology and symptomatology and spoke of how often, unless very carefully treated, the disease went on to sloughing of the cornea and destruction of the eye. He spoke of the difficulty in severe cases of everting the lids, especially in the new-born child, and of the impossibility of cleansing the eye properly unless this were accomplished. The main object of the paper, it was stated, was to speak of the great utility in this disease of cleanliness and of some of the newer silver solutions. In speaking of the Credé method of prophylaxis in the new-born, he said that in his estimation the after-flushing of the conjunctival sac with salt solution was of greater service than the use of nitrate of silver, and that if he were limited to one agent for the treatment of the disease his choice would be water in sufficient quantity skilfully applied. He then spoke of

the use of the nitrate of silver, and stated that it caused a coagulation of the surface of the conjunctiva as soon as it came in contact with it, and in this way was prevented from penetrating to a sufficient depth to reach the gonococci in the tissues. He also said that it was a dangerous remedy in the presence of corneal ulceration. The use of one of the newer organic silver salts was preferable.

Dr. D. T. Vail said in discussion that he had always found the nitrate of silver satisfactory. Dr. Louis Stricker said that he had used other silver solutions in preference to the nitrate. Dr. J. M. Withrow spoke of the value of teaching the routine cleansing of the eyes of the new-born child, and told of a case in his practice in which the nurse was so well trained that she used the Credé method after delivery by cæsarean section.

New Instruments.

RADIUM RECEPTACLES FOR THE STOMACH, ŒSOPHAGUS, AND RECTUM.*

By MAX EINHORN, M.D.,
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X-rays have been found to be of great value in the treatment of cancer of the superficial organs. An attempt to use these rays in malignant neoplasms of the digestive tract has shown itself to be of no value, probably because the Crookes' tube cannot be applied to the organ directly. Since Curie has lately discovered the remarkable properties of radium, and since even favorable results have been reported from the use of this agent in superficial affections, the idea naturally presented itself to try it in malignant diseases of the digestive apparatus.

To accomplish this, I have constructed radium receptacles for the stomach, œsophagus, and rectum. These apparatuses allow the radium to be applied locally as near as possible to the seat of the disease. The effect will thus probably be most pronounced.

The radium receptacle† for the stomach consists of a glass capsule that can be screwed apart, the upper part of which is provided with an opening for the attachment of a silk thread (Fig. 1). The radium flask is inserted into this capsule, the latter is screwed together, the silk thread attached and knotted. The length of the latter must be about 75 cm. There should be knots at 40, 50, and 63 cm. The first knot (at 40 cm.) indicates the distance of the cardia from the lips, the second (50 cm.) how far the capsule should be distant from the cardia, and the third (63 cm.) the distance from the mouth to the lobe of the ear.

The method for introducing the radium capsule is the same as that for the introduction of the stomach bucket.

The patient swallows the radium capsule on an empty stomach, after it has been inserted into the pharynx by the physician, and drinks a glass of water. The capsule is allowed to project about 10 cm. beyond the cardia, *i.e.* the length of thread from the lips to the capsule should be about 50 cm., and the thread is tied to the ear.

The radium is left in the stomach for about one hour, and then the receptacle is removed. This is done in the following manner: The thread is removed from the ear and the capsule is pulled up. We first encounter a slight resistance at the cardia, which must be overcome by gentle traction. The next point of resistance is met with where the larynx presses upon the œsophagus. Forced action would hurt the patient; he is therefore told to swallow, and during this act the instrument is withdrawn.

The receptacles for the œsophagus and rectum show a similar construction. They consist of capsules that may be screwed apart, made of glass or aluminum (or any material which does not prevent the radium radiations to any great extent) (Fig. 2). On the cover is an elevation provided with a screw-thread, which is destined to receive a bougie. They are used as follows: After the radium has been inserted into the olive, and the latter been screwed together, the bougie is attached and the instrument introduced into the œsophagus (or rectum). It is self-understood that it is introduced so far that it lies just at the point affected. It is allowed to remain one-half to one hour, according to the amount of radioactivity.

Fig. 1.—Radium Receptacle for the Stomach.

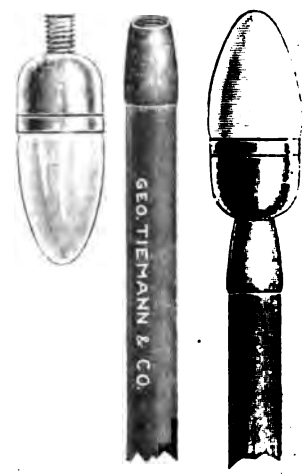

Fig. 2.—Radium Receptacle for the Œsophagus and Rectum.

Regarding the results of these methods not much can be said as yet, since they must be tried on an extensive clinical material. I have tried radium‡ in the stomach receptacle in a patient for three weeks with apparently good result; the tumor seems to have diminished in size and the pains have considerably decreased.

After having gained further experience I intend to report again on this subject.

*Paper read and apparatus demonstrated on January 22, 1904, at a meeting of the Society of German Physicians of New York.

†Those receptacles for the stomach, œsophagus, and rectum were made for me by Stohlmann, Pfarre & Co., New York.

‡The radium was of 7,000 activity (the quantity being 0.25 gram.).

20 East Sixty-third Street.

Epidemic Catarrh on Shipboard.—Seventy-one swabs from the nose and throat were taken showing staphylococcic and streptococcic in eight cases which were cultivated. The author concludes there was a contagious factor in the attack. Most of the cases had a respiratory catarrh. Urine negative. The blood showed a leucocytosis. The cultures showed invasion by cocci. The cases of pyæmic fever and arthralgia are thus explained. A medium-sized diplococcus occurring in groups, tetrads, or chains was found so constantly that the author attributes considerable influence to it. Pfeiffer's influenza bacillus was not noted. The enlarged cervical glands indicated a protective reaction. Ulcerations and neucrotic patches in the throat were probably due to leptothrix, streptothrix, and higher bacteria. Bad hygienic surroundings, such as overcrowding, poor ventilation, dampness, heat, and decomposing dirt were thought to be causative factors.—*Journal of the Association of Military Surgeons.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending February 27, 1904:

	Cases.	Deaths.
Measles	1239	18
Diphtheria and croup	368	57
Scarlet fever	452	32
Smallpox	...	...
Varicella	112	...
Tuberculosis	419	180
Typhoid fever	40	10
Cerebrospinal meningitis	...	...

An Early Symptom in Severe Cases of Perityphlitis.—Moszkowicz has collected seventeen cases of his own, and twenty-nine others in which the abdomen was opened for appendicitis within the first forty-eight hours. Out of these forty-six cases a free peritoneal exudate was present in twenty-seven, and it is probable that in other cases in which fibrin was found that operation a few hours earlier would have revealed a fluid exudate. The difficulty of recognizing the severe cases with diffuse suppuration sufficiently early to make operation successful is well known, and the author thinks that a careful examination of the abdomen for free fluid will often be of great diagnostic assistance.—*Münchener medizinische Wochenschrift.*

Ascending Renal Infection.—John A. Sampson presents the following conclusions: (1) The vesical part of the ureter changes under the various degrees of dilatation and of intravesical tension of the bladder, and in each of these conditions one may find special provision for guarding the lumen of the ureter and thus preventing a reflux of urine from the bladder into the ureter. Under all conditions of the bladder the direction of the current of urine from the kidney to the bladder is a constant factor in the prevention of ascending infection. In addition there are present: (a) In the distended bladder, the very oblique course of the ureter and the long ureteral valve, the lateral walls or labia of the ureteral orifice, and the mucosa of the ureter; (b) in the contracted bladder, the course of the ureter is less oblique, the ureteral valve is shorter, and these factors apparently play a less important part in the protection of the ureter, than they do in the distended bladder. On the other hand additional protection is afforded by a puckering of the ureteral orifice; the ureteral labia may come together, and the ureteral mucosa is thrown into folds. (2) The anatomical structure and physiological action of the ureters as well as clinical experience would indicate that the function of the ureters is not only to carry urine from the kidneys to the bladder, but also to prevent fluid from passing into the ureters from the bladder, and that under normal conditions it is impossible for the latter to take place. Cases have been reported which contradict this statement. The fact that an occasional case has been reported in which apparently a reflux has occurred, especially when nothing is known of the condition of the ureteral orifice in these instances, cannot be regarded sufficient evidence for supposing it may occur in all cases. (3) Organisms may be conveyed from the bladder to the kidney through various channels. The reflux of urine from the bladder into the ureters may be considered an etiological factor in the causation and maintenance of renal infection only when the intravesical part of the ureter is diseased, thus impairing its function, or when some ureteral abnormality exists. Other etiological factors of great importance in the causation of renal infection are an injured kidney, which presents a lowered local resistance, and general ill health of the patient, that is, lowered general resistance.—*Johns Hopkins Hospital Bulletin.*

The Vaginal Operation for Carcinoma of the Uterus.—Flaischlen reports the results obtained by him and Ruge on a series of private cases of carcinoma of the uterus operated by the vaginal route. These show a total percentage of cures of 34 per cent., or, including three patients who survived the operation from two and one-half to four years and then died of independent conditions, a percentage of over 40 per cent. of cures. Of the seventeen cases now living and well, twelve were operated over ten years and nine over thirteen years ago. Three cases have remained cured sixteen, seventeen, and eighteen years respectively. The diagnosis was always established by microscopical examination, and the results do much to confute those writers who consider the vaginal operation solely as a palliative measure.—*Zentralblatt für Gynäkologie*, Vol. 27, No. 52.

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended February 27, 1904:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
California, San Francisco	Feb.	7–14	5	..
District of Columbia, Washington	Feb.	13–20	6	..
Florida, Jacksonville	Feb.	13–20	5	..
Georgia, Liberty County	Feb.	12	..	7
Illinois, Danville	Feb.	13–20	3	..
Louisiana, New Orleans	Feb.	13–20	1	Imported.
Maine, Calais	Feb.	13	5	..
Maryland, Baltimore	Feb.	13–20	1	..
Michigan, Detroit	Feb.	13–20	2	1
Missouri, St. Louis	Feb.	13–20	5	..
New Hampshire, Manchester	Feb.	13–20	1	..
New Jersey, Trenton	Feb.	13–20	7	..
New York, New York	Feb.	13–20	3	1
Niagara Falls	Feb.	13–20	5	..
Ohio, Cleveland	Feb.	12–19	1	..
Pennsylvania, Butler	Feb.	6–13	1	..
Carbondale	Feb.	14–21	1	..
Johnstown	Feb.	13–20	4	..
Philadelphia	Feb.	13–20	49	13
Pittsburgh	Feb.	13–20	2	1
Titusville	Feb.	13–20	1	..
Williamsport	Feb.	6–13	1	..
Tennessee, Memphis	Feb.	13–20	31	..
Nashville	Feb.	13–20	7	..
Utah, Salt Lake City	Feb.	6–13	1	..
Virginia, Danville	Feb.	6–13	2	..
Wisconsin, Milwaukee	Feb.	13–20	11	..

SMALLPOX—INSULAR.

Hawaii, Honolulu	Feb.	4	1	On U. S. T. Logan.

SMALLPOX—FOREIGN.

Austria, Prague	Jan.	23–30	3	..
Brasil, Pernambuco	Jan.	1–15	..	30
Rio de Janeiro	Jan.	17–24	24	27
Canada, Quebec	Feb.	6–13	1	..
Tower Hill, N. B.	Feb.	15	2	..
Colombia, Barranquilla	Jan.	27–Feb. 2	..	5
France, Marseilles	Jan.	1–31	..	29
Paris	Jan.	30–Feb. 6	31	2
Great Britain, Edinburgh	Jan.	30–Feb. 6	17	1
Glasgow	Feb.	5–12	46	2
Hull	Jan.	30–Feb. 6	3	..
London	Jan.	23–30	4	..
Manchester	Jan.	30–Feb. 6	3	..
New Castle on Tyne	Jan.	30–Feb. 6	2	2
Nottingham	Jan.	30–Feb. 6	11	..
Sheffield	Jan.	23–Feb. 6	3	..
South Shields	Jan.	30–Feb. 6	1	..
Sunderland	Jan.	30–Feb. 6	1	..
India, Bombay	Jan.	19–26	..	7
Karachi	Jan.	17–24	2	1
Mexico, City of Mexico	Jan.	31–Feb. 7	4	1
Netherlands, Amsterdam	Jan.	30–Feb. 6	3	..
Russia, Moscow	Jan.	16–23	5	4
St. Petersburg	Jan.	23–30	11	1
Spain, Santander	Feb.	1–8	5	..
Turkey, Smyrna	Jan.	17–31	..	1

YELLOW FEVER.

Brasil, Rio de Janeiro	Jan.	17–24	3	1
Cuba, On Nor. bk. Eugen from Laguaira, wrecked on South coast	Feb.	16	7	1
Mexico, Merida	Jan.	31–Feb. 13	1	..
Progreso	Jan.	31–Feb. 13	1	..
Vera Cruz	Feb.	6–13	1	..

CHOLERA—INSULAR.

Philippine Islands, Manila	Jan.	2–9	4	..

CHOLERA—FOREIGN.

India, Calcutta	Jan.	8–23	..	3
Turkey in Asia, Diarbekir	Jan.	9	..	..
Kerbela	Jan.	11–12	5	..

PLAGUE—UNITED STATES.

California, San Francisco	Feb.	12	..	..
San Francisco	Feb.	14	..	..

PLAGUE—FOREIGN.

Brasil, Pernambuco	Jan.	1–15	..	..
Rio de Janeiro	Jan.	17–24	8	..
India, Bombay	Jan.	19–26	..	23
Calcutta	Jan.	8–23	..	2
Karachi	Jan.	17–24	8	..
Madras	Jan.	16–22	..	..
Peru, San Pedro	Feb.	20	A few cases.	
Russia, Cronstadt	Jan.	20	1 death.	
			Oratory ca	

Medical Record

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Original Articles.

SECONDARY LAPAROTOMY.*

By H. C. COE, M.D.,
NEW YORK.

ALL of us who have served an apprenticeship in gynecological clinics have arrived at the conclusion that there is a wide difference between the word "cured," entered on a patient's discharge slip and her condition a few months, or years, after operation. After we had carried out the usual routine treatment for a long time in the out-door dispensary without results, and had then referred the woman to the hospital for operation with the confident assurance that she would be permanently relieved by operation, it used to be most disappointing to receive her back again no better than before, or even to find that her latter state was worse than the first. Doubtless we have often criticised the gentlemen who performed the operation and promised ourselves that if we ever occupied their positions we would do better. Our time has come; we have had our years of experience, with better technique and wider opportunities than our predecessors, yet we still furnish our quota of unsuccessful cases, and a new generation is viewing our work from the same critical standpoint. Our patients are "cured" so long as they remain under observation, but after that—what? I have ventured to touch on an old theme, not only because it is of practical interest to the youngest, as well as to the oldest of us, but because the last word has by no means been said. Doubtless secondary operations are much less frequent now than they were before the days of rigid asepsis and exact technique, when explorative incisions and incomplete abdominal sections were so common.

When we recall the ordinary complications of to-day before which the boldest surgeons used to recoil and close the abdomen, the explanation is self-evident. From their standpoint that was the wisest course, in view of the frightful mortality attending even simple ovariotomy, not to speak of the abscesses, herniæ, fistulæ, and other complications that were so common in patients who survived. The rôle of the silk ligature then used must not be forgotten.

With the lowering of the mortality there has also been the elimination of many of the conditions which retarded the convalescence and rendered miserable the after lives of those who recovered from the operation. But that we have still room for improvement is evidenced by the considerable number of patients who require a second laparotomy before they are restored to health. The reasons for this are two: The fact that more severe and complicated operations are now undertaken, involving the separation of extensive intestinal adhesions, the removal of infected organs and the denudation of large peritoneal areas; and also the general adoption of conservative methods in the treatment of diseases of the adnexa. Ventro- and vaginofixation may be mentioned as popular procedures which occasionally give rise to subsequent trouble. I wish to state at the outset that I cannot subscribe to the oft-repeated assertion of a skilful, but combative, surgeon in a neighboring city that the necessity for a second abdominal section always implies careless or imperfect work on the part of the former operator. If this were so, none of us (including the gentleman in question) would see salvation. Such a sweeping criticism ignores the anatomical processes which follow every abdominal operation.

I need not define my subject, as you, of course, understand by "secondary" laparotomy one undertaken several months, or years, after a previous section for the relief of symptoms that either were not relieved by the former operation, or have developed subsequently in consequence of new pathological processes, due to the lighting up of old foci of disease only partially removed, or to local condition not directly dependent on the former ones. These vary in importance from slight adhesions to virulent pus-collections attended with profound septic infection. Exudates, fistulæ, neoplasms of the ovaries and broad ligaments, ectopic gestation, subsequent disease of the uterus —all these conditions are familiar to those who have had occasion to reopen the abdomen. Even after hysterectomy the formation of a broad ligament cyst may necessitate a second laparotomy, as I have noted in four or five cases.

An extended consideration of the pathology of this subject, though of great interest, would lead us beyond the limits of this paper. The question of intrapelvic adhesions alone (which I have discussed elsewhere) would furnish material for a monograph; indeed it has quite an extensive literature, both experimental and clinical. As regards the etiology, it would be interesting to inquire how far gauze drainage is responsible for permanent adhesions. That a fair number of drainage cases are entirely cured is admitted, and it will be granted without argument that even after simple, aseptic sections adhesions may be unusually extensive, without any history of a subsequent attack of peritonitis. One experimenter has gone so far as to state that adhesions form whenever the abdominal cavity is opened. Clinical experience is opposed to this view. Equally difficult of explanation is the fact that in many instances in which large raw surfaces and infected stumps are left adhesions either do not form, or else they are so slight that they give rise to no distressing symptoms. It is sufficient to note that adhesions do occur in spite of the most painstaking efforts to prevent them.

Fistulæ, intestinal, vesical or ureteral, are most annoying complications of both abdominal and vaginal sections, especially when they develop late in consequence of ulceration of a wound of the viscus, which was either not recognized during the operation, or was regarded at the time as of little importance. Nature is usually kind to the patient, but

*Read before the Obstetric Section of the New York Academy of Medicine.

now and then a second operation is necessary for their repair.

Secondary pus foci may be an evidence of imperfect technique, unwise conservatism, or reinfection—not to mention infected ligatures and stumps, foreign bodies left in the cavity, etc. It may be safely assumed that they are less apt to follow radical operations, especially vaginal. Hernia I shall not consider here, though it belongs properly among the conditions which require a secondary operation, especially as it is so often complicated by omental and intestinal adhesions.

The development of neoplasms of the uterus, adnexa and broad ligaments after previous operations in which one or both ovaries have been removed, is so common as to require no comment, since it was noted by the early ovariotomists. How often has the surgeon spared an insignificant cystoma or fibroid to see it grow until its removal was required! And quite as often an ovary which appeared to be perfectly normal, has undergone cystic degeneration, or has become the seat of a large tumor. Or a tube has become occluded and formed a hydrosalpinx or tuboovarian cyst, or even a pyosalpinx has resulted from subsequent infection. Allusion has been made to the appearance of broad ligament cysts after removal of the uterus. Whether the growth of intrapelvic tumors is favored by the circulatory disturbances consequent on the ligation of the large vessels or not is uncertain, but the fact remains that they do develop rapidly from apparently healthy organs after the primary operation. Personal experience has led me to remove the opposite ovary, even though macroscopically healthy, when its fellow is the seat of papilloma, since I have found that the remaining one is usually affected later.

This leads us to consider the pathological changes which may follow modern conservative operations on the adnexa. I have discussed these elsewhere and shall refer you for details to a paper in the Transactions of the American Gynecological Society for 1898. The views then expressed have been amply sustained by my later experience, including about three hundred cases. I do not overstate when I say that in over 5 per cent. of these a secondary operation—abdominal or vaginal—has been necessary in order to relieve distressing symptoms, or to cure morbid conditions following the former operation. I have no doubt that this percentage would be higher if I could add cases operated upon again by other surgeons. The abdominal was preferred for conservative work, which I suppose my colleagues who are skilled in vaginal section will regard as the principal explanation of the poor results. I may add that I have invariably endeavored to preserve the function of menstruation whenever a portion of an ovary could be saved without actual risk to the patient, especially if it was her urgent request. The wisdom of this course I am beginning to doubt, I believe that it is better for the surgeon to be unhampered by any positive promise, since to keep it may be to jeopardize a woman's life and to render the operation practically valueless.

I am strongly averse to resection of the ovaries and tubes in pus cases, though I have left the ovaries, or portions of them (never the tubes), with gratifying results. The only way to treat a pus-tube is to exsect it entirely and to suture the uterine wound and broad ligament with continuous catgut. In the presence of subacute gonorrhœal (and above all streptococcus) infection resection of the tubes, as Landau has remarked, is a delusion, since the new ostia are surrounded by adhesions within a few hours, and there is no more chance of conception than there was before—in fact, he believes that if it were not for this conservative work of Nature fatal results would follow more frequently than they do. However, I am not discussing the pros and cons of ultra-conservatism, but the ultimate results. These are the cases in which the formation of fresh exudates, imprisonment of ovaries, fresh suppuration, etc., often necessitate subsequent radical work.

The most promising cases are often the most disappointing. I have noted elsewhere the various changes which a resected ovary may undergo, from complete cirrhosis and atrophy to cystoma, with resulting amenorrhœa or menorrhagia and metrorrhagia. In at least a dozen cases I have been obliged to remove the uterus for profuse hemorrhages which did not yield to repeated curettement, though before the ovaries were resected menstruation was normal. Serial sections of these uteri showed that the cause lay outside of the organ. Two troublesome cases of intestinal fistula (fortunately the only ones which I have had after laparotomy) followed conservative operations on the ovary. One healed spontaneously. The other—an aseptic case without rise of temperature—was cured by a secondary laparotomy, when I found that ulceration of the gut had occurred at its point of attachment to the remains of an ovary. I shall never forget how the patient reproached me for my well-meant attempt to patch up her ovaries instead of removing them entirely. Understand, I am not arguing against conservatism in abdominal surgery. The many distressing psychical disturbances, atrophy of the vagina, etc., following castration, would furnish sufficient reasons for practising it aside from the question of curing sterility. I merely wish to emphasize the fact that not a few of our secondary operations at the present time are performed upon patients whose ovaries and tubes have been treated conservatively.

From all that we know of the pathology of the ovary and the difficulty of deciding by a hasty mascroscopic examination what portion is normal and what diseased, I think that we can fairly raise this question: "In a doubtful case may it not be wiser to let an ovary alone if we do not feel justified in removing it?" With the question of fresh gonorrhœal or septic infection we are not directly concerned, provided that we have removed all the disease at the time of the first operation. That we do eliminate it by our preliminary curettement, and by the catheterization and irrigation of infected tubes is more than doubtful; at least this would appear from my experience at Bellevue.

The frequency with which we find a diseased and adherent appendix on reopening the abdomen, where it was presumably healthy at the time of the previous operation, furnishes a strong argument in favor of the routine custom of removing it whenever the abdomen is opened, at least if it shows any departure from the normal. It is not pleasant to feel that one has been more or less responsible for appendical complications through timidity or unwise conservatism.

The principal indication for a second operation is pain, either the same of which the patient previously complained, or a new form more severe than before. Dysmenorrhœa, menorrhagia, vesical irritation, gastrointestinal disturbances—each of these symptoms may be so severe as to require surgical relief; but pain is the one which usually makes the patient willing to submit to a second section. In my experience intestinal adhesions have been the most common cause of distressing

toms, varying in severity from obstinate ic irritation (often dependent on traction the stomach by an adherent omentum) testinal obstruction. The pain may be gen- or localized, and, as before stated, may be ly out of proportion to the pathological con- . The same applies to pelvic exudates and ices in the broad and sacrouterine ligaments. pose that it is due quite as much to the limi- of peristaltic movements as to pressure on ed nerves. It is difficult to explain why so severe in cases of filamentary adhesions, is sometimes strangely absent, when the nes are firmly matted together, as in ant disease. Doubtless the neurotic ele- is an important one. Painful stumps, the nment of ovaries and tubes, traction on ck of the bladder, contraction of the lumen rectum, stricture, and even complete occlu- the ureter—all these result from the presence pelvic adhesions, and all give rise to more distinctive pains.

menorrhœa may be marked in connection stic or cirrhotic changes following resection ovary, though I do not recall a case in which the sole indication for interference.

orrhages so profuse as actually to sap the of the patient not infrequently call for re- of the uterus, even when the latter is small rophied, and the curette shows no evidence se of the endometrium. I have met with enomenon in connection with atrophied and when no satisfactory explanation could en. This menorrhagia, or metrorrhagia, ntinue unchecked, without pain or other ms.

ation has been called to the effect of on the stomach as the result of pelvic ment of the omentum, leading to obstinate g and indigestion, symptoms which are es promptly relieved by separation of the s. This condition should be suspected ection with prolonged gastric disturbances g laparotomy.

gards the diagnosis of conditions indicating d operation, we may dismiss as self- those in which the presence of persistent herniæ, neoplasms, extensive exudates and t foci are readily recognized by inspection, manual examination, and shall dwell more rly upon the less obvious lesions, the exist- which must be inferred, rather than posi- tablished. In order to draw a correct infer- to the probable morbid condition, one should e exact nature of the former operation, and complete history of the patient subsequently. nately this is seldom possible in hospital , even in the case of one's own patients. the witty French skeptic said, "There is something agreeable to us in the misfor- of our friends," it is certainly unsafe for us because we have an opportunity to revise gue's abdominal work, because he may be to perform the same service for us at any

average Bellevue patient can furnish little information as to what was done by the operator, and unless she has been under nt in the out-door dispensary, it is almost ible to determine whether her condition on e is due to the persistence of former symp- r to the results of recent infection. All are with the "rounders" who drift about ne hospital to another, seeming actually to the prospect of a new surgical sensation. I have reopened the abdomen for the fourth, and recently for the fifth time. The latter patient was a true connoisseur, having tasted the surgical delights of Mt. Sinai, Roosevelt, and the New York Hospitals before reaching Bellevue. Doubtless after a short rest she will start on her rounds again.

The presence of intestinal adhesions may be inferred from a history of more or less constant colicky pains in the lower abdomen, especially if they are localized at the site of a resected ovary or tube. Fixation of the uterus and of the remaining ovary and tube serve to confirm this opinion. Examination under anæsthesia is advisable in doubtful cases, especially in neurotic subjects, though the result may be practically negative. Persistent pain may be a sufficient indication for explorative incision, however, even though nothing abnormal can be detected on examination.

The prognosis as to complete relief by a second operation should be guarded. It is unsafe to promise a cure when we never know beforehand exactly the condition which we may encounter at the operating table. This was illustrated in the case of a patient who, after two laparotomies (the first conservative) and a vaginal hysterectomy has been my *bête noir* for several years, never once admitting that she is the least bit better than she was before the first operation.

In operating for certain obvious conditions—neoplasms, persistent hemorrhage, etc.—we may confidently expect positive results. But when it is a question of separating dense adhesions, or dissecting out exudates, one must never forget that these may recur in spite of the most careful work. The patient is usually relieved, sometimes permanently. Operations for the cure of fistulæ are often so difficult and prolonged that even recovery may be doubtful, aside from the possibility of failure.

It is unnecessary to dwell upon the technique of secondary laparotomy. You will note that I have confined myself to abdominal section, though I grant that the vaginal route may be employed. For simple removal of the uterus and remains of the adnexa I would prefer it, but I cannot yet admit that adhesions above the pelvic brim can be thoroughly separated and raw surfaces sutured except through an abdominal incision. Every case of repeated laparotomy is, in a sense, a surgical experiment in which the operator's reputation is involved. Naturally he will make a prolonged search for the cause of the trouble. The surgeon can hardly be too radical at his second séance. Usually he now has the full coöperation of the patient, who does not hamper him with the request to spare this or that pelvic organ, but simply gives him *carte blanche* to "take out everything if necessary this time."

The man who discovers a sure method of preventing the reformation of adhesions will deserve our lasting gratitude. Various suggestions have been made, such as the covering of raw surfaces with peritoneal flaps, the application of powders and films, filling the abdominal cavity with saline solution, early catharsis—all these have been tried and found wanting. In the meantime one can only deal with each case according to the special conditions present, with an eye to the future, as well as the immediate, welfare of the patient. It is to be hoped that as our technique becomes more perfect and our experience greater the number of secondary operations will become practically insignificant, and "recovery" will be synonymous with "cure."

Though I have not considered the relative advantages of vaginal *vs.* abdominal section, I would be glad if this topic were taken up in the discussion. We are all agreed that pus is best evacuated per vaginam, and that pus-sacs are most safely removed through this route when practicable. Whatever may be our experience with, or our predilection for, the abdominal route, the admirable results obtained by Dr. Pryor in his radical work, and the no less successful conservative operations performed per vaginam by Drs. Goffe, Vineberg, and others furnish the strongest argument in favor of vaginal cœliotomy in skilled hands.

It is generally admitted that the medicine of the future will be largely prophylactic. Any method of operating within the abdominal cavity which is proven to be attended not only with the lowest mortality, but with the fewest complications necessitating a subsequent operation, is the one which we ought to adopt.

† 8 West Seventy-sixth Street.

DRY SUPERHEATED AIR IN THERAPEUTICS.*

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It is not my intention to discuss the technicalities of thermotherapy in this paper, but to bring broadly and comprehensively before your notice, a therapeutical agent which is but too little used at present, but which is destined in the future to become a very popular and a very important factor in the management of many disease processes. The clinical results derivable from its employment and the principles governing its scientific application, are as yet not widely known among the profession at large, but the systematic study of its remedial influences under varying pathological conditions, which has now extended over a period of some seven years, has resulted in the accumulation of data sufficient to rescue the employment of the agent from the uncertain mists of empiricism, and to place it to-day upon a firm basis of rational indication in a considerable number of diseased states.

In order that any agent may be intelligently considered with reference to the correction of a given pathological condition, it is first necessary that its influence upon physiological function should be known. There are two varieties of hot-air applications: one where only the part affected is treated and which is denominated the "Local treatment," and the other where the greater portion of the body surface is subjected to influence and which is denominated the "General" or "Body treatment." The physiological actions of these two varieties of applications differ from each other in degree and to a certain extent also in kind, and may be summarized as follows:

Local treatment: relief of circulatory stasis; increased blood supply to the part treated; increase in the nutritive processes of the part due to reflex stimulation of the trophic nerve centers; the withdrawal of a large amount of fluid from the part treated through perspiration induced; and an increase in the temperature of the part treated whereby the chemical reactions constituting local metabolism are facilitated, and an inhibitive influence upon the development of any pathogenic microorganisms that may be present, is secured.

Body treatment: first, an immediate and powerful stimulation of the vital physical signs; second, reflex stimulation of the function of all the organs and tissues of the body, resulting in, first, a de of elimination of urea and other excreta whi believe to be unequaled by that producible with other measure now known, and, second, an am of reconstructive activity which I believe at present time to be also in excess of that deri from the use of other agents.

For purposes of study, therefore, the pathol conditions to which thermotherapy is applicab a curative measure, would naturally group th selves into three classes:

First, those in which the essential primary p ogy is strictly local, and for the cure of whic local hot-air application is sufficient. As ill tions may be mentioned, sprains, local septic tion in its early stages, and many cases of rh tism.

Second, cases in which the essential p pathology is local, but in which resultant con in the organism at large have extended the c symptom complex, and for the relief of whi additional influences of the body treatment up general bodily functions must be invoked. septic infection with profound systemic toxa a good illustration of this class.

Third, the constitutional or diathetic dise which only the profoundly acting, reflex in of the body treatment upon the metabolic fu are of benefit. As illustrations may be me true gout, many cases of nervous prostrati called), Bright's disease of the kidneys, and a deformans.

To elucidate the principles which govern the cation of dry hot air to different disease pro and to exemplify the clinical results derivable from, we will consider briefly a case repre each of the above-mentioned categories.

A sprain is the most typical condition be in the first class. In this condition we have a ogy which is strictly local, and which is no ently capable of inducing secondary effects threaten the integrity of the organism at lar have simply a traumatic solution of contin volving the soft tissues about the affected accompanied by severe pain, and greater obliteration of function. The objects of tr are to relieve the pain, to hasten physiologica of the damaged structures, and, if the case is one, to secure absorption of exudate. Theo the physiological influences of the local hot-ai ment would be most exquisitely applicable he the following case will illustrate how far experience confirms the validity of the deduc

Mrs. R. H., aged sixty-three years. Pati slipped on a curbstone during the afternoon 26, 1900, spraining her left ankle. I was a see her in the evening, at which time severe bing pain was constantly present, a swelling the size of a butternut was evident just bel anterior to the external malleolus, and the in this region were so sensitive as to be intolerant of any but the gentlest manip She was unable to put her foot to the floor of the resultant excruciating exacerbation pain. A local hot-air treatment was admi at 450° F. for an hour, which entirely relie pain, and she was put to bed without any bi or other local treatment to the foot.

May 27, 11 A.M.: Patient had been free fro during the night, and slept well; the swelli diminished a good 50 per cent., and onl pressure upon the injured tissue elicited Stepping upon the injured member gave rise t

*Read at the fifty-fourth annual meeting of the American Medical Association, before the section on Materia Medica, Pharmacy, and Therapeutics.

and holding it suspended downward induced a throbbing ache. Another local hot-air treatment was administered at 485° F., for an hour. An elastic bandage was then applied about the ankle in such a way as to give support to the lacerated tissues and the patient allowed to be up and

y 27, 10 P.M.: Ankle had been entirely comfortable all day. Swelling had entirely disappeared, some tenderness upon deep pressure was still observable immediately below and anterior to the malleolus. Another, and the last, local hot-air treatment was administered, and directions given to apply the elastic bandage the next morning before leaving her bed. I saw her again during the morning of July 29, or sixty hours after the first hot-air treatment was administered, and all signs of the injury had entirely disappeared. The elastic support was discontinued and the incident was closed.

As a matter of fact if a sprain is gotten under treatment within four or five hours after the injury has been sustained, the pain will be relieved in half an hour and all traces of the trouble will frequently have disappeared within forty-eight hours. If the case has been neglected for two or three days, however, and exudate is present to any great extent, the complete removal of the disability will require from two to three weeks; the pain, however, is susceptible of the same immediate relief observable in the early cases. It is only necessary to compare the course of the remarking recovery from a sprain under ordinary treatment, which not infrequently covers a period of six or eight weeks, and those just detailed, in order to appreciate the immense advantages exhibited by dry hot air in the treatment of this condition.

Local septic infection with general systemic complication is the most typical condition exemplifying the second category. Here we have a primary local pathology, with the introduction into the general circulation directly dependent thereon, of a toxin, which through its depressing influence upon the central nervous system is not infrequently, sufficient to cause death. The objects of treatment would be, first, to rescue the central nervous system from the depression of the toxic bodies emanating from the local disease focus and present in the general circulation, and, second, to strengthen the vital resisting power of the tissues at the site of the microbic invasion, whereby they would be enabled to overcome the destructive factors by which they are being overwhelmed. As I have said, the body hot-air treatment exhibits the power to induce a profound acceleration of the eliminative function, and it exercises a powerfully stimulant influence upon the vital physiological processes, which attributes satisfy the first demands of the plan of treatment; and it stimulates the trophic nerve centers to a high degree of normal reconstructive activity, which satisfies the second demand of treatment.

In illustrating the clinical confirmation of these observations regarding the usefulness of dry hot air in the management of profound septic infection, I recorded the following case in a paper read before the Medical Society of the New York School of Physical Therapeutics this past winter, and the case is such a striking exemplification of the point that I will quote it in full from that paper:

"Mr. A. W. A., aged fifty-one years. Was admitted to the New York Hospital on the morning of January 8, 1902, with a traumatic amputation of the left foot at the ankle. The crushed member was attached to the leg merely by the lacerated posterior tissues. Patient, of course, was suffering considerably from shock. Amputation of the lower third of the leg was done by Dr. Francis Markoe that afternoon. Septic infection, however, declared itself three days after the injury. On January 12 it was noticed that the knee was swollen, on January 15 pus began to discharge from the wound, and in spite of the utmost care, the condition increased in gravity until January 23, fifteen days after the original injury. At this time the leg up to the knee and somewhat above this joint was enormously swollen, the tissues of the stump were sloughing in places, and the patient's general condition was one of extreme prostration. In short, he presented a typical picture of the severest form of blood poisoning, except that streptococci had not been found in the blood. It was decided to amputate the infected member above the knee as a forlorn hope. This was done by Dr. Frank Hartley on the evening of January 23, at the middle of the thigh. The patient rallied very well from the operation and the next morning was given a body hot-air treatment.

During the time intervening between January 24, the day of the second operation, and March 8, the day of his discharge from the hospital, the patient received thirteen body treatments, the greater number of which, of course, were given during the two weeks immediately succeeding the amputation of the thigh. His general condition began to show slight evidences of benefit at once in the way of increased comfort, ability to sleep, and improvement in the vital signs, and he continued to gain slowly but steadily, until by the fifth of February his improvement had become so manifest as to justify a prognosis of recovery with a moderate degree of certainty. From this date on, his improvement was entirely satisfactory, and to-day his general condition is as good as it has ever been in his life before, and he weighs as much within one pound without his leg as he ever did with it.

In order to indicate the gravity of the case I will say here that it was the unanimous opinion of the physicians who saw him that neither the operation nor any ordinary therapeutical measure would save the patient's life. The fact also that slight evidences of tissue disintegration appeared in the wound three days after the second operation, is indicative of the fact that the operation and therapeutical measures other than hot air would not have sufficed to secure a successful termination."

In diseases belonging in the third category we encounter disordered metabolism, which results in, first, impairment of the developmental processes concerned in the formation of new tissues and organic secretions, and, second, the presence of suboxidation products in the circulation which are depressing to the nervous structures with which they are more or less constantly brought in contact. The prime objects of treatment, then, would be first, to accelerate elimination of the suboxidation products, either by direct excretion, or by inducing an increase in the body of oxidation reactions; and second, to apply a corrective influence to the perverted metabolic processes. The following case illustrates in what degree dry hot air body treatments may be expected to prove useful in the management of many of these cases.

Mrs. C. E., aged forty-six years, was admitted to the sanitarium for treatment, September 11, 1901. Nine months previously she had been attacked by a profound nervous prostration, accompanied by digestive disturbances, constipation, and inability to sleep. Her symptoms increased in severity during the following month, when she was compelled by actual muscular weakness to take to her bed, where she had remained ever since. She had had good medical advice during this period. At the

time of admission her condition was as follows: Height 5 feet, 5½ inches, weight, 76¾ pounds, as compared with 115 pounds when she was first taken ill. She was unable to take any but the lightest of nourishments without suffering from severe gastric distress, and severe intestinal indigestion was constantly present. Was obstinately constipated. So weak physically that she could not sit up in a chair long enough to have her bed made. Patellar reflexes slightly exaggerated but sensory phenomena normal. Mental condition normal, attitude generally courageous, but the steady increase in physical weakness, and the severity of the symptomatology had begun to tinge her naturally cheerful disposition with melancholy. She was sleeping fairly well. The menstrual function had been absent for the past eight months. The only abnormality betrayed by the urinary examination was an increase in the quantity of phosphates present. Absolutely no pathological conditions were discoverable by physical examination. The patient was evidently simply starving to death because of inefficiency of the digestive and assimilative functions, probably due to impairment of the nerve centers governing these functions, and as her menses had been absent for the previous eight months, I considered that the cause of impairment was probably climacteric in nature. The treatment administered was as follows: a diet of milk, eggs, and cereals; salines *pro re nata* for the constipation; a body hot-air treatment twice weekly; galvanization of the brain and spinal cord twice weekly; and general static electrification once a day. The first body treatment produced a long refreshing sleep the night following, and the next day her indigestion, both gastric and intestinal, was markedly diminished.

At the end of the first week these symptoms were so much lessened that her diet was expanded to include meat and vegetables once a day. Her weight had increased to 81½ pounds. She was sitting up in a chair each day, and expressed herself as feeling "splendid." A week later she felt well enough, and was allowed, to take a short trolley ride in the care of a companion. At the end of a month from the time of her admission she was allowed to go home for two weeks, after which she returned for a two weeks' resumption of the same treatment. At the expiration of this period, November 11, 1901, her weight had increased to 94 pounds, and she was eating and sleeping, and feeling splendidly. Her melancholy tendency had entirely disappeared,and she resumed some of her household duties.

She returned for another and a final two weeks' course of treatment on January 7, 1902. In the interval preceding she had continuously improved in every way. She was discharged from the sanitarium on January 21, 1902, the only remaining evidences of the trouble being a slight tendency to constipation which was readily controlled by an occasional pill consisting of aloin, strychnine, and belladonna. During her last week of treatment she expressed herself as feeling as well as she ever had in her life, and on her return home resumed full charge of her household duties, which she has continued ever since. I have seen her at intervals since, the last time being one month ago, and she informed me that she has had no signs of a return of the condition, and that she is, and has been, as well as she ever was except for a persistence of the constipation, which necessitates the frequent use of laxatives. Her present weight is 111½ pounds.

The time allotted me is too short to admit of any discussion upon apparatus or administrative technique. I shall, therefore, have to confine myself to saying in this connection, that the difference between an efficient apparatus and a proper and thorough application of the agent, and the reverse, will quently constitute the difference between succes failure in clinical results, and in direct proportio the prominence with which this fact is endowe the mind of the prescriber of hot-air therapy, wil benefit accruing to the patient be pronounce cannot feel satisfied to close this paper, how without referring briefly, to one prevalent er the popular conception of the *modus operandi* o curative power of dry hot air, and to one crit of the agent, which is just about as prevalent.

The error consists in the belief that the me produces its effects merely through the induct integumental hyperæmia, and toxin eliminati represented by the induction of profuse perspir This has led to applying the agent at temper only sufficiently high to produce sweating—t from 200° F. to 250° F. By this means elimi has been secured, and very effective elimi too, but that is all. Now to obtain the best a permanent curative influences of dry hot a must not only induce elimination, but we mu supplement and perpetuate, as far as possib advantage dependent thereon, by augmenti trophic reconstructive functions whereby w increase the patient's constitutional resistan effective stimulation of these processes is no ble unless the higher temperatures, from 300 400° F. are used.

The criticism is that the curative results o by its use are not *permanent*. This impre based upon the belief that hot air is only a pa measure, like a dose of morphine in painful tions for instance, and would never be entert the profound influences upon physiological f which we have been discussing, were taken in sideration. This belief was probably eng by the observation that cases of rheumatism with hot air *alone* frequently *did* "come bac this merely means that the disease was no because the thermal agent was not prope ported, and neither hot air nor any other agent can be expected to do alone what it w combined with proper adjuncts. The adv exhibited by hot air consist in its power to plish, either alone or in combination with agents, that which it is impossible for any combination of agents to accomplish without of hot air.

Another fact bearing upon this criticism when we have carried a patient through an att pneumonia, typhoid fever, rheumatism, or any disease except when the etiological factor ha removed surgically, we cannot assure him t will never have the disease again, no matter curative agents we have employed. We can c certain that the one attack has been extingu If appropriate environmental and constitut conditions again obtain he will surely have to su another attack, no matter how perfect may have his health in the meantime. When men no l contend with conditions which engender habi life that are inconsistent with their perfect phy health, then, and not till then, shall we be imm from repeated attacks of disease, and when millennium has arrived, dry hot air and every remedial agent will have retired to the oblivi complete desuetude.

In conclusion, permit me to say that the k the successful and satisfactory employment of dr air in the treatment of disease consists in bear mind that the agent is simply a rational therape measure, exhibiting a known and constant p ological action, which furnishes a logical basis which to consider its application to a given case

case in question presents a known pathology. It will, alone and unaided, cure some disease processes; others will require that additional agents be combined with it; and in still others all the curative resources at our command will not suffice to effect the patient's recovery. It exhibits in a marked degree the capacity to increase our power to overcome pathological conditions, and because of this, and the effectiveness of its influence in many situations unmanageable with other remedial measures, it is entitled to a prominent rank in the therapeutics of to-day.

STRANGULATED HERNIA.*

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I REGRET that a presentation of the relative frequency of strangulation in hernias is an impossible feature in this paper, and therefore present a consideration of fifty-eight cases of inguinal, femoral, umbilical, and ventral hernias operated upon by me for strangulation during a period of about eight years. These cases have been selected for the reason that they are the only ones operated upon in this period of time, of which I have complete records.

Inguinal Hernia.—There were thirty-one cases of inguinal hernia, all occurring in males. This is rather interesting from the fact that inguinal hernias are not peculiar to the male sex, but common to both, Coley showing in his article, "Radical Cure for Hernia," in the *Annals of Surgery*, June, 1903, that out of nine hundred and thirty-seven cases of inguinal hernia operated upon by him in eleven years, one hundred and eighty-one occurred in females. Of the thirty-one cases, seventeen occurred on the right side, and fourteen on the left, making an almost equal distribution as to frequency of sides. In twenty-five cases the contents were reduced immediately after overcoming the strangulation. In two cases gut was excised, the ends anastomosed and the intestine returned in one; in the other the gangrenous gut was cut open and the apparently healthy gut brought into the wound to be left until complete sloughing had taken place. This was done because the patient's condition was deemed unfavorable to further interference. I am now of the opinion that should such a case again occur in my practice, I would devote the extra ten or fifteen minutes to excising and anastomosing the gut rather than run the risk of an exhausting intestinal fistula remaining for a period of time, and thereby subjecting the patient to a second operation, or possibly death by exhaustion, etc.

Twenty-six of these cases recovered, the five deaths occurring are assigned to the following causes:

I. A child five years old; obstruction, abdominal distension, condition grave; a small nodule in the right groin, said by parents to have been present without variation in size from birth. Abdominal section done through right rectus; palpation revealed a hernia; this was proven to be a typical Richter. The gut was gangrenous; an excision and Murphy button anastomosis was hurriedly done; patient died in two days.

II. Patient about twenty-seven years of age; right properitoneal hernia; gangrenous gut about twelve inches long, this was split open and healthy gut brought into the wound; patient died in a few days from exhaustion.

III. Patient forty-five years of age; left inguinosuperficialis; sigmoid in the sac; sugar in the urine; died of diabetic coma the second day following operation.

IV. Patient sixty-three years of age; left inguinosuperficialis; exceptionally large hernia; adhesions extensive, but operative procedure easy; patient doing nicely, all pointing to a recovery; death on third day from embolism.

V. Patient forty years of age; left inguinal hernia of several days' duration; very fat patient; septic peritonitis in forty-eight hours.

The site of strangulation in every one of these cases was at the external abdominal ring. This was also noted in Coley's seventeen cases reported in the *Annals of Surgery*, June, 1903.

Femoral Hernia.—There were nineteen cases of femoral hernia operated upon. Of these four were males and fifteen occurred in females. There were twelve on the right side and seven on the left. In three cases gut was excised, three, four, and five inches respectively. Two of the excision cases recovered, and one, a female, died in a few hours. She was in a very poor condition at the time of operation.

There was another case of death which is of such interest that I report it in full, as it brings in evidence that occasional possibility—the reduction of a strangulated hernia *en mass*.

Male, fifty-eight years old; obstruction marked for three days when seen by me; a small mass the size of a filbert in the left groin, which was diagnosed by me as a femoral hernia. Upon gentle manipulation the mass was reduced with a peculiar pop. I expressed myself at that time that the bare possibility of a reduction *en masse* had occurred, and left word with the physician in charge that in case the hiccough and vomiting did not cease in a few hours I was to be called, when I would do a laparotomy. I was not called again for forty-eight hours, the family physician having gone out of town immediately after the reduction had taken place, turning the case over to his assistant, and the latter not having explicit directions, paid no particular attention to the case. Upon the return to the city of the original attendant, he recognized that the condition had not improved but was aggravated. I was then called again and did an abdominal section and found a knuckle of gut in its peritoneal sac in the abdominal cavity strangulated, black in color, and very marked adhesions of all the small intestines. The gut was deemed viable; after having released many bands of adhesions, the patient's abdomen was closed. This was done under most unfavorable hygenic and aseptic surroundings. He died in three days from peritonitis. No autopsy.

In seventeen of these cases the contents were reduced immediately. In two, females, the question of viability of gut was so grave that I left the herniated portion upon the surface of the wound until the following day and then returned the gut, completing the operation successfully.

Umbilical Hernia.—There were six of this type of hernia, all females, the majority suffering from excessively fat abdominal walls. One death occurred in this series in a patient thirty-three years old, who suffered from a strangulation for two days. Upon operating, the contents of the sac were found to be returnable—death occurred in fifteen hours, apparently from shock.

One case was of extreme interest; a young woman of about thirty years who had been ill for about a week was brought to me from the country with a history of pain, hiccough, and distension for six or seven days. There was a non-reducible protrusion at the umbilicus. The skin over this tumor was red, and upon palpating, fluctuation was found to be present; her general condition was good; a slight movement had occurred four days before. Upon dissecting down upon the tumor, considerable pus, foul in odor, escaped; the ring was small an

*Read before the Medical Society of the Borough of the Bronx.

contained a bit of slough about the size of a ten-cent piece. Upon enlarging the opening and wiping out the pus, it was seen that the intestines were matted together, making a protective wall for the general peritoneal cavity. In the center of this space an intestinal perforation was observed. Further dissection of adhesions revealed the proximal and distal ends of the jejunum with slough at each end. Ten inches in all were excised and a suture anastomosis was made. The wound was drained for several days. She was discharged from our care at the end of the fourth week.

Ventral Hernia.—Two cases, one a male, the other a female, occurred in my practice in this period. The male was a negro with a hernia in the upper third of the median line that had been reducible up to within a few days before I saw him. At the time he came under my observation his condition was poor, and upon opening the sac, gangrenous, foul-smelling omentum was discovered bathed in pus; no walling off of the cavity existed, and a general peritonitis complicated the picture. Excision of the omentum in a healthy area was done; the peritoneal cavity was wiped as clean as possible; drainage, etc. Death resulted on the third day.

The case of the female was due to a post-operative hernia in the lower half of the median line. Her condition was such as to demand other than general anæsthesia, so subdural spinal cocainization, aided with a hypodermic of morphine, was employed. Twelve inches of her ileum was excised; Murphy button anastomosis and drainage for two days employed. At the end of this time her condition allowed of a complete repair of the post-operative hernia, under general anæsthesia. She was discharged within four weeks with a solid abdominal wall. No pain was felt whatever during the operation done under spinal anæsthesia, but the vomiting was of such projectile character as to interfere with our progress until seven minims of Magendi's sol. had been given hypodermically. After this the mural and intestinal work was done with a greater degree of comfort, at least mentally, than if a general anæsthetic had been given.

Anæsthesia.—There is no doubt in my mind as to which anæsthetic to use. If the patient has not been vomiting, and the general physical condition will allow, a general anæsthetic can be used. Should vomiting be a prominent symptom, then either local or spinal anæsthesia should be selected. I personally prefer using local anæsthesia in all instances of strangulation, as the danger of vomiting and inspiration is overcome. The shock of the operation is also lessened.

Reduction.—Should the condition of the gut be such as to cause any question to arise of its being returnable, no reason can possibly exist for not allowing the herniated gut to remain in the wound for a number of hours, after being anchored by lightly packing around the released ring sufficiently to prevent the spontaneous return of the gut, and at the same time not to prevent the flow of blood to and from the involved intestine. Should the intestine after six or eight hours show non-viability, the secondary operation of excision and radical cure can be proceeded with. This procedure was followed in two of my femoral cases. The intestine was left in the wound over night with most excellent results in both.

As to reduction of omentum when not gangrenous, I am at present returning it always, unless it be matted together by adhesions or hypertrophied. In excising the omentum, I never use the locked or chain ligature, as this procedure rolls the omentum in a mass just as a puckering string does in wearing apparel, etc. This makes reduction in some instances more difficult. This variety of ligation also seems to me to be far less secure than where we take up small sections and make individual ligations, thereby allowing the omentum when reduced to resume its spreading relationship to the intestines.

Excision of Intestine.—There were seven cases of excision, from three to ten inches excised in all cases; one not being anastomosed (the case of inguinal reported); the others were anastomosed in three instances by suture, with one death; and three by means of Murphy buttons, also with one death.

The youngest excision case occurred in a male five years of age, death occurring from general septic peritonitis which existed before the operation.

Of the excision cases, one was an umbilical, one was a ventral, two were inguinal, and three femoral. One of the inguinals, as stated above, was not anastomosed.

Age.—The youngest case was a male thirteen days old; left inguinal hernia; no anæsthetic; recovery. The oldest was a female eighty-six years old; femoral hernia; local anæsthesia; recovery.

Some interest was felt by me as to the occurrence by decades, and the following was the result in fifty-three cases in which the ages are recorded:

First decade	2	Second decade	4
Third decade	13	Fourth decade	10
Fifth decade	8	Sixth decade	11
Seventh decade	3	Eighth decade	2

Although possibly of no statistical benefit, the following represents the number of cases by months. It will be observed that although heat has the physiological reputation of relaxing tissues, that, in my experience, the month of August was the banner month for strangulations.

January	2	February	7
March	6	April	6
May	4	June	5
July	4	August	8
September	5	October	3
November	3	December	3

This peculiarity may be explained on the ground that the hot weather relaxes the rings more, and thereby allows more hernias to occur, or if present to enlarge; that incarceration or strangulation then takes place by reason of irritation in attempts at reduction causing the rings to contract.

Also that during the cold months the tissues are in a more tonic state of contraction, thereby preventing increase in size or in production when tendency exists.

Superficial Inguinal Hernia.—Hernia Superficialis Inguinalis occurred three times; all on the left side; all characteristically likened to the able description given by Moschowitz, MEDICAL RECORD, June 10, 1903, in which article he reports one case, and states that it is a rare condition, only fifteen cases having been previously reported. Coley reports five cases in his article on "Radical Cure" in the *Annals of Surgery*, June, 1903. In each of my cases there was a non-descended testicle; all were adults, all occurred upon the left side, the last being an enormous hernia in a rabbi sixty-three years of age. This type is one of the interstitial variety, and usually lies upon the superior surface of the aponeurosis of the external oblique, the protrusion usually extending upward and outward. In two of my cases the tumor invaded the region from the anterior superior spine to that below the external ring.

Diagnosis.—There is no intention on my part of entering into a review of the symptomatology of strangulated hernia, but I would most emphatically say that the earlier the textbooks and our teaching bodies drop the variety known as incarcerated hernia, and classify all acutely non-reducible hernias as operative or strangulated, although not adhering strictly to the definition of strangulation,

at just so soon will our mortality rate dimin-
h. I fully believe that the acute condition
own as incarceration is but the early stage of
angulation, and that attempts at reduction
thout operation result in sufficient amount of
itation to produce strangulation proper. Fre-
ently one is called to a case of hernia of an in-
inal variety that proves to the expert to be a fem-
l. This error in diagnosis need rarely be made if
e remembers that femorals, except large, are be-
Poupart's ligament, or are below, a line drawn
m the anterior superior spine of the iliac crest
the pubic spine or crest, and that all hernias
ve this line, except those rare cases of large
oral that ascend above Poupart's ligament
r their exit, are inguinal. Even this condition
femorals can be differentiated in the greater
mber of cases by the ability to displace the tumor
nward below the line of Poupart's ligament,
ing the region of the inguinal openings free
m a protrusion.

Taxis.—Although risking the reputation of "Too
ical," I would say that taxis should never be
a moment after the diagnosis of irreducibility
made. A careful anamnesis of the case will
ily point the finger of diagnosis in the proper
ction, and slight manipulation with a view
reduction will readily prove the irreducibility
the tumor. The case of femoral reduced *en*
sse, reported above under femoral hernias,
a very powerful lesson in the dangers accompany-
taxis.

Treatment.—Anæsthesia, local, spinal, or general,
conditions will allow—the exposure of the sac
ore relieving the strictured neck, prevents the
taneous reduction of the hernia in cases of
ll protrusion of intestine or a true Richter,
occurred in one case of mine, and thereby causing
to make a more extensive operation in the case,
to pass several sleepless nights awaiting the
ult of a case of reduction of an unseen condition
gut.

Should the gut be deemed questionable for
rn, the use of heat or keeping the intestine
a few hours in the operating wound is advised.
uld the viability then be beyond question,
cision and anastomosis with return of the gut is
be proceeded with. Should positive death of
gut be present, immediate excision and anasto-
sis should be done for reasons stated elsewhere
this article.

After reduction of the hernia we should do a
dical operation in all instances, as but a few more
nutes are required for this procedure.

The after care is simple in all these cases. A
e of temperature from one-half to one and one-
lf degrees is perfectly consistent for two or three
ys without pus or slough formation. At the
me time such cases should have the dressings
ken down occasionally so that proper attention
ay be given to the wound. As strangulated
rnia operations are usually emergency operations,
is my custom to use a bit of rubber tissue for
in drain for twenty-four to thirty-six hours. A
ovement of the bowels is sought for in all non-
cision cases the second day, light diet until the
mperature is normal. Excision cases, enemas
e used for the first week, and rectal alimentation
from four to six days, fluids by mouth after the
sixth day, and light diet after the tenth.

Complications.—In all ordinary operations, *i.e.*
those without excision of intestine, infection in the
wound due to inability to properly prepare the
tissues, is the first consideration.

Inspiration-Pneumonias occur due to vomiting under general anæsthesia, and therefore I would again recommend local anæsthesia in these cases. Death under anæsthesia from inspiring vomitus has been seen by me once, and recently I have seen the report of three cases.

Solitary Follicle Ulceration with perforation above the point of strangulation, *i.e.* in apparently healthy gut, one case reported by Dr. George E. Brewer (see *Annals of Surgery*, Vol. XXXI, page 259). This complication is ascribed by Koch and König to either intense traction on the mesentery which interferes with the blood supply, or to the fact that the accumulation of intestinal contents above the constriction distends the gut and assists with the impaired blood supply in producing the necrosis. When intestinal excision with anastomosis has been performed, peritonitis with death may occur. Again, a fistula forms before the tenth day as a result of either imperfect suturing or tearing out of stitches, or by imperfectly applied mechanical devices for anastomosis, as the button of Murphy, etc. Again, the excision may not have been done in perfectly viable gut, and a slough with fistula results. Fortunately the majority of these cases of fistula occurring after the fourth day recover spontaneously.

Barring all complications, the patient is allowed a head and back rest about the fourth day, and is permitted to be out of bed on the thirteenth or fourteenth day, wearing a spica with a pad of gauze over the site of the repaired wound for a week in inguinal and femoral hernias, while in abdominal they are allowed the head rest about the same time, and out of bed in three weeks with a snug-fitting binder.

SOME POINTS REGARDING THE EARLY DIAGNOSIS AND SOME NEW FEATURES IN THE TREATMENT OF PULMONARY TUBERCULOSIS.*

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THE subject of tuberculosis is such a difficult one and the questions to be investigated are so numerous that it takes the medical practitioners of the entire world to help solve it. In this country numerous researches are constantly being made. In fact, some of these that have been made in this country have been followed up abroad. Thus, for example, you will remember the painstaking and interesting researches of Dr. H. M. Biggs regarding the centralization of cases of tuberculosis in certain tenement-house districts. Romberg (*Archiv für klinische Medizin*, Bd. 76) investigated this matter for the City of Marburg and came to the same conclusion as did Biggs, viz., that in certain residences of the poorer classes tuberculosis prevails. Haedicke's investigations ("Über die Ausbreitung der Tuberkulose im Distrikte der Marburger Poliklinik," Inaug. Diss. Marburg, 1902) amounted to the same. But this is only apropos. I shall not discuss these questions, but limit myself to the diagnosis and treatment of pulmonary tuberculosis.

Before such a society as this, I need not mention all the details that assist us in making an early diagnosis. It seems to me, however, that in this connection two points have been neglected, one of which is the condition of the upper-air passages in incipient tuberculosis and the other the injection of the old tuberculin Koch.

Having practised laryngology for a good many years, I have examined for tuberculosis every case of simple laryngitis that did not yield to the ordinary

*Read before the Section on Medicine of the New York Academy of Medicine.

treatment. This often gave me gratifying results, in so far that pulmonary tuberculosis was recognized when nobody thought of it. I naturally looked also for tuberculosis in cases of chronic laryngitis and similar affections. Now, what specific conditions can we find in the upper-air passages in cases in which we suspect tuberculosis?

Beginning with the nose, I shall not here discuss the connection between nasal catarrh and pulmonary tuberculosis. That question has been thoroughly ventilated. But permit me to draw your attention to a paper by A. Alexander of Berlin (*Archiv für Laryngologie*, Bd. 14). This author studied the question of ozæna and found that among fifty such cases not less than twenty-two had consumption; the majority of these patients did not have the slightest idea that they were suffering from a pulmonary disorder. But ozæna is a comparatively rare affection and cannot be such a distinct causal factor in a disease so widely spread as tuberculosis. I consider, therefore, in this connection, my own investigations more important. They convinced me that a great number of those suffering from dry or atrophic rhinitis finally fall victims to tuberculosis. This was verified by my examinations of three hundred and forty inmates of the Bedford Sanatorium for Consumptives (Beiträge zur Klinik der Tuberkulose, Bd. II, and *New York Medical Journal*, 1903), to which I would like to draw the attention of those interested in this question. The great number of those who suffered from these dry and atrophic conditions in the nose was really surprising.

More directly pointing toward deeper lesions are often the appearances in the pharynx and larynx. Supposing we have a case with vague symptoms in which a diagnosis of phthisis cannot with certainty be made. If we look into the pharynx of such a person we often see the uvula as well as the fauces highly congested and red, only the parts of the velum on both sides of the uvula are of an extraordinary pale color. This anæmia, extending more or less over the whole soft palate, and including not infrequently the greater part of the hard palate, is so characteristic that we may in such a case strongly suspect tuberculosis. I have found these local symptoms so early that the appearance of the patient would not lead one to suspect the presence of consumption and yet the patient developed phthisis afterward. This anæmia, which was already well known to Mackenzie, Gottstein, and other early writers, seems to be the first expression of the malnutrition of the patient.

Perhaps more characteristic is the picture in the larynx. In people with a hacking, dry cough we often see the whole larynx congested, and only the epiglottis shows the same pale appearance as the mucous membrane of the velum. In some exceptions I even saw a few miliary tubercle on the epiglottis, and they appeared in cases in which, from an examination of the lungs, no diagnosis could be made. Sometimes we see, even at an early stage, pale, smooth swellings of the interarytenoid fold, but more often this whole neighborhood appears congested. Finally, if these signs are not present, it will be well to examine the larynx according to the method of Killian. Thus, in certain cases, we are enabled to see small erosions on the posterior wall of the larynx and on the arytenoids.. They naturally tend to strengthen our diagnosis still more.

But if all this should fail and we are still in doubt as to the diagnosis, one means is left to us to make it positive and that is the injection of the (old) tuberculin Koch. Here and there we are confronted with cases in which, by no other method, a differential diagnosis can be made, for example between tuber culosis and syphilis, or malignant tumor or *aneurys* Let me give you an example of the latter: gentleman, forty-four years of age, was sent to m for diagnostic purposes. He had been hoarse f six weeks, had had hæmoptysis several times, harassing cough, and the sputum, which was scant was even now streaked with blood. On and v he suffered from dyspnœa. There was dulne over the left lung, bronchial breathing, and coa râles. Besides there was a paralysis of the l vocal cord. While this last symptom immediate made me think of an aneurysm of the aorta, s the whole clinical picture pointed so strongly tuberculosis that I accepted that as the diagno The paralysis of the recurrent nerve could ea be explained by an enlarged tuberculou glands pre ing on it. Still, during the next four weeks of ob vation no bacilli were found, the skiagraph reveal nothing, as it mostly occurs in these early cases, pulse remaining the same (no arteriosclerosis) a no fever, but increased dyspnœa, etc. Thea decided to make a diagnostic injection of Tub culin Koch. I gave him first 2 mgr., then 5 m and finally 8 mgr. No reaction whatsoever hav occurred, I concluded that this particular case not one of tuberculosis, but of aortic aneury Two months later the correctness of this diagn was easily proved by auscultation and percussion

This was one instance in which tuberculin was dicated. But there occur as well other doub cases, and for these injections of tuberculin are t recommended. While I was for a long time doubt as to the results of these probatory injecti and always was afraid of the dangers connec with them, newer reports, especially those of Roe and later by Hammer, have induced me to try t again. Thus Roepke made probatory inject on 145 patients and only two gave negative sults. Dr. France-Clayburg* injected fifty-five mates of an insane asylum, with forty-five actions. Of these, twenty-nine came to post-mor examinations and all were found to be tubercul Of the others that did not react, five were autop and no tuberculosis was found.

In order to be impartial, I have to mention Professor Schüle had a fatal result after the se injection of ½ mgr. tuberculin. But this ca not at all clear to me. Schüle himself remarks there was no indication for the second inject since the patient had already reacted after the

Personally I have had only a very limited perience in thirty-one cases, six of which wer private practice, while the rest, twenty-five in n ber, occurred in hospital service. I cannot rec any unpleasant results. The initial dose gi ranged from ½ mgr. to 2 mgr.; if there was no reac the dose was increased to from 3 to 5 mgr., an rarer cases repeated with a final dose of 8–10 m Out of these thirty-one cases, fourteen reacted a the first injection, twelve after the second, and had no reaction whatsoever. I have seen t of the last cases about eight to ten months l and none had developed tuberculosis. I wo therefore suggest that these injections be t on a larger scale in order to get exact data fr observers all over the country.

The next point to be discussed is the tre ment of tuberculosis, and of that I shall m tion only one phase, viz., the treatment with so-called blue rays of light. The modern tren in the treatment of such cases is to send as man of these patients as possible into especially adapte sanatoria and have them treated there.

*Quoted after Roepke.

Now, we shall never be able to give the benefit of pure country air to half of the sufferers, not even, I am afraid, to one-tenth of them, and the question is—what to do with the great bulk of the others? The answer is simply to treat them at home and give them some equivalent for the sanatorium treatment. This is done principally by exposing the patients to the direct or indirect rays of the sun. Since, in our climate, we cannot rely upon the solar rays during the winter months, we have a substitute for them in the electric light.

According to the investigations of Moleschott and Fubini, Uffelmann, and many others, there can be no doubt that the influence of sunlight is very great in increasing oxidation and stimulating the metabolism. That this holds good also in regard to the electric light, and especially to certain rays, has been shown within the last ten years by careful and reliable observers. As early as 1855 Moleschott proved, through his original researches, that animals (frogs) give off $\frac{1}{12}$ to $\frac{1}{4}$ more carbonic acid gas in the light than in the dark. With this, naturally, the increase in oxidation goes hand in hand. In this respect the concentrated blue light (violet light) is even more effective than the sun (Strebel, Gebhardt, etc.). You will, perhaps, know that for years I have been using electric light as a therapeutic agent in tuberculosis and have grown more and more enthusiastic about it. While I have to adhere to the statements in my first publication and repeat that electric light is not an antidote for tuberculosis, I believe more to-day than before that it is an important factor in its treatment. Permit me to summarize my former experience by saying that electric light acted as an: (1) Anodyne in relieving pain. (2) Expectorant, the patients being able to remove thick clots of phlegm from the smaller bronchi. (3) It regulated the temperature (!!) for several hours afterward. (4) It worked beneficially on the metabolism. It can hardly be said to exert a *direct* germicidal effect on the tubercle bacilli in the lungs. Its effect is noticed first on the skin. The skin is an exceedingly important organ in the metabolic changes. By the use of the electric light the activity of the skin is immensely increased, and indirectly at the same time the deeper organs are stimulated to increased action. Now, we know that the effect of the electric light depends not only on its intensity, but more so on the quantity of oxygen present. We may perhaps correctly say: The more oxygen there is in the tissues, the better the effect of the electric light. *A priori*, we cannot expect a surplus of oxygen in the system of a consumptive, and it was my idea several years ago to bring more oxygen into the tissues of these patients. I made them, therefore, inhale oxygen each time before they were treated with the electric light. This worked quite well in a few cases, as, for example, in that of a colleague with tuberculosis of the tonsils, or in one case of rodent ulcer of the face in which I could apply the oxygen directly. But in deeper lesions no improvement over the simple electric-light treatment was seen, and I believe that in those patients oxygen did not reach these parts at all when inhaled. Another method had, therefore, to be applied, and that was CO_2. Its use seems to have been forgotten. At least, as far as I am aware, only Dr. A. Rose of this city uses it on a large scale.

Allow me to remind you of some old experiments by Claude Bernard. Claude Bernard found that volatiles introduced into the digestive tract through the venous blood are carried into the lungs, where they leave the body without producing poisonous effect. Bergeon used this principle for rectal injections of carbonic-acid gas for the treatment of tuberculosis and other diseases, and you all know the disappointment that afterward followed. The fact nevertheless remains that we can introduce into the system a good deal of CO_2 without running any risk of poisoning. It is carried into the alveoli of the lungs, from where, according to the laws of diffusion, it is set free. In other words, in a given time more than the normal quantity of carbonic-acid gas will pass upward, and this will cause *a counter-current of a proportionately increased quantity of oxygen*, and this is just the object in using the CO_2.

Besides, there is naturally an antagonism between carbonic-acid gas and tuberculosis, as some claim. Thus Hugo Weber of St. Johann-Saarbrücken believes that when large quantities of carbonic-acid gas are present in the lungs, no tuberculosis can develop. Thus people with emphysema or those suffering from heart trouble and consecutive venous stasis have a certain immunity against that disease. On the other hand, children born with a stenosis of the tricuspid valve invariably die of pulmonary phthisis, and they, as you know, receive only a small mass of the blood carrying CO_2.

These deductions of Weber's are surely interesting, and so far my experience makes me believe that there is a good deal in these theories. I therefore commenced the combined treatment of electric light and carbonic-acid gas over a year ago and have applied it so far in twenty-two cases. Seven of those cannot be counted, as they stopped treatment too soon to form an opinion. Of the remaining fifteen, which were all in the so-called second stage of the disease, eleven showed marked improvement. By this I mean an increase of the appetite, which in some cases was simply remarkable, better regulation of the bowels and less cough. I am not inclined to believe that the better appetite depended solely on the regulation of the bowels produced by the injection of CO_2, but would rather attribute this to the improved general metabolism. At any rate, neither the bowels nor the appetite could in these cases be improved by any other medicinal or dietetic treatment. That in these cases the patients gained more or less in weight will be easily understood. But we should not lay too much stress upon this point. The four other patients did not show any improvement.

In summing up my experience, which will be published more exhaustively later on, I will say that the addition of CO_2 to the treatment with the so-called blue rays of light, has so far given me encouraging results and promises more for the future. The light rays form to-day the focus around which most new discoveries are concentrated. Let us hope that they may also bring light into this darkest corner of pathology, viz., pulmonary tuberculosis.

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Eclampsia and Vaginal Cæsarean Section.—Ashfeld believes that the view taken by some writers that the uterus must be emptied immediately in all cases of eclampsia is extreme, and that a more rational course is to resort to less radical measures first and observe their effect on the disease. Chief among these is the hot pack, which nearly always produces a prompt and marked change for the better, and often is followed by spontaneous dilatation of the cervix. The metreurynter is greatly to be preferred to the Bossi dilator, and vaginal cæsarean section is indicated only in the rarest cases.—*Zentralblatt für Gynäkologie*, Vol. 27, No. 52.

THE RELATION OF PHYSICAL DEFECTS TO MENTAL DEVELOPMENT.

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THIS is a subject of wide scope and I can only hope to mention the most important of the physical defects having a bearing upon the mental development.

Obviously the most common cause affecting mental development is heredity. Heredity has been defined as that peculiar property of an organism which transmits to its offspring the characteristics of its progenitors. It has been compared to a mirror reflecting from one generation to another the grace, beauty and strength, or else the coarse, ugly, and defective features of the one standing before it.

The doctrine of heredity is especially manifested in psychiatry. Indirect heredity is heredity by transformation from other neuropsychic diseases, and is more common, but of less consequence, than direct heredity. A diseased nervous system is not capable of resisting any unusual strain put upon it; the result is a neuropathic disposition, with a tendency to yield to adverse influences. Certain diatheses are propagated from parents to offspring; thus epilepsy, melancholia, or inebriety may favor the production of hysteria, chorea, or neurasthenia in the succeeding generations. This transformation of the neuroses and toxic diatheses in propagation, often results in imbecility. The children of hysterical, epileptic, hypochondriacal, syphilitic, or alcoholic parents are liable to be imbeciles. Phthisical parents also frequently have imbecile children.

Adler says "all these disturbances depend upon an inadequate reproductive power of the nervous system of the ancestors, which is insufficient to provide the association tracts of the descendants with the required nutritive, formative, and functional capacities." In the idiot we may have no mental power at all or feeble-mindedness. Idiocy, according to Ireland, is mental deficiency or extreme stupidity, depending upon malnutrition or disease of the nerve centers, occurring either before birth or before the evolution of the mental faculties in childhood. In idiocy and imbecility are conditions of mental enfeeblement resulting from arrested brain development before birth or in very early childhood. In many individuals the mental faculties never mature, as the brain is incapable of development.

It is difficult to draw the line between the idiot and the imbecile classes. The latter are regarded by some authorities as high-grade idiots. Imbeciles may be well formed and vigorous; they generally exhibit characteristic bodily peculiarities; their cranium is too small, or too large, and liable to varied malformations and asymmetries, the majority of them having an animal-like appearance. As regards mental development they are restricted; they learn to read, write, and count with difficulty, and what they learn, many of them easily forget. At one time I had an imbecile under my care who wrote a fairly good hand. As time passed his writing degenerated into a mere scrawl.

With a very few exceptions imbeciles are vain, unreliable, gluttonous, and prone to be irritable and sulky. Perversion of the genetic sense is the rule; they practise debasing habits, and are often perverted sexually.

*Read at the meeting of the Association of Boards of Trustees, Superintendents and Stewards of the State Hospitals of Ohio, held at Toledo, Ohio, 1903.

Idiots are divided into various classes. We have the absolute idiot, who is incapable of any mental development whatever. Those in a second class present the ordinary symptoms of idiocy, yet may be capable of articulating to a small degree, and of conducting themselves with a fair degree of propriety. They cannot concentrate their minds, however, and it is impossible to educate them. A third class includes those whose attention can be held and who are capable of acquiring a very limited education, and who have some command of language. Those in a still higher class approaching imbecility may be taught to read and write.

The Causes.—Intemperance is a prolific cause of idiocy. Berkley says it is a well-recognized fact that drunkenness at the time of copulation is frequently responsible for the lowest forms of congenital idiocy.

In the majority of neuropathic families when the predisposition is not corrected by marriage, the tendency affecting mental development is downward until idiots appear, the house finally becoming extinct. The intermarriage of blood relations is a subject that has been written upon and discussed for centuries. The opinions of authorities differ on this point materially. It is generally accepted that persons marry who are closely related, any neuropathic tendency present is more likely to be developed in the offspring. Individuals uniting in marriage who have similar nervous diatheses are likely to produce defective offspring.

Profound grief or physical shock acting on the mother produces cerebral defect or generally arrested development in the progeny. "Of ninety-two children born in Paris during the great siege of 1870-1, sixty-four had mental or physical anomalies, and the remaining twenty-eight were weakly. Twenty-one were intellectually defective (imbecile or idiotic), and eight showed moral or emotional insanity. After the great Chicago fire, deformities and mental defects were noticed to exist among the offspring whose mothers were pregnant during and immediately after the conflagration."

The infectious fevers, measles, scarlatina, as well as meningitis of varied bacterial origin, and other morbid processes tend to the formation of cysts and other degenerations of the brain substance with depression and imperfect development of the convolutions.

The cause of microcephalic idiocy may be defective inherited organization, leading to early ossification of the cranial sutures, and necessarily delaying development.

Hereditary syphilis is a factor in the causation of the psychoses of early life. There are twice as many boys as girls born idiots, and 7 or 8 per cent are congenitally blind.

Arterial or febrile diseases may retard mental development. The essential defect of the degenerate depends upon the faulty composition of the substance of the nerve cell, or its ancestor the germ cell; although the character of the defect may be absolutely unknown, we are justified in using the unscientific term, "nervous instability."

To determine the frequency of the association of physical stigmata of degeneracy with abnormal mental states, we examined, sometime ago, one thousand cases in the Columbus State Hospital and recorded the measurements of the head, calculated the cephalic index, and noted abnormalities and asymmetries of the cranium, face, palate and ears. We also noted evidences of defective development of the body and extremities. It was not unusual to find cases with several stigmata present, and among those cases giving evidence

defective mental development, and those showing insanity early in adult life, the presence of numerous stigmata was decidedly frequent. To show this we have taken the records of the first fifty white male patients who were perfectly developed mentally, not trying to find the most unfavorable cases, but simply tabulating them as they came in order.

Measurements of the circumference and crown, and of the occipitofrontal and biparietal diameters of the cranium were made in all cases. By determining the relation of the greatest breadth to the greatest length of the skull, in terms of percentage of the latter, we obtained the cephalic index. In our observations we made allowance for normal variations and recorded only such conditions as were unusual.

The Cephalic Index. Of our fifty cases thirteen had a cephalic index above 80 (*i.e.* the transverse diameter was four-fifths, or 80 per cent., of the occipitofrontal diameter). These have a short index or are shortheaded-brachycephalic. Fourteen were between 78 and 80, sub-brachycephalic. Twenty-three were below 78, long-headed or dolichocephalic. Normal variations range between 74 and 87 according to Berkley. Two of our cases were above 87, hyperbrachycephalic, one 87.9, the other 88.9. Eight were below 74, hypodolichocephalic, 71 being the lowest. The mean cephalic index is considered to be 80.5. Our cases gave an average of 78.3, somewhat below the mean.

The Cranium. This presented nothing unusual in twenty-four cases. Of the other twenty-six, the forehead was low in five, low and narrow in two, low and receding in two, simply receding in one, unusually high in one, broad in one, prominent in one, broad and prominent in one, in all fourteen cases.

In four cases the occiput was small, in four flattened, in one broad and flat, and in two prominent. In one case the occiput was decidedly more prominent on the right side, and in another the occipital protuberance was unusually well marked. M——, whose head gave a cephalic index of 87.7, had a high vertical forehead with a flattened occiput, so that the head was cylindrical.

The hair on the head presented nothing unusual in most cases, but six had very coarse hair, in three of which it was bristly.

The Face. In looking for unusual features of the face, we found none in three cases. Asymmetry was frequently found as follows: the right side was more prominent in three cases; the right eye was on a higher level in four cases, and the left in five; the nose deflected considerably to the right in ten cases, and to the left in five.

The eyes were unusually prominent in two cases and deep set in two. Two cases showed convergent strabismus, one divergent strabismus, and one presented a decided insufficiency of the left internal rectus. The pigment of the iris was so small in amount in one case as to approach a condition of albinism.

The nose was very broad at the base in three cases, thin in one, long in one, and very prominent in five.

The lower jaw was very large in one, and the chin unusually small in two. Two cases had prominent lips.

The Palate. The normal palate varies considerably in height, breadth, and curvature. In our cases we classed palates that were a little higher than normal under the term high or neurotic; when high and somewhat arched, under the term high and narrow, and when extremely narrow, having the shape of a gothic arch, under the term high-arched. The high-arched palate with crowded irregular teeth is so rarely found among normal individuals, and so frequently among defectives that some authorities consider it an index to an imperfect mental development. Our fifty cases do not properly indicate the frequency of such a palate among this class. Ten cases were about normal; twelve had neurotic palates. In thirteen individuals the palate was high and narrow above, in two of which the sides were decidedly asymmetrical. Four presented high-arched palates. The roof of the mouth was flat in three cases, in one of which it was also broad. In three cases it was very broad, and in one it was narrow in front. A median ridge occurred in two cases, and a furrow in two. Longitudinal tori were found twice, and two fossæ in the palate near the median ridge were noticed in one case. Associated with the high and narrow, or neurotic palate, and with the high-arched palate, the teeth were so crowded that in one case they were very irregular, and in another there were two rows in front.

One had an unusually long tongue, one a very short uvula, and two had long uvulas.

The Ear. In the development of the ear it passes from a long smooth-pointed ear into forms resulting from foldings of its edges and walls, so that the normal ear must have certain anatomical parts which we cannot stop to describe here. Arrested development may be manifested in long narrow ears, or in ears that do not have the proper ridges and folds and stand out from the head, or in ears without lobules. The developmental process may have continued too long, and the ears may show an increase of foldings and set too closely to the head.

Man is the only animal that possesses a well-developed lobule to the ear. It is commonly absent in certain African races, and is occasionally found in a rudimentary form in one species of the ape, according to Darwin. Twenty of our cases had lobules of medium size adherent to the skin of the neck on both sides. One was adherent on the right side only. Three showed lobules adherent and much increased in size. One case had small adherent lobules. In twenty-three cases the lobule was normal. In fourteen cases the ears were very prominent, appearing to stand out almost perpendicularly. Three cases presented long ears, three small and one large. In one case the left ear was larger than the right.

The folds of the ears were examined for unusual types. The helix was thin on both ears in eight cases, and one case on the right ear only. It was wide or band-like in two. The fossa of the helix was increased in four cases, and shallow or obliterated in three. The antihelix was flattened in five cases, and increased in prominence in two. The antitragus was prominent in one case, and flattened in another. The concha was broadened and deepened in twelve cases.

The little blunt point projecting from the inwardly folded margin of the ear or helix, found in many ears, was thought by Darwin to be a vestige of the tip of formerly erect ears, because of the frequency of their occurrence, and general correspondence in position with that of the tip of a pointed ear. Of our fifty cases five showed Darwinian tubercles on both ears, three showed them on the right ear, and two on the left. Five ears were perfectly normal.

The Body. This showed nothing unusual in six cases; four were dwarfed, two were excessively fat, and one showed hypertrophy of the breasts. The body hair was absent, or very scant, in fourteen cases, and hypertrichosis was noted in four.

Three had very small external genitals, and three very large. One presented an inguinal hernia of the right side, and another of both sides.

The curvature of the spine was abnormal in many cases, kyphosis in nine, scoliosis in six, kyphoscoliosis in two, lordosis in seven, and lordoscoliosis in two.

The coccyx was prominent in thirteen.

The Extremities. These showed nothing unusual in twenty-four cases. Ten had sharp-pointed shoulders, one had long arms, one very short arms. Seventeen showed syndactylism, in some of which the folds between the fingers and toes were decidedly web-like. This was more often found in the fingers than in the toes. One case had a double little toe on the left foot. Five cases were flat-footed

Counting well-marked cranial peculiarities, stigmata of the ear, facial asymmetry, defects in the palate, the eye muscles, the body and extremities, each under a single head, our notes show that two stigmata were found in seven cases, three in nine cases, four in seventeen cases, five in eight cases, six in six cases, and seven in three cases.

Juvenile criminals in reformatories present a characteristic appearance, due to lack of physical and mental development. They are usually puny and sickly, often deformed, liable to epilepsy, stupid and deficient in vital energies.

There seems to be a tendency to attempt to educate and elevate these unfortunates who are by nature defective and have most of them been born and reared among unhealthy surroundings. Children of drunkards, of criminals, and of degenerates are removed as much as possible from unfavorable surroundings, and the bad effect of vicious habits impressed upon them. The mental development advances along more healthy lines, the individual, through proper education and environment, develops character and will-power sufficient to combat and control evil tendences.

A great many intelligent persons, and some well-read physicians, are inclined to be skeptical in regard to the significance of these signs. In the face of facts such as I have attempted to bring out, and the prominence given to mental and physical stigmata by eminent authors, it seems to me that they are entitled to greater consideration and more careful study. When a degenerate is on trial for his life, or for some crime, the prosecuting attorneys generally try to throw ridicule on the production of these signs as evidence of irresponsibility. They will cite the fact that these stigmata are found in individuals who are noted for special mental brilliancy and so forth.

Those of us who have had experience in the care of mentally deficient people are often astonished at the wit and shrewdness of their remarks. It is a hard question to decide what should be done with the criminal degenerate. It seems to me, if they are mentally deficient, they ought not to be punished with the same severity measured out to a normal individual who commits crime for gain or for revenge, well knowing the enormity of his act. Should they be punished at all? If we can establish the fact that these men are weak and irresponsible, they should not go to the electric chair or to the penitentiary for life. In every State suitable provision should be made for them by the erection of an asylum for the criminal insane. This has already been done in a few States of the Union.*

*I have quoted from Talbot on "Degeneracy" in the Contemporary Science Series, Wm. C. Krause of Buffalo, and others; am also indebted to Dr. Geo. Harding of my medical staff for assistance.

MASTOIDITIS.*

By E. H. POMEROY, M.D.,
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MASTOIDITIS could very properly be discussed under the head of otitis media, it being generally, if not always, an extension of a chronic inflammation of the middle ear to the mastoid cells.

Under the head of etiology, I think it can be safely stated that the disease is always caused by bacterial infection. "Exposure to cold," "exposure to drafts of air," as through a car window, and all other items usually mentioned in the etiology of this disease, are at most no more than secondary or auxiliary causes, and the disease never exists without a bacterial invasion of some form.

The symptomatology of this disease is varied. While there is frequently, probably generally, severe pain accurately localized, yet this is by no means always the case. Probably most physicians of considerable experience in general practice have met with cases which have progressed from an acute attack of otitis media to a very advanced state of mastoiditis without the patient having ever complained of pain excepting the original pain, or earache, accompanying the initial infection, and often there is no history even of that. This has been the case in adults, and probably much more frequently in infants who are unable to localize symptoms, and also in those who have been drugged into insensibility for considerable periods, and where the case has been complicated by enteritis, pneumonia, arthritis, or other manifestations of infection by the same germ which caused the ear or mastoid infection.

The most prominent symptom of mastoiditis, and the one which can be called almost pathognomonic of the disease, is a falling forward and downward or a protrusion, of the external ear. Very frequently there is an appearance of fluctuation behind the ear, which has led the attendant physician to make an incision down to or through the periosteum but without encountering any pus, much to his surprise. Sometimes, however, this treatment has not been disappointing even in the case of genuine mastoiditis, the suppuration finding its way from the mastoid cells through to the surface of the mastoid process beneath the periosteum, and the incision giving a sufficient outlet for the accumulated pus, permanent recovery follows.

I remember, as a medical student, having seen a professor of practice, temporarily conducting a surgical clinic, showing us a patient, probably with mastoiditis, and having a number of us palpate the post-auricular space to feel exactly where the pus was. Most of us being told exactly where to feel the pus could, of course, feel it. The professor of anatomy, happening to be present as a spectator, was also asked to palpate the patient, which he did. When asked if he could feel the fluctuation, he answered in the negative. He was then shown very accurately the point, but insisted there was no pus there. A free incision was made through the periosteum, but without a sign of pus.

Taking a case of a patient at any age, showing a drooping or protruding ear, with or without slight increase of redness of the surface back of the ear, with a history of a preceding otitis media, with or without discharge of pus through the external auricular canal, and the case will almost certainly be one of mastoiditis.

Under the head of treatment comes first the prophylactic treatment, and in no disease is prophylaxis more important than in mastoiditis. The

*Read at a session of the Lake County Medical Society held at Waukegan, Ill., November 2, 1903.

ne point which I wish especially to make is that very case of severe disease in infancy should be refully examined as to the condition of the middle g. The work of Ponfick, as set forth in the *erliner klinische Wochenschrift* of September and ctober, 1897, has demonstrated in a most convinc- g manner the fact that in one hundred autopsies unselected cases of infants dying under the age of o years, there was scarcely one without pus in middle ear. In the overwhelming majority of ese cases this pus had never been liberated. en in three cases, in which death had resulted m unquestionable hereditary syphilis, pus was nd in both ears.

In the *Boston Medical and Surgical Journal* of nuary 18, 1899, I have somewhat elaborately iewed this work of Ponfick's and our application he principles it so forcibly advances in our work Calumet, Mich. Any physician who will take trouble to overcome the difficulty of examining infantile ear can scarcely avoid being convinced he very great importance attached to this sub- The exceptions are so rare that it may safely tated that every infant dying under the age of year has pus, or inflammatory process estab- d, in the middle ear. When it is taken into ideration that paracentesis of the tympanum erly performed will, in the overwhelming ority of cases, give almost immediate relief, trouble and infinitesimal danger of the anæs- ic in these cases will not deter one from giving child the benefit of the operation.

t is almost impossible to read this remarkable k of Ponfick's without being convinced of the ssity of examining most carefully the tym- um in every case of serious disease in infancy, liberation of pus from the middle ear at this e can very properly be called prophylactic tment of mastoiditis.

he further treatment of this disease is surgical. other treatment should be considered as un- ssarily jeopardizing the health and the life he patient. I am perfectly aware that many ents have recovered without intelligent sur- l treatment, but even so, those who have re- ed have run a risk, and have been subjected nnecessary peril by having had the surgical tment withheld. This surgical procedure is simple. A good free incision should be made quarter of an inch posterior to the edge of the rnal auditory meatus, one inch or more in th. Then the periosteum is lifted from about incision, especially forward, and the gouge is d carefully from above downward, or the with the dental engine, all bleeding points g controlled before the bone is opened into. operator should cautiously note the con- on of the bone as depth increases, until the toid cells are reached, then carefully hook and remove the mastoid cells, this curettage king a cavity as large as a small filbert, which y be packed not too tightly with iodoform or er gauze, and allowed gradually to fill with nulation. From the beginning of the surgical cedure to the last dressing, asepsis must be erved in every detail. In the preparation of a ient for operation of this sort I consider lack of gical cleanliness more criminal than if one were paring for laparotomy.

I remember less than ten years ago seeing a sur- on, bearing one of the most honored names in surgical world of England, in the operating rd of one of the most famous hospitals of the rld, preparing to operate in a case of mas- ditis, which had evidently led to a cerebral scess. After explaining to his students the ne- cessity for the utmost care in preparing for an operation of this sort, and demonstrating this by repeated and long-continued scrubbing of his hands, and immersing them for long in alcohol, and then in sublimate solution, and after he was fully prepared, having still some minutes to wait for the patient to be completely anæsthetized, he held his hands carefully away from his operating gown (which I considered wise, as the gown bore evidence of having been in many operations), yet while he was waiting, he very daintily used the nail of one of his beautifully shaped fingers as a toothpick! I did not remain long enough to learn with what particular accident the patient was carried off, or even that he was carried off, but the danger was there.

The treatment other than surgical must, of course, be considered; not only is the physician himself sometimes unprepared for surgical intervention, but also quite frequently either the patient or the parents of the patient may be unwilling to allow surgical procedure until other treatment has failed.

The treatment must, of course, be directed primarily to overcoming the bacterial infection, and the saturation of the system with sulphur seems the best form of disinfection to adopt in the medical treatment of this disease. Laboratory experiments have shown that very small doses of sulphur in the form of calcium sulphide, or the homœopathic preparation called hepar-sulphur, which is a dilution, or powdered attenuation, of sulphuret of potassium in sugar of milk, will as effectually saturate the system as will large doses of sulphur administered by the stomach. Therefore calcium sulphide in doses of one-tenth grain to one-quarter grain, three or four times daily, when the patient is old enough to take a pill; or small doses, one or two grains, of the one per cent. powdered hepar-sulphur every two to four hours in infants is the most advisable form of medication. Ice-bags, poultices, and other external or local applications are of doubtful utility, but may be advisable for the control of pain. Many patients have recovered under this treatment; probably most cases, even of severe mastoiditis, will recover under this treatment, or spontaneously under any treatment or no treatment; but I insist that the peril is so constant and so great with this bacterial invasion of the mastoid cells so close to the brain, in the presence of the known history of many deplorable fatalities, we are not justified in withholding surgical procedure in any case of mastoiditis in which surgical procedure is feasible.

REMARKS ON THE PREPARATION OF VACCINE VIRUS.*

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In a paper read before the New York Academy of Medicine in February, 1902, Dr. M. J. Rosenau, Director of the Hygienic Laboratory, U. S. Public Health and Marine-Hospital Service, called attention to the fact that much of the vaccine then on the market showed a high degree of microbial contamination. He attributed this to the fact that many of the manufacturers, on account of the great demand for vaccine, were placing their product upon the market "green" or too soon after collection from the calves, and before the glycerin had exerted its full germicidal action.

In a more complete study, the results of which

*Read at the thirty-first annual meeting of the American Public Health Association, held at Washington, D. C.

were published as Bulletin No. 12 of the Hygienic Laboratory, he emphasized this point and showed that too much dependence had been placed by manufacturers on the germicidal action of the glycerin.

The germicidal action of glycerin is feeble. It probably acts by virtue of its great affinity for water, which it abstracts from the germ. Its germicidal action is much greater at the temperature of the body than in the ice-chest. Pus cocci are killed by it in the incubator in two weeks, but live for months in the ice-chest. Rosenau states that it asserts its greatest germicidal action in the first twenty-four hours, that the bacteria of the colon group are markedly resistant to its action, and that it has practically no effect upon spores.

Copeman, in 1891, originated the idea of preserving vaccine pulp with glycerin. He claimed that it not only exerted an antiseptic action on the bacteria found in bovine virus, but that it gradually destroyed those contained therein.

The Act of Congress approved July 1, 1902, entitled "An act to regulate the sale of viruses, serums, toxins, and analogous products in the District of Columbia, to regulate interstate traffic in said articles, and for other purposes," and regulations approved in accordance with said act, imposed upon the Public Health and Marine-Hospital Service the inspection of establishments manufacturing vaccine, serums, etc. Commissioned medical officers not below the grade of Passed Assistant Surgeon are to make the inspections."

The recent inspection of establishments was made by two officers detailed for that purpose by the Secretary of the Treasury. The inspectors were received with courtesy by all of the manufacturers, and every facility given them for as thorough an inspection of their plants as possible. Some of the plants were found to be conducted most excellently; stables and barns constructed according to the highest sanitary requirements, care and feeding of the vaccinated calves all that could be asked; methods of collecting and preparing the virus conducted with as great attention to prevent accidental contamination as is possible in the handling of such a substance as vaccine virus.

I am sorry to say that some establishments were not so conducted. I think I may, with benefit to all, give, in a few words, some of the most notable faults that were found. The barns where vaccinated calves were kept were, in some cases, simply a portion of the building partitioned off, horses in some instances being kept in the other part of the building, either for the production of antitoxin or for general use. The close proximity of horses was an added source of danger of tetanus contamination. The floors often were of wood, soaked with the discharges from the animals and not properly sloped and guttered. Although summer, the windows were not screened in some instances. When the pulp was to be taken the site was flooded with ordinary tap water, and then the pulp was scraped off with a curette and put into an unsterilized container. The pulp was weighed, mixed with the proportion of glycerin used by the manufacturer, ground, and then placed in the ice-chest until it was desired to be put in the tubes or on the points for marketing. The methods of sterilization of the points, tubes, and other containers were often crude.

Laboratory examination of virus from such plants showed a high degree of bacterial contamination, the most common organisms found being *Staphylococcus pyogenes aureus*, *albus* and *citreus*, *Staphylococcus cereus*, *albus* and *flavus*, *Staphylococcus epidermidis albus*, *Proteus vulgaris*, *Bacillus subtilis*, yeasts and molds, and not infrequently streptococci. Some of the organisms were found virulent for laboratory animals. Tetanus was never found, although searched for most carefully. As high as 74,000 bacteria per vaccine tube were found in one lot examined.

The faults found in certain of the places showed the great need of some control of these products. I take pleasure in saying that when faults in construction and administration were discovered, the manufacturers showed a ready appreciation and willingness to remedy the same. Some establishments which at the first inspection were reported against, having remedied the faults found, have been reinspected and granted licenses.

Recently some valuable work has been done with other substances than glycerin to be used in the destruction of the bacteria found in vaccine. These substances are sodium biborate, boracic acid, carbolic acid, chloroform, and potassium cyanide. Of these chloroform seems the most valuable. Allan B. Greene, in a report to the Local Government Board of England, says that by the use of chloroform vapor the crude pulp is freed from non-spore bearing germs in from a few hours to seven days, while the active agent of the vaccine remains potent as long as in the glycerin control and in six cases longer. The quick elimination of the extraneous bacteria by this method is a great saving in time as compared with the use of glycerin which rarely exerts its full effect before the fourth week. Chloroform, being extremely volatile, can be allowed to evaporate from the vaccine under aseptic precautions after being allowed to act as long as desired. It would be especially useful in hot countries where the active agent in vaccine does not retain its potency long, or when, as in epidemics, sudden calls are made for large quantities of vaccine virus.

Gaylord and Wheeler, in a recent article, have called attention to the use of a solution of potassium cyanide for the destruction of bacteria in vaccine. They state that a $\frac{N}{100}$ solution exerts a complete bactericidal action upon vaccine without affecting the potency of the virus, and that while it is an active poison it is so volatile that in five or six days no trace can be found in solutions kept in test tubes simply plugged with cotton.

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Requests for Appropriations Denied. — Health Commissioner Reynolds of Chicago has asked the Finance Committee of the City Council for increases of $15,000 for vaccination expenses, $10,000 for antitoxin; $32,000 for more sanitary inspectors and $2,500 for more tenement-house inspectors, but these requests have been denied.

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CHANNELS OF INFECTION OF TYPHOID FEVER.

The channels of infection of typhoid fever are far more numerous than was at one time believed to be the case. Putting on one side direct infection, water was deemed, but a comparatively few years ago, to be almost the only mode by which the disease was transmitted. It was later discovered that milk not infrequently played a more or less important rôle in the transmission of typhoid fever. For some time water and milk were regarded as the sole agents in the conveyance of the typhoid bacillus to human beings. However, of late years a change has come over the attitude of bacteriologists and physicians with regard to this matter, and several epidemics of typhoid fever have been traced to causes in which neither water nor milk was a factor.

Dr. Anders, in his recent textbook of the "Practice of Medicine," states that in his opinion, in the vast majority of instances, the poison is transmitted from those affected with the disease to those in good health through the drinking-water supply. The poison is frequently conveyed by infected milk. Solid forms of food (salads, celery, fruit) may be contaminated by infected water or dust or by the fingers of the nurse or patient. During the late Spanish-American war, and to a far greater extent in the more recent Boer war, the typhoid bacilli were carried from the latrines directly to the victims, or to the kitchens and mess-tables by swarms of flies. Vaughan, after careful investigation, confirmed this view. Oysters, on many occasions, have been proved to convey the infection, the testimony to this effect is so overwhelming that there can be no doubt as to its accuracy. Newsholme, indeed, writing in the *British Medical Journal*, June 8, 1895, attributed one-third of a total of fifty-six cases of typhoid fever to the eating of raw shell-fish. Tooth has directed attention to the importance of sand-storms as a means of contaminating articles of food with the bacillus. Food from animals affected with fever has been put down by some as a mode of transmission. Fodor found that the mortality from typhoid fever in Buda-Pesth was greater in those houses which were supplied by well water than in those supplied by pipe water (filtered); and greater in those houses where the ground water was more impure, and where the ground was more polluted.

The British Review of Reviews, January, states that an outbreak of typhoid fever in the metropolitan borough of Hackney has been traced by the Medical Officer of Health, Dr. J. King Warry, to watercress. All ordinary sources of typhoid fever, such as water, milk, and sanitary defects, were excluded. But 55 per cent. of the patients had eaten watercress in the three weeks before illness. Seventeen samples of watercress obtained from dealers who supplied the patients were examined bacteriologically and found to be polluted with organisms of the colon-bacillus type, and the water of one of the watercress beds situated in the metropolitan district of West Ham contained fifty colon bacilli per c.c. These beds, which seemed to be the chief source of the outbreak, were found to be fed by almost undiluted sewage from the badly polluted river Lea.

Dr. George Newman writes in the January number of the *Practitioner* concerning the channels of typhoid infection in London. The writer suggests that in London, water is by no means the commonest channel of typhoid infection, and further intimates that amongst a wonderful variety of suggested means of infection two emerge, and year by year occupy a more prominent place in the records. The first is infection by contact with the persons or belongings of previous cases, and the second is infection by the conveyance in food, particularly shell-fish. Dr. Newman points out that the view usually held by writers on general medicine seems to be that this mode of conveyance is exceptional, and therefore he furnishes evidence in support of the view that it is not infrequently the cause of spread of the disease. By this it is not meant that typhoid fever is directly infectious in the same degree as, say, scarlet fever, but rather that it is indirectly spread by means of infective excreta to healthy persons coming in the way of personal infection. Numerous instances are given of such occurrences.

With regard to infection through contaminated shell-fish, etc., the writer says: "It has been known since 1894 that oysters and other shell-fish may convey the infection of typhoid fever. We have not space here to enter into a discussion on the scientific evidence of that fact, but it may now be generally accepted as proved. Turning to the metropolis, we find that it was in 1894 that there seemed to be in London districts increasing evidence of a relationship existing between the consumption of shell-fish and enteric fever. It was not, however, of a reliable character, and Mr. Shirley F. Murphy, the medical officer for the administrative county of London, wrote as follows in his report for 1894: "The evidence which is supplied by the results of the inquiries made by metropolitan medical officers of health does not do more than establish the fact that antecedent to the occurrence of typhoid fever certain of the sufferers, and not in most cases a large percentage, had eaten oysters. There is no proof that the oysters in question had received infective contamination, nor is their source traced out except in a few cases. Further, there is no information as to the proportion of persons in the general population who had consumed similar oysters or shell-fish of any kind." In 1895 further cases occurred apparently traceable to shell-fish. In 1896 Dr. Timbrell Bulstrode's report appeared, and this naturally stimulated inquiry, which resulted in the following years (1897–1900)

revealing a large number of cases apparently due to this cause. They all tell the same story, and therefore it will not be necessary to furnish an extensive list of cases. During 1901 and 1902 the autumnal rise of enteric fever in London was not marked, but increasing evidence was forthcoming as to the channel of infection in the cases which were notified." The returns for 1902 are then given showing that a large proportion of typhoid-fever cases were due to the eating of infected shell-fish. A similar result was noticed in Wandsworth. In fact, from all parts of the metropolis evidence was freely available that a large number of cases of typhoid fever were directly traced to the consumption of contaminated shell-fish.

Cases of enteric fever have also occurred in different metropolitan districts in which it would appear that there is evidence leading to the idea that even fried fish may convey enteric infection. The conclusions drawn by Dr. Newman are as follows: "If it be true, as would appear, that the case rate for typhoid fever in London remains fairly constant year by year, and at the same time water-borne infection is not the chief channel, it seems reasonable to conclude from the above facts that personal contact and polluted food (especially shell-fish) are the main channels of infection. In any event, a case seems to be made out for further inquiry on these two lines in any investigation into this disease, and for a study of the direction which preventive measures should take."

DIPHTHERIA IN THE UNITED STATES NAVY.

THE readers of the MEDICAL RECORD will doubtless be interested because of the astonishing features presented in the account of an epidemic of diphtheria which occurred not long since in the United States Navy. The *Buffalo*, with nearly 1,000 persons on board, arrived at New York in October, 1902. Without being disinfected she proceeded to the Norfolk Navy Yard on October 22, and there received on board 450 landsmen for training. These, with her regular crew, made a total ship's company of about 750. With these persons on board she remained forty-four days at the Norfolk Navy Yard undergoing repairs. During these days thirty-eight cases of epidemic catarrh were treated. On December 4 she left Norfolk and arrived at New York on December 7, sailing thence for the West Indies on December 12. Five cases of sore throat developed before leaving Norfolk, and ten others before sailing from New York. Other cases appeared, some of them with severe general and local symptoms, swelling of cervical lymphatics, etc. On December 22 the ship sailed from Samana Bay for Kingston, Jamaica, and on the same day two cases appeared which were malignant in character. Upon arrival at Kingston on December 25, anti-diphtheritic serum was obtained and administered to both of these cases, but without avail, one dying on the 25th and the other on the 26th. The ship sailed at once for Pensacola, where she arrived on December 30. Up to this time forty-two cases of so-called tonsillitis and eight of diphtheria had been admitted to the sick list. Forty-eight cases were transferred to the Naval Hospital at Pensacola, where bacteriological examination revealed the true nature of the disease, and an abundant supply of anti-diphtheritic serum was obtained. The ship was also disinfected as thoroughly as possible without vacating the vessel. New cases of diphtheria, however, continued to appear, and the accommodations at Pensacola proving inadequate, the ship was ordered to Port Royal, S. C., where she arrived on January 17. On January 22 the vessel was vacated, and thoroughly disinfected, the crew being quartered on shore. On January 28 the hospital was filled to its utmost capacity, and new cases were still appearing at the rate of four or five a day. On February 1 206 men of the crew proper were returned to the ship, the 400 landsmen being left on shore. Owing to the crowded conditions of the hospital a portion of the sick were kept for a time in the barracks in the same room with the well—a canvas screen alone separating them. At length adequate accommodations were provided, and the sick were properly separated from the well. On February 17 the services of a bacteriologist were obtained, and on February 28 the bacteriological examination of the throats of all the well was begun. All those who showed the presence of diphtheria bacilli, and were thus a source of danger, were isolated. On March 25 the *Buffalo* sailed for New York, with all well on board. Twelve landsmen with diphtheria bacilli in their throats, and thirteen convalescents were left behind for further treatment. The total number of cases was 137, the number of deaths being two. The above history is gathered from an article by George E. H. Harmon, M.D., in the *Journal of the Association of Military Surgeons*, February, 1904.

The salient points, with respect to this epidemic, are as follows: The first cases (five) of sore throat developed previous to December 4. Ten others appeared before December 12, when the vessel left New York. The thought that the disease might be diphtheria was evidently, however, not entertained until December 22, when two malignant cases occurred which were speedily fatal. Upon arrival at Pensacola, fifty cases had developed. It must then have been evident, since the nature of the disease was there established by bacteriological examination, that the infection of diphtheria was well disseminated throughout the ship's company. Nevertheless, no attempt, based upon bacteriological examination of the throats of the well, was made to separate those who were a source of danger from the others. This was not undertaken until nearly two months later, on February 28, when eighty-seven more cases had developed. Then the carrying out of isolation on an intelligent basis in a short time put a stop to the development of further cases.

It is, indeed, strange that in a civilized and enlightened nation such an epidemic as this should have been a possibility. That it could have been prevented with the greatest ease is an absolute certainty. The statics of the first five cases which developed before leaving Norfolk on December 7 should, of course, have been determined. The proper isolation of these and also those who were well but showed the presence of diphtheria bacilli in their throats, combined with the extended prophylactic use of antidiphtheritic serum and, furthermore, with subsequent efficient disinfection of the vessel, would certainly at once have put a stop to the spread of the disease. As it was, no sort of sufficient means were adopted until February 28, nearly three months after the appearance of the first cases.

The prophylactic use of antidiphtheritic serum, a well-recognized and established preventive, was not undertaken at all, except in the cases of a few hospital attendants. It is a wonder that the number of cases were not double those which actually occurred.

The MEDICAL RECORD has no word of censure for those under whose guidance the epidemic here described was allowed to progress, but in all kindness it would deplore the conditions which make such an occurrence possible. Those who are qualified to speak upon these matters know that of all the so-called contagious diseases, with the possible exception of smallpox, diphtheria is the most easily preventable when it appears under conditions in which those who have been exposed can be controlled—such as in institutions of various kinds, aboard ships, etc. The measures which will bring about this result, are: (1) Isolation of all who show diphtheria bacilli in their throats. (2) The extended prophylactic use of antidiphtheritic serum. (3) Efficient disinfection. By utilizing these means an epidemic of diphtheria, occurring under the above conditions, can be checked every time. To those outside the Navy Medical Service, the consideration of this epidemic is full of instruction, as showing the consequences which resulted from a lack of the utilization of means, the efficiency of which is sure.

ANNUAL REPORT OF THE NEW YORK STATE CHARITIES AID ASSOCIATION.

The thirty-first annual report of this association has just been issued. Among other items of interest contained in this report, is the report of the joint committee on the care of motherless infants, which states in part that, although many of the babies under the care of the committee have been subjected to neglect and exposure at a very tender age before being received by the committee, the number of deaths among them is very small. The mortality rate for the past two years has been actually lower, according to the statistics of the Board of Health, than the mortality rate among all children under two years of age in the city of New York, which was for the year 1900, 13 per per cent.; for the year 1901, 12 per cent.; and for the year 1902, 11.8 per cent. The committee's report goes on to say: "When it is remembered that practically all the foundlings, when they were received at the Infants' Hospital on Randall's Island, died before reaching the age of two years, it is most gratifying that the life-saving value of the work of the committee should be so great."

The committee not only receives foundlings, but abandoned babies and infants who have fallen to the care of the city because their relatives are unable to care for them. The committee now takes all the Protestant foundlings and abandoned babies, and a large proportion of the other motherless babies who are Protestants, from the Boroughs of Manhattan, the Bronx, Brooklyn, and Queens. According to a long-established rule, foundlings and other babies, of whose parentage nothing is known, are baptized alternately Protestant and Catholic, and the Catholic children are taken in charge by the Guild of the Infant Saviour, while the committee cares for the Protestants. The last mentioned babies are all boarded in carefully selected houses, each with a different family, and most of them with women who have lost their own babies, and act as wet nurses to those in charge of the committee. When old enough these babies are handed over to the New York State Charities Aid Association, and transferred to the care of the Placing-out Agency of that society.

The report of the New York County Visiting Committee for the year ending September 30, 1903, is, on the whole, satisfactory. It is stated in the report that "In the Department of Public Charities, building after building has been renovated, brought as nearly up to modern standards as circumstances permitted, and a score of new buildings have been started, and pressed toward completion under adverse conditions arising from strikes, and from limitations in the authorized methods of contracting."

The Board of Trustees of Bellevue Hospital has been granted an appropriation for plans, and has been enabled thereby to retain thoroughly competent architects, whose plans, now far advanced, show a well-ordered group of buildings which will place the new Bellevue Hospital, in architectural design, equipment, and adaptation for hospital service, in the front rank of the general hospitals in this country. Gouverneur Hospital is to be completed under plans made possible by a generous appropriation.

Work on the new Harlem Hospital will be commenced in a few weeks upon a site at One hundred and Thirty-sixth street and Lenox avenue.

A new site for Fordham Hospital has been secured on St. John's College grounds, adjacent to Bronx Park, where will be erected a modern hospital, with over two hundred beds, a nurses' home, and stable and morgue.

The report of the Visiting Committee to the Craig Colony finds, as last year, ample cause for censure in the management of that institution. The following specific recommendations are made: "First, That for the filthy patient, the ordinary hair mattress, constantly soiled in spite of greatest care, be replaced with a bedding very satisfactorily employed in Germany—a crib, partly filled with a so-called 'wood wool,' in which the patient lies. It is economical, comfortable, absorbent, and sanitary, since it can be readily burned when soiled.

Second, Some method of mental or physical drill, or games should be introduced, by which many patients could occupy at least some part of each hopeless day. The gain already secured in table manners for these unfortunates by tact and patience, as well as the brilliant results achieved by Bourneville at the famous Bicêtre near Paris, should certainly stimulate serious effort in this direction.

A generous equipment of the scientific department, in the opinion of the committee, is very essential. Only thorough study of the clinical and pathological conditions underlying epilepsy can ever clear up a subject of which so little is known. The committee, therefore, think that no expense should be spared in fitting up the laboratory recently completed.

The report of the New York State Charities Aid Association is far too voluminous to be dealt with within the limits of an editorial, but the public may rest assured that the work of the association is carried out with energy and intelligence, and that the outcome is to the benefit of all concerned.

Prevalence of Diphtheria.—There is said to be an epidemic of diphtheria at Lake City, Ill. All infected houses have been quarantined, public schools have been closed, and public gatherings prohibited.

Cremation.

In the *Hospital*, January 30, is a review of the progress made in cremation in Great Britain. *Public Health Engineering*, June 27, 1903, is largely quoted from. The history of the origin and development of cremation in Great Britain is highly interesting. Like most measures of reform in that country, the advance of cremation has not been rapid. The motto of the British appears ever to be "*festina lente*," and cremation has undergone its period of probation before being accepted by the masses. However, now the movement is a forward one, and bids fair to gain ground. Still more quickly in the future.

The first crematorium in England was opened by the Cremation Society of England at Woking, in 1885, and the number of bodies cremated annually increased continuously up to 1900, during which year 301 operations took place, the total up to the end of 1902 being 2,119. In 1892 a crematorium was opened near Manchester, followed by one in Glasgow in 1895, and by one in Liverpool in 1896. So far these crematoria had been started by private companies, but under the provision of certain acts, the corporations of Hull and Darlington opened crematoria in 1901, and under similar powers the corporation of Leicester also completed a suitable establishment in 1902. In addition to the crematorium at Golder's Green, near London, the City Corporation of London have also taken up the subject, and the construction of a crematorium at the City of London Cemetery at Ilford is about to be commenced. The number of cremations carried out at these establishments during the past ten years has slowly but steadily increased, being 131 in 1893, and 446 in 1902.

In the United States there are twenty-five establishments, at which about 2,700 cremations per annum take place; in Italy there are twenty-seven crematoria, seven in Germany, two in France, three in Switzerland, two in Sweden, and one in Denmark. The British Parliament passed the Cremation Act, which authorizes any burial board, council, or other local authority having powers and duties of the burial board, and any local authority maintaining a cemetery, to provide a crematorium to be used under regulations made by the Secretary of State.

The committee appointed to draw up these regulations made special inquiry into the question of cremation being used to destroy evidence of crime, and in the report admitted that while no regulations could be formed which would entirely eliminate the risk, yet they concluded that regulations could be framed which would so far reduce the risk as to make cremation at least safe as the existing method of burial, as in certain circumstances the law even now permits burial without certification of the cause of death. Two great advantages over earth burial are: (1) Greater safeguarding of the health of the living, and (2) the absolute destruction of the germs of contagious diseases, which is rendered perfectly certain where the human remains are destroyed at a temperature of 1,800 to 2,000° Fahrenheit, now attained in cremation furnaces. The resuscitation of diseases by disturbance of the ground in which many years before diseased bodies had been buried, has been proved over and over again, and even without intentional disturbance of such ground there is always the possibility of germs being brought to the surface and dispersed in the air by natural action such as that of earth worms.

The verdict brought in by the majority of those competent to pass an authoritative opinion on the subject of cremation, is that, for sanitary reasons alone, the process should be adopted in the vicinity of large cities. Sentiment has been the cause of prejudice against cremation. The fear that death by poisoning might escape detection if cremation were to become general, is not justified to the extent which is popularly believed. The arguments in short, in favor of cremation outweigh those against the process.

Concerning Doctors.

Mrs. Earle gives, in the *British National Review* for February, her opinion of doctors. The writer is not by any means enamored of the medical profession, and seizes the opportunity to pay its members several left-handed compliments. Mrs. Earle however, is a great admirer of Dr. Alexander Haig and of his doctrine that we should avoid all uric acid and xanthin-containing foods, which he considers harmful, such as meat, fowl, fish, tea, coffee, cocoa, pulses, asparagus, and some other vegetables, and refrain from all alterative and purgative drugs. The writer declares that poor people in Great Britain have lost the art of feeding children. What, she asks, should be our mental attitude toward doctors, and answers by saying that we should learn from them all we can, and should help them as much as possible by perfect openness and truthfulness, and should let them benefit by our experience and common sense, and should let them know that our object is to attain a better state of general health, and not to make a sudden and rapid cure by means of medicines which only cause momentary alleviations. Mrs. Earle finds that both doctors and the public are somewhat scornful at the highfaluting moral attitude assumed by food-reformers, teetotalers, and abstainers of all kinds, and she owns to having, at one time, sympathized considerably with this point of view. She considers, however, that the knowledge one picks up in the course of life are contingent upon obedience to the whole law, physical as well as moral, and that moral obedience will not atone for physical sin and *vice-versa*.

The Etiology of Carcinoma.

Fresh views as to the cause of the different forms of cancer are continually being advanced. Investigators in all parts of the civilized world are earnestly engaged in the endeavor to trace the disease to its fountain head, and in truth it must be said that a certain amount of definite progress has been made in this direction. British scientists have been especially active during recent years in this line of research and have contributed valuable additions to the sum total of our limited knowledge of the etiology of cancer.

Mr. Keith W. Monsarrat, in the *British Medical Journal*, January 23, has an article on the subject. In 1899 he described the morphological characters of an organism isolated from carcinomata. During the four years which have elapsed since that time he has continued these researches, and now reports their result with regard to the morphological characters associated with the clinical type of carcinoma—that affecting the female breast. The writer claims to have isolated an organism which will grow on nutrient media, has constructed a scheme of its life history, in which two cycles were traced—the one a vegetable budding cycle, the other a sporulating cycle, and which when injected into living animals will produce a new growth in their tissues. He has further come to the following conclusions: The organism initiates in endothelium and epithelium a process of proliferation, as a result

of which masses of new-formed tissue are built up which consist of a parenchyma and a stroma, and grow and extend actively from their centers of origin. This new cell-mass formation may be associated with growth of a similar character in neighboring glands, and some evidence was also provided that visceral metastasis occurs. Intracellular bodies are demonstrable in carcinomata mammæ, which present the same features as the intracellular parasites of the experimentally produced nodules. "The evidence derived from these researches, says the writer, "points to the conclusion that the organism described is an etiological factor in the morbid process known as carcinoma mammæ." Without taking so sanguine a view of the result of the researches of Mr. Monsarrat, as he himself does, there would seem to be some good grounds for the belief that he has unravelled a little of the tangled skein which enfolds the origin of cancer. The unremitting and painstaking labors of those who have devoted themselves to cancer research cannot but in the long run bring forth splendid results, the long-desired goal may even be reached.

An Extraordinary Case of Prolonged Sleep.

In the records of prolonged sleep it is doubtful if there is a case more remarkable than that recorded by Dr. E. Herbst, a dentist of Bremen, in the *Berliner klinische Wochenschrift* for February 1, 1904. This occurred in a woman, forty-four years old, living at Grambke, a town near Bremen, who, according to the account, had slept for seventeen years. She had been entirely well for a period of 12 years previously, although prior to this she had on one occasion slept for thirty weeks. For a brief time before her long sleep she had complained of a peculiar headache and that she was unable to retain anything and to read. She suffered frequently from a sense of great fatigue and often slept for from twelve to twenty-four hours. Throughout the long period of sleep the ingestion of food was not interfered with, and the woman ate and drank when the rest of the family ate and drank, although her food had to be cut up and macerated. For the purpose of eating she was placed upright and supported by means of a hand upon the back. When thirsty, she smacked her lips until given drink, and she became restless when food was not supplied at regular intervals. She frequently took cold, on one occasion had influenza, vomited food that she could not digest, at the same time sweating profusely, and was thus not immune from everyday ills. When she desired to void the rectum or the bladder she indicated her wish by moaning. The eyes remained closed, motility was unimpaired, she threw herself about in bed and moved all of her members—in a word she behaved like a person sleeping normally. On awaking she had a feeling as if she had slept but a single night, calling to a sister that it was time to arise and manifesting surprise that a brother who had seventeen years previously when a soldier wore no uniform. To her father she stated that her head was now clear. Her memory was unobscured, so that she was able to recall every detail of her experience seventeen years previously as if it had occurred but yesterday. The eyes appeared to have become somewhat myopic, although she recognized everything before her. She had increased in weight and presented the appearance of a woman of her years. The parietal bones, however, were exceedingly prominent, so that the skull had a peculiar spherical shape. In reply to the inquiry as to whether she had dreamed she answered in the negative. Her conduct was that of a person seventeen years younger. Speech was at first difficult, perhaps in consequence of loss of the teeth, most of which had fallen out. Motility was preserved, although walking was difficult, though improving rapidly. The woman awoke from her long sleep at the time of a fire in the neighborhood of her home, with the ringing of bells. The relatives were not inclined to believe that these circumstances had anything to do with the waking, as the bells had often rung before and violent thunderstorms, of which as a child she had been afraid, had been without effect.

This record is almost too startling for comment, and we doubt if its equal can be found in the literature. From the context it cannot be determined whether the individual was constantly under professional observation or not, but the communication appears in such a sober and reputable journal that its authenticity cannot be questioned. A decision as to whether the condition was one of true sleep or not will depend upon the individual definition of that term. At this distance the record of the case reads like that of one of hysterical narcolepsy of unusual duration.

News of the Week.

Dr. William Kelly Simpson has been appointed professor of clinical laryngology at the College of Physicians and Surgeons, New York (Medical Department of Columbia University), to succeed Prof. George M. Lefferts, resigned.

Typhoid Fever in Philadelphia.—Dr. A. C. Abbott, President of the Philadelphia Bureau of Health, predicts an epidemic of typhoid fever in that city. Sixty new cases of the disease were reported on February 28 and 29. Dr. Abbott believes that with the advent of warmer weather the earth will be loosened and the accumulated dirt and filth of the winter washed into the river by the rains and pumped into the water-mains. The preventive is to boil thoroughly all water used for drinking and for domestic purposes generally.

Filtration of the Columbus Water Supply.—An ordinance was passed this week by the Council of Columbus, Ohio, providing for the submission to the voters at the next general election of a proposition to issue $1,500,000 bonds for a filtration and softening plant for the City Water Works. The measure was inspired by the fact that there have been to date this winter 1,522 cases of typhoid fever.

Increase in the Death Rate.—The report of the Board of Health for the week ended last Saturday shows a death rate of 23.35, against a rate of 21.84 for the corresponding week last year. During the week there were 328 deaths from pneumonia, 59 from bronchitis, 126 from bronchopneumonia, and 24 from influenza.

The Spitting Nuisance.—Health Commissioner Darlington of New York City has caused public announcement to be made that no further leniency is to be shown toward violators of the provision of the Sanitary Code that makes spitting in public a misdemeanor. Officers of the Health Squad have been ordered to make summary arrests in all cases. The abominable habit of voiding the nasal secretions by blowing the nose on the sidewalk without the use of a handkerchief is rapidly growing as must be evident to anyone with habits of observation. Whether or not that shares with spitting in the prohibition we do not know, but if not it should be specifically included, for a more

disgusting and hygienically wicked practice does not exist.

Bureau of Information for Students in Paris.—A correspondent of the *New York Times* writes concerning a new department opened on February 15 at the Sorbonne. The movement, which is due to the initiative of Dr. Blondel, consists of the installation of a Bureau of General and Scientific Information, bringing within reach of every visitor or student a mass of information hardly to be acquired in any other way. The bureau is administered by a staff of employees speaking several languages, and undertakes to bring any student or visitor into touch with persons or institutions, societies, laboratories, lecturers, or authorities on any subject which he may wish to examine. Addresses of embassies, Consulates, compatriots in the capital, may all be obtained at the bureau in the Sorbonne, together with particulars of lectures, courses of instruction in law, medicine, hygiene, engineering, the fine arts, literature, or sciences of the most abstruse description.

A Diploma in Tropical Medicine.—The University of Cambridge has recently announced that it will grant to applicants who have fulfilled the stipulated conditions regarding time of study, and who pass successfully an examination, a diploma testifying to knowledge and skill in tropical medicine and hygiene. The examination will have reference to the nature, incidence, prevention, and treatment of the epidemic and other diseases prevalent in tropical countries. It will comprise the following subjects: (1) The methods of pathological and bacteriological investigation. The examination of the blood. The characters, diagnosis, and life-history of animal and vegetable parasites. The examination, chemical and microscopic, of poisoning or contaminated foods and waters. (2) The origin, pathology, propagation, distribution, prevention, symptoms, diagnosis, and treatment of the epidemic, endemic, and other diseases of tropical climates, including malaria, blackwater fever, trypanosomiasis, relapsing fever, dengue, yellow fever, plague, tetanus, beriberi, dysentery and hepatic abscess, cholera, enteric fever, Malta fever, and specific diarrhœal affections of the tropics, diseases due to cestode and other worms, filariasis, bilharzial disease, specific boils, sores, and other cutaneous affections, mycetoma, ophthalmic affections of the tropics, affections caused by poison-cut plants and animals, and by poisoned weapons and sunstroke. (3) The general effects on health in the tropics of seasons and climate, soil, water, and food. Personal hygiene, acclimatization. Principles of general hygiene, with special reference to food and water supplies, sites, dwellings, drainage, and the disposal of refuse. The sanitation of native quarters, camps, plantations, factories, hospitals, asylums, jails, pilgrim and coolie ships. Principles and methods of disinfection. The examination will be partly in writing, partly oral, and partly practical and clinical. The clinical part will be conducted at a hospital for tropical diseases, at which cases will be submitted for diagnosis and comment. The applicant must be a legally qualified British practitioner, and must pay an examination fee of six guineas. The examination for 1904 will be held on August 9, and the two following days.

Consumption Declared Contagious.—The Nebraska State Board of Health promulgated on March 1 a rule requiring physicians to report promptly, for purposes of quarantine when deemed necessary, all cases of consumption. Any physician, householder, or landlord who fails to comply is subje to a $100 fine. Consumption is thus formally i cluded in the list of contagious diseases.

Ankylostomiasis in Porto Rico.—The Legislat of Porto Rico has appropriated $5,000 for the penses of an investigation into the prevalence anæmia in the island. Captain Ashford of t military hospital has been appointed to cond it.

Measles in a University.—An epidemic of mea has broken out among the students of the U versity of Wisconsin, and one hundred are confi to their rooms. The malady first made its pearance two weeks ago, but it was not unti week ago that it began to spread. The contag is believed to have been introduced by a stud who attended the junior promenade while in early stages of the disease.

Dr. Mary A. Dixon Jones of this city has cently been elected a member of the British Gy cological Society of London. This is a well-deser honor, accorded in recognition of the excellent w by Dr. Jones in the field of tumors of the uterus its adnexa.

The Supply of Trained Nurses in Cincinnati is equal to the demand. Although there are over graduate nurses practising in the city, owing the unusual amount of sickness, many families compelled to do without their services.

Additions to the Medical Staff of Cook Co Institutions.—Hereafter the consulting staff of Cook County Institutions at Dunning, Ill., be composed of one specialist each in internal m cine, tuberculosis, insanity, pathology, and surg

Suture of the Heart.—Dr. Francis T. Stew on February 29, successfully introduced six sut through the wall of the left ventricle of the h in the case of a colored man admitted to Jeffe Medical College Hospital with a stab wound of left side, and signs of injury to the heart.

Dr. Joseph Brown Cooke has been appoi Adjunct Professor of Obstetrics in the New Y Polyclinic.

Increase in the Price of Camphor.—The pric gum camphor, for supplies of which the w depends upon Japan, has risen steadily since first rumors of war. Last October, the whole price of camphor was about fifty-eight cents a po in bulk. The last shipment from Japan wa December, and since then prices have gone up nearly a dollar a pound in bulk at wholesale. is said that America has but four months' sup Although the price of camphor may advance e further, there will probably be no famine, s the large plants recently established to manufac camphor artificially will be able to supply the h demand.

Dr. P. S. Connor, Jr., has been appointe district physician of Cincinnati, Ohio, to rep Dr. Harry Thomas resigned.

Reports of Cincinnati Hospitals.—Reports mitted to the Board of Medical Directors of cinnati Hospital show that in the past year 13, persons applied for treatment; of these 6,423 sons were admitted. Total number of operati was 396. Poison cases to the number of seve were treated, of which thirteen proved fatal. fifteenth annual report of St. Francis Hospi Cincinnati, shows that during the last year 1, patients have received treatment.

Dr. S. D. Clayton has been chosen Medical aminer in the Pension Office Board in Cincin to fill the vacancy left by the death of Dr. Spen

The Examination of Medical Officers for the ional Guard of Illinois has been postponed until ril 30. All those who desire to take this exination should apply to the Surgeon-General, . Nicholas Senn. The examinations will be d at Rush Medical College, beginning at 9 A.M.

ift to Augustana Hospital.—The sum of $20,000 l be given to the Augustana Hospital of Chicago, ording to the will of the late Thomas D. Lowther.

he police of Chicago also are beginning to enee the ordinance drawn by the City Council hibiting spitting on the floors of public conances or public buildings. Several men have n brought into court and have had to pay a ll fine as the result of violating the ordinance.

bituary Notes.—Dr. DAVID L. WALLACE of New-, N. J., died of pneumonia after a brief illness February 29. He was born in Newark in 1851 was a graduate of the Bellevue Hospital ical College in the class of 1875. He was for y years a member of the Newark Board of lth and was chairman of the City Hospital Comtee.

r. THEODORE YOUNG KINNE of Paterson, N. J., of heart disease on March 4. He was born in , and was for a time a cadet at West Point. soon resigned from the Military Academy and up the study of medicine, graduating from Albany Medical College in 1862. The same he entered the Union Army as assistant surn of the One hundred and eighty-fourth New k Volunteers, and later was transferred to the ical corps of the regular army. After leaving army in 1867 and entering private practice ecame a convert to homœopathy. He was once ident of the American Institute of Homœopy, and at the time of his death he was a memof the board of censors of the New York Homœoic Medical College and consulting physician St. Mary's Hospital, Passaic. He was twice ident of the Paterson Board of Health.

r. HOWARD C. RUSSELL of the United States ine Hospital Service died on March 2 at the ine Hospital, at Stapleton, S. I., from pneuia. He was born at Washington, D. C., and educated and obtained his medical degree he University of Pennsylvania. He was apted to the Marine Hospital Service on July 1, , and served at various hospitals of the service he South and lake coasts until 1902, when he transferred to the hospital on Staten Island.

r. FRANK E. BAKER, ex-Superintendent of the ark City Hospital and a practising physician, in that city on March 1, aged forty-eight rs. Death was due to injuries sustained by ig upon a slippery pavement on the night of ruary 8 last. Dr. Baker was a graduate of the ege of Physicians and Surgeons of this city he class of 1882.

Dr. W. W. HIGHLANDS, the oldest practising sician in Hamilton County, Ohio, died on March at his home in Newtown, at the age of eighty-one rs. He was a graduate of the Medical College Cincinnati, Ohio, in the class of 1850. He was a eon in the Union Army, a member of the o Legislature in 1883, and had been in the prace of medicine for fifty years.

Dr. MOSES D. KNIGHT died at his home in Clinton, J., on March 6, of disease of the heart, at the age seventy-one years. He was a graduate of the dical Department of the University of Pennsylnia in the class of 1861. He is survived by his low and two sons, both physicians, one practisg in Clinton, the other in Ambler, Pa.

Obituary.

OGDEN CURTIS LUDLOW, B.Sc., M.D.,

NEW YORK.

DR. OGDEN CURTIS LUDLOW died at his home in this city on March 2 from typhoid fever after an illness of nearly four weeks. The attack was not apparently a very severe one and the patient was believed to be doing well until near the end, when a fatal hemorrhage occurred, and his death was therefore a great shock to his friends.

Dr. Ludlow was born on Staten Island and was a grandson of the late S. R. Smith, after whom the S. R. Smith Infirmary at New Brighton was named. He was educated at the College of the City of New York, from which he was graduated with the degree of Bachelor of Science. His medical degree was obtained from the New York University Medical College in 1883. He was a member of the American Medical Association, New York State Medical Association, New York County Medical Association, of which he was secretary, the Medical Society of the County of New York, and the Society of the Alumni of St. Luke's Hospital, and was attending physician to St. Joseph's Hospital.

Dr. Ludlow was a practising physician of more than average ability, skilful in diagnosis, sound in judgment, most happy in his therapeutic intuitions, and tender withal and full of charity for the suffering. In addition he was a medical reporter of rare discrimination, always seizing unerringly upon the important points in a paper or discussion, and presenting them in a way to impress and interest the reader. He was for many years on the staff of the MEDICAL RECORD, contributing the greater number of its society reports, local, State, and national. In this work he came in contact with many members of the medical profession throughout the country, and won among them hosts of friends, who held him in warm esteem for his endearing personal qualities and honored him for his attainments. To many of those, as to his associates on the staff of this journal, the sad notice of his untimely taking off will cause a sense of personal bereavement and excite feelings of the most sincere and heartfelt sorrow.

A Case of Acute Pancreatitis.—George Halley reports a case with operation and death. The difficulty in this case was, as usual, that of coming to a diagnosis before operating, which the severity of the symptoms and the consequent anxiety on the part of the patient demanded. As in many reported cases of acute pancreatitis, most of them having been diagnosed on the operating table, or at the postmortem, acute intestinal obstruction seemed the most likely alternative in this case because of the persistent vomiting and the constipation, which, owing to the absence of trained nurses, one could not be certain was absolute, or that the injections prescribed had been properly given. If the symptoms were due to obstruction, the cause of it must, from the character of the vomited matter, have been high up. The previous history of the passage of gallstones suggested the possibility of obstruction at the orifice of the common bile duct and pressure on the bowel. The suddenness of the onset of the attack, the persistently severe character of the pain, and the seat (the epigastrium) of the pain, seemed to point to some other cause. Unfortunately no information could be obtained from abdominal palpation on account of the thickness and the rigidity of the abdominal walls. The symptoms were too severe for biliary colic to explain everything. The later recurrence of the symptoms with unabated severity clearly indicated that operation was imperative.—*Scottish Medical and Surgical Journal.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LEAGUE AND ORDER OF MERCY—WINDSOR HOSPITAL—SPLENIC ANÆMIA OF INFANTS—APPENDIX DISEASE—UNRUPTURED TUBAL GESTATION—HOSPITAL ASSOCIATION—ARMY REORGANIZATION—PATHOLOGICAL STUDENTSHIPS—SIR S. WILKS—DIPLOMA IN TROPICAL MEDICINE—OBITUARY.

LONDON, February 19, 1904.

THE League of Mercy has maintained a place among the chief topics of the week notwithstanding the overwhelming importance of the war news. This is due to a Royal Fête held on Monday and Tuesday in aid of the league. Some disappointment was felt at the unavoidable absence of the King and Queen, but the Prince and Princess of Wales were present on both days, and the number of distinguished persons who attended was great. You may remember that this league was founded four and a half years ago by Royal Charter to promote the objects of King Edward's (then the Prince's) Fund for London. The King is now patron of the League and Sovereign of the Order. The Prince is Grand President, and the Princess Lady Grand President. The organization is extensive, and has handed over £32,000 to King Edward's Fund. The "Order of Mercy" was instituted in connection with the League, and consists of a red cross surmounted by the Prince of Wales' feathers, and having in the center a group of figures representing Sir Joshua Reynolds 'o "Charity." The "Order" is conferred by the King as a reward for distinguished personal service only in behalf of the league or in connection with the relief of suffering or distress. There is also a Samaritan Branch for ladies who visit patients, arrange for placing them in convalescent homes, and help by entertainments or other ways to brighten their lives.

Yesterday Prince Christian took part in the annual meeting of the Windsor Royal Infirmary, of which he is President, when a committee was appointed with His Royal Highness as a member to consider the desirability of erecting a new hospital, the demands on the present building being too great to cope with.

The malady commonly called splenic anæmia of infants until 1889, when von Jaksch claimed for it a distinct entity, came in for discussion at the Medico-Chirurgical Society on the 9th inst. The old name is perhaps still most generally used in this country, though a few admirers of German work follow von Jaksch. Is it really *sui generis*, or only a complication or sequel of severe anæmia in infantile patients? Drs. J. H. Drysdale and H. Thursfield submitted a paper advocating the former view. They relied on the characteristic symptoms in support of their opinion. These are profound anæmia of gradual onset and chronic duration, such enlargement of the spleen as is seen in no other form of infantile anæmia, except in the rare cases of true myelogenic leukæmia; tendency to petechial hemorrhages; constant peculiar changes in the blood. To determine the precise change a number of examinations was made, and the results compared with other severe cases of anæmia. Tables were appended giving (1) the cases on which the paper was based; (2) detailed account of the blood examinations; (3) résumé of blood examinations in other infantile anæmias.

Dr. Robert Hutchinson could not feel certain the disease was *sui generis*, for the pathology was uncertain, and the blood changes not distinctive. Probably both this disease and rickets which often accompanied it might be due to the same cause.

Dr. Baumann agreed with the authors of the paper that the disease is an entity, but he differed from them in several other respects, and was inclined to adhere to the old name of splenic anæmia of infants. Syphilis or rickets was present in the majority of cases, but he did not consider the splenic anæmia secondary to an disease.

Dr. Newton Pitt remarked that the condition of the blood suggested a reaction against some toxic influence rather than a disease *sui generis*.

Dr. Norman Moore said that Sir Wm. Jenner taught that enlarged spleen was commonly found in rickets, and the two conditions might be due to the same cause.

Dr. Drysdale in reply maintained that the clinical features and blood condition formed a sufficiently distinct picture to operate the disease from other anæmias. He did not think it resembled the splenic anæmia of adults.

Dr. Thursfield in reply added that splenic anæmia had never been proved to develop from any other form.

A very interesting case was related by Mr. Edmund Owen at the Harveian Society. A man of forty-five had had obscure abdominal pains for years and was a confirmed dyspeptic. Last May he had apparently some typhlitis which passed off. In August his doctor sent him to Mr. Owen, who, on examination, per rectum, found a hard tender tumor at the base of the bladder, not prostatic, but closely adherent to the gland. On opening the abdomen and working continuously among adherent intestines he came at the bottom of the recto-vesical pouch upon a tightly fitted abscess, the walls of which were composed of the rectum behind, prostate below and bladder in front. A kinked piece of colon formed the roof. To the right of this abscess was the end of the appendix, closely adherent to the base of the bladder, and inflamed and ulcerated. The appendix was removed, the cavity of the abscess wiped out with swabs of dry absorbed wool and the pouch drained. The peritoneum showed itself proof against bacillus coli but a fortnight later the surface wound became infected causing severe cellulitis, and large arterial branches twice burst out bleeding, the patient being in great danger from this secondary hemorrhage.

Mr. Owen suggested that probably his patient at some time had had a mild attack of inflammation, which fixed the long appendix in the pelvis, and that the more recent attack of pain was a further inflammation resulting in abscess.

Perhaps if an operation had been done on an early attack the risks would have been very much less. Mr. Owen declared that the more appendix disease he sees the more convinced he is of the dangers of delay, and the best thing for a patient is to submit to operation without delay.

At the Obstetrical Society a specimen of unruptured tubal gestation exhibited by Mrs. Scharlieb excited admiration. It was beautifully preserved and mounted. The embryo was of twenty-four to twenty-eight days development.

Dr. Cullingworth said the number of cases operated on before rupture is still so small that it is desirable to record every case. The diagnosis is always difficult, more so when, as in this case, the gestation was too early for a history of missed menstruation.

Mr. Doran thought, as a considerable proportion of tubal abortions occurred about the second month, probably a still larger number of tubal pregnancies took place and terminated earlier without symptoms. But this might be otherwise. The tube might be competent to bear the ovum up to a certain size. Much is known about early tubal gestation, but the clinical features should be more carefully studied. Dr. Cullingworth has indicated as a cardinal symptom the discharge of dark blood observed by older writers, but not correctly interpreted. Hemorrhages are probably never absent.

The army reforms—if so the changes may be properly termed—are, to say the least, as defective as many of the previous reorganizations. They quite ignore the medical service. This is an old folly, and the fruits of it were seen in South Africa. We are to have an army council on the lines of the Board of Admirality—a plan which is commended by many. The council is to be the "supreme administering body" of the army. But it has no representative of the Medical Service to advise it. Mr. Brodrich put the Medical Director on his Army Board. But Mr. Arnold-Forster gets rid of that official and on receiving a remonstrance says the council is not a representative body, so there is no need for a representative of the profession. Perhaps not, but there seems an urgent need for some one skilled in sanitation and military surgery and medicine, if the horrors caused on former occasions by ignoring the doctors are not to be repeated.

Mr. Bryant presided on Wednesday at the annual meeting of the Hospitals Association. The report of the council stated that three general meetings had been held at which useful discussions had taken place, especially as to the removal of some hospitals from their present sites. One hospital has decided to remove, and the council hoped the scheme would be well supported. At another meeting a resolution was passed disagreeing with the Committee on Nursing appointed by the Local Government Board, and asking the President to receive a deputation. Mr. Long declined a deputation, but promised careful attention to the subject. The ambulance service was also reported on. The present ambulance service for London is privately supported and consists of fifty-five stations at hospitals, fire stations and other places. This is done for about £350 a year. It is hoped the County council will take up and complete the service. They will not do it with the same economy.

Mr. Philip F. Walker has founded and endowed a studentship in pathology at the University of Oxford

His brother, Mr. Jno. Lucas Walker, was the founder of the similar endowment at Cambridge University.

Sir Samuel Wilks has undergone an operation for appendicitis and is doing remarkably well. Many of us felt much anxiety for the result to our eminent physician, for he is nearly eighty years of age. We all wish him a rapid convalescence and more happiness in his retirement—which has been so acutely interrupted.

The University of Cambridge has decided to give diplomas in Tropical Medicine, and the first examination will be held in August next. All registered practitioners are eligible for the examination on presenting proofs of study of the subject. The recognition of these proofs seems liberal. As evidence of study, candidates may submit any dissertation or record of work done.

The death is announced of Dr. Porteous, who was medical officer of Sir John Ross' expedition in search of Franklin in 1850. He served in the Navy as Assistant-Surgeon, and had medals for the Baltic and other expeditions.

Dr. Milne Murray, the Edinburgh gynecologist, died on the 14th. He had been out of health for several months, but it was hoped he would recover. The end was, therefore, rather unexpected.

Dr. David T. Playfair died on the 1st inst. from heart-failure. He had suffered from a cardiac affection for some years, and of late it had become more urgent. He went to Bournemouth to rest, but there the end came. He was only forty-eight years old. He was an Edinburgh graduate, and had practised a long time at Bromley, Kent, where he was surgeon to the Cottage Hospital.

OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

PRESIDENCE OF THE PLAGUE—STAMPING OUT OF CHOLERA—INFANT MORTALITY—PERILS OF CHILDHOOD—A CAMPAIGN OF EDUCATION BY THE SANITARY AUTHORITIES.

MANILA, January 10, 1904.

The report of the Commissioner of Public Heath, for the month of December, 1903, states that there were but two cases of plague during the month, both in Filipinos, who were dead when found. The Chinese population has been largely protected against this disease by anti-plague inoculations. There were eleven deaths from cholera during the month, this being a gratifying reduction from the twenty-six deaths from this cause in November, the one hundred and eighteen in October, and the two hundred and sixty-three in September. It is expected that with the continuance of the present measures the infection of cholera will be eradicated from the city in the month of January. Of the total deaths reported in the city during the month, 60.6 per cent. occurred in children who had not completed the first year of life; of the total deaths occurring among the Filipino class of the population, 65.8 per cent. occurred among children less than twelve months of age. Two new free dispensaries were established during the month and put into operation. As so far these institutions have been regarded with some distrust by the class of the population it is most desired to reach, special efforts are being made to popularize their use by the indigent.

The question of infant mortality is being given much attention by the sanitary authorities, the death rate among infants being extremely high. This is particularly the case at the present season of the year, which has been unusually cool. Infection of the cord, insufficient clothing, and improper feeding are the main causes of this mortality. The cord is ordinarily manipulated with unwashed fingers, cut with a dirty knife, and tied with unclean cord. Any piece of cloth, soiled or otherwise, is regarded as suitable for dressing the cord by the lower classes, who sometimes use wood ashes as a dry dressing. If the cord does not drop off within a week it is often forcibly removed by the native mother, who also massages the child's abdomen and the navel wounds to prevent colic. With the germs of tetanus almost omnipotent, it is not strange that the mortality from this disease among the new-born is high. The newly-born child is often subjected to exposure that the mother or father would not think of imposing upon themselves. The adults are reasonably well clothed with one or two thicknesses of cotton cloth, but the customary garment of the young child is a single shift of native gauze cloth reaching scarcely to the hips, in order to avoid being soiled by the discharges. Such a gauze garment is practically no protection against cold, and in the country districts even this single shirt is conspicuous by its absence, and until the age of about six or eight years the average child of poor parents, outside of Manila, wears little, if any, clothing. The usual sleeping arrangements consist of a straw mat laid over a bed or floor of split bamboo, with perhaps a cotton spread as cover. The young child is given no special consideration in the matter of sleeping facilities, and is as likely as not to be left in a draught to be chilled by the winds of cool rainy nights. Under such circumstances, the results of chilling, as seen in bronchitis, pneumonia, and congestive diarrhœa, are a potent factor in raising the death rate among young children during the cool season of the year, when they are subjected to an ordeal of exposure from which a large portion of such children are unable to survive. The insufficient clothing of the children appears to be due to ignorance, poverty, and a disinclination to perform the extra laundry work which, the washing of clothing soiled by the infant's discharges would require. It is an almost universal custom through the islands to leave children practically unclothed, and custom among the Filipinos has almost a religious sacredness, which the native is unwilling to change or have interfered with. While the native mother is apparently as fond of her child as a mother of any other nationality, she is loth to break away from local ideas and customs in respect to its care, even at the expense of the health and life of her infant.

Should the child survive the dangers of tetanus and exposure, it will arrive at a period when its diet will either be insufficient or improperly constituted. Children appear in a Filipino household with clockwork regularity, and the spectacle is common of a mother advanced in pregnancy with a nursing child at the breast. Obviously her system cannot stand this double drain, and her milk becomes scanty and of deficient quality, and the nursing child is defectively nourished. Mothers also nurse their children too frequently; and should an infant develop diarrhœa the common idea is that it should be nursed as often as it will take the breast, so that the digestive organs are given no opportunity for rest. It is also customary, if the flow of milk from one breast is not large, to consider the milk of poor quality, and allow that breast to atrophy from disuse. If the mother is unable to nurse the child properly its early demise is probable. The Filipino woman does not take kindly to the position of wet nurse if her own child be alive. Fresh milk is difficult to procure, and the use of condensed milk is not well understood. Both fresh and condensed milk are largely beyond the reach of the poorer classes. Occasionally a little carabao milk is obtainable, but it is not often given diluted; is too rich for the infant, and is procured and kept under such conditions as to ensure its infection with pathogenic germs. A few goats are kept, and when the milk of these is used for nursing infants the latter are often allowed to such direct from the dirty teats of the animal, whose milk, also, is too rich to be well borne. When the mother cannot nurse the child, and in all cases, at a relatively early period of life, the infant is fed on rice water, broths, fish soup, and corn porridge. Fruits are given early, and the sight of a half-green, mango, contaminated by dirty hands, held to the mouth of a toothless babe, is not uncommon. The child is given the ordinary diet of the family as soon as it will take it, while its drinking water is always unsterilized, and drawn from a source which, in the Philippine Islands, is almost invariably contaminated. The food given is often poorly cooked, or allowed to stand until fermented, and the digestive organs of the child are overtaxed with material which it is not only unable to assimilate, but which is probably contaminated with the germs of disease. Indigestion, diarrhœa, malnutrition, convulsions, and death are logical sequelæ, which too frequently follow. Pigs, dogs, cats, chickens, and babies share the limited accommodations of the native house together, and as the child is allowed to lie on the dirty floor and ground and is never washed its chances of escaping infection with intestinal parasites are not great.

If the child survives the many dangers of the first year of existence its expectation of life is excellent. The defectives have been eliminated by vicissitudes which only those of most robust constitution have been able to resist, and these latter represent the survival of the fittest. The constitutionally weak are unable to survive in the struggle for existence, and succumb to conditions dependent on ignorance, poverty, and custom; conversely, the child who has been able to maintain itself through the first two years of life will be found to be strong, sturdy, and resistant to disease. A further cause for a high infant mortality is found in the dearth of physicians, and the unwillingness of the people to employ them when obtainable, except when the illness is so far advanced that the child is beyond medical aid. Every old woman is an amateur doctor, whose recommendations do more harm than good. The most extraordinary measures are adopted in the case of sickness, and applied to the helpless infant, as dressing the umbilical stump

with a paste of stewed fish, or burning the child with hot cocanut shell to cure convulsions.

The sanitary authorities appreciate that effort to reduce the general death rate should best be directed toward the reduction of infant mortality. To this end they are pursuing a campaign of education, and are issuing circulars of instruction, in the various native languages, on the care and feeding of infants, by the thousands. In Manila, one such circular is placed in every family having young children and sent to the parents of every child whose birth is reported. Plans are also being made by which the mother of every child brought for christening will also receive such a circular. New dispensaries have been established, additional municipal physicians and midwives employed, and every effort made to popularize their use by the indigent. Parents in poor circumstances may receive free a yard of Canton flannel, sufficient to make two warm shirts for an infant, at any municipal dispensary. Plans are being prepared for a free maternity hospital and training school for midwives. All these measures should ultimately have their effect in reducing a mortality among infants which is as appalling as it is theoretically unnecessary.

Progress of Medical Science.

Boston Medical and Surgical Journal, February 18, 1904.

Scientific Aspects of Moderate Drinking.—Francis Gano Benedict declares that it is evident that individuality and physical condition play a very important *rôle* in determining what is commonly meant by excess. Moderation for one man may be decided excess for another. From careful research it has been determined that habitual indulgence in alcoholic liquors beyond the most moderate amounts help to shorten life proportionally to the degree of indulgence. In life insurance companies there seems to be much more importance attached to the applicant's relation to the use of alcoholic liquors now than twenty years ago. In general it may be said that alcohol diminishes all forms of mental activity. The use of moderate quantities of alcohol has a strong tendency to lead to its excessive use. The habitual use of alcohol in any amounts should be discountenanced. Special pains should be taken to show the young man that any use of alcohol, even though it be occasional, must be regarded as contrary to scientific teachings. Alcohol even in small amounts retards the physical and mental growth of youth. The habit-forming tendency of alcohol is a factor in the moderate use of alcohol that must be taken into serious consideration. It is not unreasonable to conclude that there is a real danger from the habit-forming tendency of alcohol which should not be overlooked in any consideration of the use of alcohol.

Slipping or Recurrent Dislocation of the Patella, with the Report of Eleven Cases.—Joel E. Goldthwait states that the above condition is seen almost entirely in girls or women, and is due, in large part, to the fact that the line of pull of the quadriceps extensor muscle is not straight, this feature being increased in its effect by an unnaturally long patella tendon, knock knee, or an imperfectly developed articular surface at the end of the femur. The chief point in the treatment consists in the correction of the angle in the line of muscle pull so far as it is possible. If the patella tendon is long, so that in complete extension the patella is drawn above the outer ridge on the trochlear surface of the femur, it should be shortened. In shortening the tendon, it is better at the same time to change the attachment of a part of the tendon, thus making the line of pull more nearly straight. In the majority of the cases the attachment of the patella tendon is distinctly farther to the outside than normal. The most satisfactory treatment is an operation in which the outer half of the patella tendon is reattached to the tibia well to the inside of the tubercle. The operation consists of a longitudinal incision four or five inches long, extending from just below the tubercle of the tibia upward. Through this the patella tendon is exposed and split in halves, antero-posteriorly, throughout its entire length. The outer half is then cut from its attachment, passed under the remaining part and attached to the periosteum together with the expansion of the sartorius muscle at the inner side of the anterior surface of the tibia. If it is desirable to shorten the patella tendon the attachment can be so made that the patella is drawn down as much as is desirable, but as this causes much tension upon the new attachment, a hole should be drilled in the bone at the point of attachment, through which the suture is passed which holds the tendon. The carrying of the free part under the other is of importance, as in this way the patella is tilted, the outer part being drawn downward, and impinges more firmly against the outer ridge of the articular surface of the femur during muscular contraction, so that the danger of displacement is materially lessened. The attachment is ma with strong silk, quilted through the tendon. T wound is tightly closed and the leg fixed in a plas bandage for about six weeks.

Journal of the American Medical Association, March 5, 190

A Report of Ten Cases of Pneumothorax Occurring Pulmonary Tuberculosis.—J. W. Trask, who practises New Mexico, believes that pneumothorax is a more co mon incident in that locality than it is elsewhere, and th the prognosis is less hopeful. If this be so, one wo naturally look to the altitude of this locality (6,150 fe as a possible explanation, inasmuch as it requires mo air to be respired to oxygenate the blood, and co quently a greater amount of lung or a greater activi of the same amount as would be needed in less eleva regions, and therefore any great disturbance of the respi tory tract, such as occurs in pneumothorax, is not w borne. But the drawing of conclusions as to why so la a percentage of the deaths at this place have been to this cause must be deferred until more cases and larger series can be reviewed.

Headache from Non-suppurative Inflammation of Accessory Sinuses of the Nose.—C. M. Robertson ca attention to headache from disturbances of air press in the accessory sinuses of the nose. Any closure of natural sinus outlet leads to diminished intrasinus pr sure owing to the absorption of oxygen by the bloo vessels of the mucous lining, and as a result the lat swells. Later there may result a serous outpouring in the sinus and an engorgement of its lymph channels. other words, the condition is analogous to non-suppurati otitis from closure of the Eustachian tube. The sym toms vary according to the time the sinus remains clos the prominent one being headache. Occasionally t tissues of the middle turbinate may contract and so enla the openings under its lee that the symptoms ameliora The usual objective signs of empyema are absent. Th is no mucopurulent discharge and transillumination negative. Treatment should be directed toward t establishment of free drainage.

Chronic Adhesive Sclerosing Peritonitis, or Pla Peritoneal Sclerosis.—H. G. Wetherill reports a case of t nature, the lesion being an extensive subperitoneal fibr infiltration or sclerosis without ascites and without se fibrous or fibrino-purulent infiltration. The points interest in the case are summarized by the author as f lows: (1) The rareness of the disease. (2) The fail on this continent, generally to recognize and fully to scribe it though it has been long and well known abro (3) The pathognomonic sign—inability to unite a shri ing peritoneum once divided during the course of operation, which, so far as the author is aware, he is first to observe and describe. (4) The essential chronic of the disease, as indicated by the long-standing symptom otherwise unexplained, and by the shrinking and retr tion of the peritoneum at the first operation, sixte months prior to her death, which proved the previ existence of the malady, and that it was not directly indirectly the result of the operation. (5) The gr importance of covering all denuded surfaces when bef or during an operation chronic adhesive sclerosing p tonitis is diagnosed. (6) The characteristic subperiton connective tissue hyperplasia, which is the patholog feature of the disease. (7) The shrinking or contract of the peritoneum caused by it, the clinical feature. The possible significance of a somewhat similar pathologi process taking place in the skin coincident with unus gastrointestinal symptoms otherwise unaccounted f (9) The possible diagnostic value of this syndrome. (The danger of serious sequelæ incident to its surgi treatment.

Medical News, March 5, 1904.

Suture of the Omentum to the Parietal Peritoneum (E plopexy) for Ascites.—Joseph H. Branham reports a c of cirrhosis of the liver with ascites. At operation, omentum was found to be adherent to the parietal pe toneum on each side, the adhesion being very vascul showing the effort of nature to form collateral circulati About six months after the operation, during which ti the patient's health had been greatly improved, pleu effusion with no ascites developed. This points stron to good collateral circulation for the portal system. T chest was aspirated and the patient improved. Th showed that better functioning of the liver and intesti organs followed the operation.

The Pathological Anatomy of Shiga-Bacillus Infection the Intestine in Infants.—John Howland gives a report autopsies made at several of the large hospitals for infan The Shiga-bacillus was proved to be present in the gre majority of cases by an examination of the stools, but i seven cases it was obtained post mortem by scraping th mucous membrane of the colon, and in three cases it wa

ytained both ante mortem and post mortem. The organ- as found in all these cases corresponded in all particu- to the type known as the "acid" or "Harris" or lexner-Maiula," organism. The writer adds that the ions in the intestines in children, as in adults, must for present be conceived to be of two kinds, first those to the action of the dysentery bacillus, and second of products of this and perhaps other organisms. In there is a conformity in the condition found in chil- and in adults. In the cases of the writer, the lesions d were not usually typical pseudomembranous inflam- ions, the pseudomembrane appearing either on the sur- of ulcers or as isolated areas upon the mucous surface he intestine. This seems to be in contrast to the ges described in adults. The involvement of the soli- and agminated lymphatic structures in children is a er distinction, for the same structures in adults usu- escape participation in the pathological process. The r concludes that there are comprised under the lesions iated with the Shiga-bacillus all grades and types of bœal disease as distinguished by clinical symptoms pathological findings, and no particular type is distin- ed from the others by a special etiological origin.

got in Alcoholism, Morphinism, and the General Class ug Habit Cases.—Alfred T. Livingston describes his od of treating these cases. First, he wholly and diately discontinues the use of the narcotic, and so ges that the patient is absolutely prohibited any to the drug or to any other that could be regarded substitute. The application of ergot is then at once n. At the same time a mercurial purgative is given, wed in a few hours by a sufficient saline to assure pt purgation. The ordinary meals are discontinued abundant fluid and easily digested nourishment is every three hours. No nutrition prepared with ol is used. The bowels are kept open once a day— two or three times. The frequency of application e ergot will depend upon the degree of addiction, and the general condition of the subject when the drug discontinued. In general, the range would be from to three doses a day to one every two hours in the me cases. A dose is one-half drachm of extract of . The writer has in no case after the first forty- hours had a request from a patient for the ac- med drug or a substitute. The writer is radically sed to the "tapering off" plan, but he suggests cedure for this treatment which may be followed out e extreme cases of morphine or opium addiction. two of the ergot hypodermics daily, a fractional part e drug is given. This dose is daily reduced till about ighth day, when the morphine is discontinued.

New York Medical Journal, March 5, 1904.

stdiphtheritic Paralysis of Accommodation with Re- of a Case.—According to A. Bray, this sequel of theria occurs in about 10 per cent. of all cases of the se. This paresis of accommodation is never a com- paralysis, and is always bilateral, affecting both eyes ltaneously. Its degree has no necessary relation to everity of the diphtheria. It never follows a simple a. It is generally believed that the condition is a heral neuritis, but some contend that it is due to local latory disturbances. The latter theory is strength- by the usual rapid recovery seen in these cases. The t of the paresis depends upon the refractive condition e patient. The diagnosis is, comparatively speaking, —the history of an antecedent diphtheria with distant n clear and normal, and vision for near objects indis- ; add to this a clear medium of refraction and an almoscopic examination negative, and the diagnosis rtain. Prognosis is in most cases favorable, complete overy coming on in from two to three months. Glasses uld not be prescribed except in high degrees of hyper- . Fresh air, good food, absolute rest, and tonics con- ute the proper treatment.

hrombosis of the Jugular Veins in Pulmonary Tuber- sis.—A case of this nature is reported by C. J. Aldrich, has found reports in literature of nine similar cases. regards the accident as far more common in the late es of the disease than is supposed, and not so rare in the y stages as we assume. Causes have been erosion of s from external pressure, adhesions, or tuber- us lymph glands. and phlebitis from internal ors. Other possible causes enumerated by the ter are: (1) Presence of microorganisms or irritat- compounds in the blood; (2) alterations in the el wall; (3) changes in the normal constituents of the od; (4) alterations in the movement of, and loss of nal pressure in, the blood stream. He then discusses mode of action of these various causal factors. His n case was that of a woman aged twenty-seven years in last stages of pulmonary tuberculosis. There was the left internal jugular vein, a thrombus which extended through the subclavian vein down the axillary into the basilic. Two weeks later a similar thrombus formed on the right side, Death was caused from cerebral sinus thrombosis from extension of the deposit in the right internal jugular. No autopsy was held.

Bilateral Excision of the Superior and Middle Cervical Sympathetic Ganglia in Five Cases of Epilepsy.—The cases are reported by S. D. Hopkins, who states that the function of the cervical sympathetic is to control the muscular action of the cerebral blood-vessels; to transmit impulse from the stomach, intestines, and lungs, and to innervate the dilator muscles of the pupils and also the unstriated muscles of the lids. The most probable theory of epilepsy is that there is some circulatory disturbance in the brain. The cervical sympathetic ganglia contain the vasoconstrictor nerves, and the excision of these structures prevents vascular spasm, therefore, the lumen of the blood-vessels is permanently dilated, which increases the nutritive supply to the brain cells, and as a result of this, toxic elements are the more readily removed from the brain tissue. Of the cases reported one was apparently cured; in the others the number of attacks was greatly diminished. The author details the symptoms following the operation; many of these are transitory, but we may permanently expect ptosis, myosis with paresis, and lessened tension with recession of the eyeball.

American Medicine, March 5, 1904.

Diphtheria of the Vagina with Secondary Involvement of the Mouth, Rectum, and Skin.—Thomas W. Salmon describes this unusual case. The patient, a woman, was fifty-five years old. She was admitted to the hospital with acute melancholia. As cases of diphtheria had occurred in the building in which she resided, she was given an immunizing dose. A culture was taken from her throat before she had shown any evidences of illness. No diphtheria bacilli were present. About a week later, small white patches were noticed on the labia minora and several near the meatus. Diarrhœa was present and continued till her death. A few days later diphtheria bacilli were found in the throat. Patches of membrane developed on the lips, the tongue, and the hard palate. A dense white membrane now completely covered the vulva, the vagina, and the visible mucous membrane of the rectum. An abrasion on the cheek became covered with a typical pseudomembrane. Cultures from these various lesions showed typical diphtheria bacilli. Autopsy was not permitted.

A Case of Acute Leukæmia with Death Due to Rupture of the Spleen.—Joseph L. Miller reports this case. The patient was a man aged twenty-four years. His illness began with severe abdominal pain, especially after eating, and anorexia. These symptoms continued with intermissions for five weeks. He then had pains in the epigastric and lumbar regions, and marked flatulency and malaise. The spleen was barely palpable. The abdomen was uniformly distended. Under light diet and free catharsis, the patient improved, but three weeks later took to his bed. He then suffered from severe pain in both hips, and in region of the crest of the ilium. A few days later the spleen, on deep inspiration, extended two fingers below the costal arch, smooth and soft. The blood examination showed the following features: Leucocytes, 50,000; erythrocytes, 2,800,000; hæmoglobin, 48 per cent. Differential count showed 200 leucocytes; 4 per cent. of small lymphocytes; 84 per cent. of large mononuclears; 3 per cent. of eosinophiles; 1 per cent. of myelocytes; 8 per cent. of polymorphonuclear neutrophiles. There were numerous nucleated reds, chiefly megaloblasts, many of these showing mitotic figures. Two days later the patient died. Autopsy revealed two tears on the anterior superior surface of the spleen. There was also a small circular area of necrosis in the organ.

An Original Operation for Complete Laceration of the Female Perineum.—C. E. Ristine makes first an outline incision which varies in shape and length to conform somewhat to the extent of the laceration, with special reference to the rectal tear. Following the outline incision, he begins denuding the mucous membrane and cicatricial tissue, included in the outline from the highest point in the vagina, carefully dissecting down to the apex of the rectal tear, and laterally from the incisions down to the margin of the rectal tear. These lateral incisions should expose the ends of the sphincter muscle. The frill is then inverted into the rectum and is drawn well down below the anal margin with tissue forceps, which are left attached, for further traction if required, when adjusting vaginal or perineal sutures. The ends of the sphincter muscle are drawn out and fastened, and through this muscle, near its ends, is passed a chromicized or cumolized catgut suture. Gentle traction on this suture will approximate the ends. While the traction is continued, a silkworm gut suture is

gives a reaction like that of homologous serum, but causes the red cells to shrivel and assume a polygonal form instead of the thornapple shape usually produced by the addition of human blood.

French and Italian Journals.

Alopecia Areata from Trauma.—Florio Sprecher describes a case of alopecia areata in a girl of six years, following an injury to the scalp. There was no hereditary nervous condition, and all the other children of the family were healthy. No relative had ever had the disease. The patient was well developed and robust and not of a nervous temperament. A year previously she had received a blow with a stone on the right side of the head, causing a small lacerated and contused wound which gave a great deal of pain. The wound healed in six or eight days. The alopecia began seventeen days after the wound was received, and in three months had increased in area to the size of the palm of the hand, over the temperoparietal and frontolateral region of the right side. The lesion had all the characteristics of a true alopecia areata.—*La Riforma Medica*, February 3, 1904.

Ulcer of the Duodenum.—Chavannaz operated upon a patient who had never before this attack presented very marked digestive disturbances. The first warning of trouble was abdominal pain. This became more acute on the right side. The patient was unable to work and entered the hospital. The skin was pale, the pulse small and 120 per minute, and the abdomen was somewhat retracted. The greatest pain was between McBurney's point and the costal border. The diagnosis was made of peritonitis consecutive either to appendicitis or to ulcer of the duodenum. Laparotomy disclosed the latter condition. The patient died the same evening. At necropsy there was found an ulcer the size of a small pea, near the pylorus. —*Gazette Hebdomadaire des Sciences Médicales*, February 14, 1904.

Actinomycosis and Epithelioma of an Inflammatory Form.—Le Dentu makes this interesting report: Although actinomycosis is relatively frequent in certain parts of France it is rarely found in Paris. A case was recently observed presenting the clinical characteristics of the affection. The case was diagnosed as actinomycosis by various students who had had the opportunity of examining typical cases. Search for the specific granules was fruitless. On account of a suggestion that these elements had been destroyed by secondary infection, an exploration, a sort of curettage was made, to facilitate the examination of new tissue. Histologically, this was shown to be an epithelioma of inflammatory form. Le Dentu concludes that the diagnosis should be made only in the presence of the characteristic granules of the parasite.—*La Tribune Médicale*, February 12, 1904.

Acute Glaucoma Treated by Adrenal Extract.—Grandclément reports the excellent results he has had in the case of a patient of thirty-seven years, suffering with a very severe attack of acute glaucoma. His treatment consisted in the instillation of adrenal extract of the strength of 1 to 5000, into the glaucomatous eye every half hour for three consecutive days. This is the first case of the kind that the writer has treated systematically by this method without iridectomy. The course of this case and the results obtained have convinced the writer that he can in the future probably cope with the various forms of glaucoma by means of simple instillations of adrenal extract, as well if not better than by the classical operation of iridectomy. This would be most satisfactory, considering that iridectomy is a very difficult operation in glaucoma—very painful and without satisfactory results in nearly half of the cases. The operator should aim to make the instillation sufficiently often and long, to dry up at once the secretion of intraocular liquids and to cause the hypertension of the eye to subside.—*Lyon Médical*, February 14, 1904.

Cyst of the Parovarium; Rupture of the Fallopian Tube; Hæmatocele.—This case came into the hospital in the service of Courtin. The patient was a woman aged thirty-five years. She had no history of illness before the present attack. She had given birth to three children, but had never had a miscarriage. Five months before her entrance to the hospital, there was rather an abundant hemorrhage, composed of fluid blood with no clots. There was no pain. Two months before she was attacked suddenly one morning with violent pain in the lower abdominal region. This attack was so severe that the patient had to stay in bed. Peritoneal symptoms developed—distention of the abdomen, vomiting, hiccough, constipation, and fever. These symptoms gradually grew less, but the patient had not been able to attend to her daily occupations. Internal examination revealed a liquid tumor to the left of the uterus. Curettage showed the existence of interstitial fibromata in the uterus. Laparotomy was performed and a large retrouterine hæmotoc was discovered. Drainage of the posterior cul-de-sac instituted. The right ovary was cystic; the left was fil with small cysts containing a bloody liquid. The left t was ruptured. There was a serous cyst of the broad l ment, on which was lying a large hæmatocele. explained the rupture of the tube.—*Journal de Méde de Bordeaux*, February 14, 1904.

Analgesia by Lumbar Puncture.—Filippo Caccia rep the use of hydrochlorate of tropacocaine by lumbar p ture for analgesia in forty-three operations, in tw seven of which analgesia was complete, in eight inc plete, and in eight absent. The operative proced were abdominal, genitourinary, anal, rectal, and in lower extremities. In the cases in which analgesia not present chloroform narcosis was much easier usual. The advantages of this method are: (1) Bec the patient is entirely conscious there is no need of a f position or of the presence of a physician immedi after the operation, as in chloroform narcosis. (2) patient is much more quiet, and is able to assist the geon by changes in position. (3) Shock is less. (4) applicable to cases of heart, kidney, and arterial di (5) Ease of transportation is greater, which is espec important in military surgery. In slight operation patient can walk a short time after the operation. Economy of time. (7) Instrumentation is simpler with chloroform. Tropacocaine is better than co because it retains its power for at least twenty-four and can be repeatedly sterilized by boiling. Analge more profound in the regions supplied by the sacro geal plexus than in that supplied by the lumbar p —*Giornale Medico del Regio Esercito*, January 31, 1

The Glycogenic Reaction of the White Blood Corpu —Giuseppe Spezia has investigated the glycogenic tion of the white blood cells in pathological condi Normal blood has no glycogenic reaction, but wi increase in the number of white blood cells within p logical limits, as during digestion and in pregnanc glycogenic reaction appears. The appearance of a genic reaction in the blood indicates an increase of corpuscles. The writer tested the blood in forty-six including bronchitis, bronchopneumonia, croupous monia, pertussis, measles, nephritis, rheumatism, etc. concludes: (1) Albuminoids, hydrocarbons, and fats important in the production of the glycogenic react the white corpuscles. (2) It may be observed phys cally in digestion. (3) It is met with pathologica the presence of leucocytes, and of phagocytes as th found in the sputum of pulmonary affections. (4) have a value in general diagnosis, but not in diffe diagnosis. (5) The distinction between intracellul extracellular glycogenesis is useless. (6) There causal relation between glycogenesis and amyloid eration. (7) Whether it be physiological or patho it bears a relation to the amount of albuminoids, carbons, and fats in the circulation. (8) The glyc reaction confers upon hyperleucocytosis a definite cal value. (9) A marked glycogenic reaction in hyperleucocytosis.—*Gazzetta Medica Lombarda*, ary 8, 1904.

Appetite Juice and the Ethics of Eating.—J. G. A reviews Pawlow's experiments on dogs, by which been proved that there are two tides of secretion gastric juice; the psychic tide, set up by the sight of by the taste of the same, and by hunger, the juice tide (the appetite juice) being relatively abundant, f for a considerable period, and having strong dig powers. The chemical tide is set up at a later peri the direct effect of the foodstuffs upon the gastric m membrane. The former is brought into activity b higher centers; taking everything into consideratio the more important. Food eaten without relish without appetite, although in itself most nutritious, lie for hours within the stomach undigested. So food eaten while the mind is diverted to other things stay for long unacted upon, or is liable to undergo d position, and, irritating the mucous membrane, may l its condition. If, therefore, dyspepsia is to be warded the food should be taken under such conditions that ev thing is directed, on the one hand, to remove the thou from the cares of daily life, and on the other to make repast appetizing, so that the palate may be tickled the flow of appetite juice excited.—*The Montreal Med Journal.*

Book Reviews.

DISEASES OF THE PROSTATE GLAND AND ADNEXA. By GEORGE WHITFIELD OVERALL, A.B., M.D., formerly Professor of Physiology in the Memphis Hospital Medical College. Chicago: Marsh & Grant Company, 1903.

This little volume of two hundred pages gives a cursory view, so to speak, of the subject, based upon the author's experience in practice and including considerable subject-matter published by him in current journals. Although considerable attention has been given to electrotherapeutics in the treatment, high-frequency currents have been omitted.

DISEASES OF THE EYE. By L. WEBSTER FOX, A.M., M.D., Professor of Ophthalmology in the Medico-Chirurgical College of Philadelphia, Pa.; Ophthalmic Surgeon in the Medico-Chirurgical Hospital. With Five Colored Plates and Two Hundred and Ninety-six Illustrations in the Text. New York and London: D. Appleton & Company, 1904.

The volume is one of 584 pages, is well printed, profusely and quite well illustrated. Many black and white cuts appear in the text, and there are five plates in colors. Many of the illustrations are in half-tone from photographs. The work is divided into twenty-one chapters, of which the first treats of the development of the eye, the second of anatomy of the eye. The diseases of the lids are first taken up, and chapters on diseases of the various parts of the eye follow in logical order. A chapter is devoted to a consideration of the Röntgen ray in locating foreign bodies in the eye, and the various methods of technique are described. A chapter is devoted to a consideration of the relation of ocular affections to general diseases and one to "The Pupil in Health and Disease." Refraction and the anomalies of the muscles of the eye are considered in chapters near the end of the book, while an appendix treats of "General Operative Technique." A formulary containing some fifty-five prescriptions and a glossary occupying about eight pages precede the general index.

Much attention is given to the operative procedures necessary in treating diseases of the eye, particularly plastic operations, which always present problems for even the experienced surgeon. The consideration of the operations on the eye is placed on a rather high level, and presents in a forcible way the individual ideas of the author.

The work is not an elementary one; while it will undoubtedly find favor among many students, it is more particularly adapted to the general surgeon and to the ophthalmic surgeon. It presents the views of one of wide experience and of decided opinions.

DISEASES OF THE NERVOUS SYSTEM. A Textbook for Students and Practitioners of Medicine. By H. OPPENHEIM, M.D., Professor at the University of Berlin. Translated and edited by Edward E. Mayer, A.M., M.D., Pittsburg, Pa. Second American Edition, Revised and Enlarged. Philadelphia and London: J. B. Lippincott Company, 1904.

This is the second American edition, being a translation of the third revised German edition of Oppenheim's well-known textbook on nervous diseases. The original work was favorably received by American neurologists and general practitioners, and the various critics have expressed well-deserved appreciation of its merit. It has become one of the standard popular works on neurology. In this American translation, the original text is followed closely, and the recent advances in neurological matters have been brought up to date. The work is divided into a "General Part" treating of the methods of examination; general symptomatology, and objective examination, and a "Special Part" consisting of six sections, respectively: (1) Diseases of the Spinal Cord. (2) Diseases of the Peripheral Nerves. (3) Diseases of the Brain. (4) The Neuroses. (5) Diseases of the Sympathetic Nervous System. Angioneuroses and Trophoneuroses. (6) Toxic Conditions with Predominating Nervous Symptoms. The new edition also contains an additional number of well-executed illustrations.

THE TREATMENT OF FRACTURES, with Notes upon a Few Common Dislocations. By CHARLES LOCKE SCUDDER, M.D., Surgeon to the Massachusetts General Hospital. Fourth edition. Philadelphia, New York, and London: W. B. Saunders & Co., 1904.

This work, which has all the features of an elaborately illustrated one on fractures, has many half tones added to the present edition, thus increasing its practical value. A final chapter on the common dislocations is also another recommendation for increased usefulness. Taken as a whole, the treatise will appeal specially to the general practitioner who desires all the necessary details of technique fully and accurately represented. This design is satisfactorily accomplished by the insertion of 688 artistic illustrations.

A MANUAL OF MEDICINE. Edited by W. H. ALLCHIN, M.D., London, F.R.C.P., F.R.S. Ed., Senior Physician and Lecturer on Clinical Medicine, Westminster Hospital; Examiner in Medicine, Naval Medical Service; Late Examiner in Medicine in the University of London for the Royal College of Physicians of London and for the British and Indian Army Medical Services. Vol. V. Diseases of the Digestive System and of the Liver; Diseases of the Peritoneum and of the Vessels of the Abdomen; Diseases of the Kidneys; Diseases of the Ductless Glands. New York: The Macmillan Company; London: Macmillan & Company, Ltd., 1904.

THE list of contributors to the fifth volume of this system comprises eleven of the best known authors in Great Britain. Each one has been selected with reference to his fitness for the special subjects treated, and it can be truly said that each has performed his task with credit. The first article treats of the general anatomy and physiology of the digestive organs, and includes the main items of interest regarding foods and beverages. Over fifty pages are devoted to these important subjects. Following this is a short article on the bacteria of the alimentary tract. The special diseases of the digestive organs are treated in detail, but in addition to the usual routine descriptions are those on general etiology of gastro-intestinal trouble with very full chapters on their morbid anatomy. The diseases of the liver, peritoneum, abdominal blood-vessels, kidneys, and ductless glands are managed in the same way and contain points and explanations usually ignored in the textbooks of to-day. Diagrams, tables, and plates are inserted where it seems necessary and serve to complete a most satisfactory compilation.

INFANT FEEDING IN ITS RELATION TO HEALTH AND DISEASE. By LOUIS FISCHER, M.D., Visiting Physician to Willard Parker and Riverside Hospitals, New York City. Third edition. Philadelphia: F. A. Davis Co., 1903.

WITH each new edition the author endeavors to improve upon the former by elaborating clinical observations and multiplying details for more efficient feeding. In the present work the subjects of feeding dyspeptic and atrophied children are treated. Also of rectal feeding in intubation cases, and of feeding children with cleft palate. A new chapter containing much practical information is added on butter-milk feeding, and also new illustrations of poor breast milk are shown as arguments for artificial and substitute food. Modified milk receives due attention in a special chapter. In many other respects it shows evidence of careful remodeling, making the work as a whole thoroughly up to date.

PROSTATIC HYPERTROPHY from Every Surgical Standpoint. By GEORGE M. PHILLIPS, M.D., and Forty Distinguished Authorities. Edited and Compiled by S. C. MARTIN, Jr., M.D.; St. Louis: Lewis S. Matthews & Co., 1904.

THE editor has selected fourteen questions bearing on the subject and submitted them for answers to forty leading surgeons of this and other countries. In this way the different views and the reasons therefor are given in a way that permits of immediate comparison. It makes a most interesting and valuable contribution to the subject of prostatic hypertrophy.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to Students and Practitioners. By leading members of the medical profession throughout the world. Edited by A. O. J. KELLY, A.M., M.D., Philadelphia, U. S. A. Volume IV. Thirteenth Series, 1904. Philadelphia: J. B. Lippincott Company, 1904.

ALTHOUGH the contributors are numerous and well known, starting with Albarran of Paris, and ending with Casey Wood of Chicago, and including between these two alphabetical limits, De Costa, Duncan, Julien, Keen, Musser, Senn, Tyson, and others. Still the lack of attractive illustrations and an inferior quality, from the artistic side, in those pictures introduced, gives the impression of a slight falling off in the tone of this publication. Among the interesting chapters are those on the Treatment of Ulcers, the Injection Treatment of Syphilis, the Physiognomical Diagnosis of Disease by Duckworth, Angioneurotic Œdema, by Burnet, and Prostatic Hypertrophy, by Albarran. Under the special departments will be found many interesting short articles by well-known writers.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, Held February 5, 1904.

ROBERT T. MORRIS, M.D., CHAIRMAN.

A Case of Bone-grafting.—Dr. CARL BECK presented a man whose ulna had been crushed by machinery one year ago. A fracture of the lower end of the radius and a compound fracture of the ulna was diagnosed. Two splinters of bone were removed. A few months later when he saw the patient there was noted a prominence on the radial side and a gap on the ulnar side low down, with disturbed function. The *x*-ray picture revealed an unimpaired radius, and two slivers of bone over the anterior surface of the radius was noted. One of these was removed and the other was implanted in the gap and kept in place by means of a rubber drainage tube and a plaster-of-Paris dressing. Function was partially restored and would be much better later.

Epithelioma of the Tongue, Excision and X-ray Treatment.—Dr. C. A. MCWILLIAMS presented a woman, twenty-four years old, who consulted him a year ago last August because of excessive pain in the tongue, especially on eating. She could eat only liquid food because of the pain caused by masticating. This pain was felt down the neck and up to the ear. She had lost much flesh and was very much weakened. A lump about the size of a silver dime about one inch from the tip of the tongue was found. There was a depression in the middle, a hard border, with radiations into the surrounding healthy tissues. The teeth were in a bad condition. A diagnosis could not be made from its macroscopical appearance, but the pathological examination revealed flat-celled epithelioma. Fifteen of her teeth were removed, and, when she was in good condition, operation was performed, an incision being made from the symphysis menti to the angle of the jaw, extending down below the hyoid bone. The operation was quite an extensive one. There had been a partial facial paralysis following the operation. The submaxillary space was carefully cleaned out and the lingual triangle carefully searched, but no further lesion was found. After mapping out his course he cut wide of the growth, dividing the mucous membrane near the alveolar margin; the defect that was left was closed by bringing the upper edge to the lower portion, but still there existed a defect in the lower part of the mouth. The submaxillary glands did not appear to be involved. After the wound had healed *x*-ray treatment was applied to the side of the neck three times a week, then twice a week for nearly a year. To-day she talked well, but the paralysis still persisted.

Appendicectomy Followed by Intestinal Obstruction.—Dr. C. A. MCWILLIAMS presented a girl, sixteen years old, whom he first saw September 21, 1903. She then had had appendicitis for three days. A gangrenous appendix was found with about one ounce of pus surrounding it. The wound was drained with a small rubber tube. She did well until the tenth day, when she was taken with vomiting, pain, and collapse. The abdomen was distended and very tender. The distension increased, and at the end of twenty-four hours the vomiting became stercoracious. A second operation was then decided upon and performed. A median incision was made and a volvulus in the small intestine was found attached to the operation scar, that part of the gut above the twist being the size of an arm. One extremity of the cord was loosened and, as her condition was becoming alarming and haste was necessary, the wound was closed with Lembert sutures and the proper dressings quickly applied. The patient did well. Fifteen days later, twenty-six days after the first operation, the same symptoms repeated themselves, and an incision was made and an obstruction was found on the left side caused by a looping of the small intestine. This was at once corrected, and the patient then made an uneventful recovery.

A Case of Rhinoplasty.—Dr. CARL BECK presented this case, which was not at all promising because of the total destruction of the tissues usually employed in this operation. The patient had been operated upon by the French method, then by an Italian method, *i.e.* taking a flap from the arm. Dr. Beck took the flap from the lower lip, as this was an operation that had never been done before so far as his knowledge went. It had the advantage that a mucous membrane was implanted and that the flap need not be larger than was necessary, since, on account of the thickness of the lip, there would occur no shrinkage. The epithelioma had not been treated with the *x*-ray before operation because the tissues so treated were in no condition for operation and would not unite readily. The *x*-ray treatment was used afterward.

Carpal Synostosis after Inflammation as Shown by Röntgen Rays.—Dr. CARL BECK presented an *x*-ray picture of this case. The patient was a woman, thirty-two years old, who had a stiff wrist. The *x*-ray revealed a perfect synostosis between the radius and the carpal bones. It was useless to attempt to sever it, and he did not believe anything but a chisel operation would do.

A Case of Hydrocephalus.—Dr. HENRY L. TAYLOR presented this patient, who had been operated upon eleven months previously. The circumference of the head had increased only two and a half c.m. There was the absence of exophthalmos and nystagmus, and other signs showing that there was really no undue intracranial pressure. It was interesting to note that drainage became most active from two to three months after operation.

Acute Encephalitis.—Dr. BERG reported the case of a boy, an inmate of the Hebrew Orphan Asylum, who tried to slide down the banister after being sent to bed at night, and who fell down two flights of stairs. He was picked up in a condition of profound collapse, with pulse of 52, with left side rigid, and no attempts being made to move. He had a fracture of the neck of the humerus and also a Colles' fracture. On the day following his temperature was 101.6°, pulse from 92 to 122, and respiration from 28 to 36. There were no signs of cerebral compression. The patient was restless, pupils contracted, the left side of face was slightly flattened, and there was a left hemiplegia. The spinal symptoms were negative. The urination and defecation were involuntary. These symptoms seemed to indicate a lesion at the base of the brain, but there was no blood from the middle ear or any cranial nerve palsy. The eyes moved well. It was thought that possibly the injury might have been to the motor area of the cortex, but as there were no symptoms of compression the hemorrhage could not have been extensive, so this possibility was ruled out. Finally the case was diagnosed as one of acute encephalitis. For eleven days the patient was unconscious. Temperature was normal. Consciousness was gradually regained and the hemiplegia gradually disappeared, although he still dragged his right leg. His mental condition was perfect and he soon attended school just as other boys of his age.

Fracture of the Skull.—Dr. BERG reported the case of a boy who, during July of last year, was struck by a brick over the anterior part of the parietal region. Operation was performed, the fracture exposed and a small portion of the bone removed, and the flap replaced. The right arm and leg were partially paralyzed. On September 3 the boy came to Mt. Sinai Hospital and was again operated upon. On exposing the site of fracture there was found a depressed, comminuted and impacted fracture of the parietal bone over the upper part of the left motor area. The depressed fragment was elevated and removed and the wound closed. The dura was not opened as it appeared to be uninjured. The patient still has paralysis of the right leg, the arm having recovered.

ion. He believed the ultimate prognosis was good, e compression did not continue long enough to a permanent lesion.

ula of the Œsophagus.—Dr. Charles N. Dowd ted this case. The patient was an Italian lad, en years old, whose family history was negative. April he noticed a swelling in the right side of the with increasing pain. Poultices were applied t effect. The mass was then incised and a large t of foul, dark pus was discharged. The sinuses larged and curetted, as tuberculosis was suspected. ust the wound was again curetted, and after three weeks, the patient was discharged. He had had d effects of a septic absorption, with temperature from 99° to 103° and 104°, liver very much d, and general condition very bad. In October again operated upon for sternal tuberculosis; ration was intended not to be intrapleural, as the re apparently free from disease. A large incision de over the center of the sternum. Part of the rib was removed, together with the lower margin first and the cartilage of the third. The bone was to be bare and eroded. Under the third rib was sinus, but he could find no tuberculosis. On the ay after operation the discharge was very great. e patient drank water there was noticed a glairy the wound; when the patient was given milk to me of this fluid was found in the wound. Food th was stopped and rectal alimentation resorted e temperature was normal after the operation. neral condition improved, the wound granulating . The congestion of the liver was so great that, time of operation, it reached to the umbilicus. se of the trouble was only conjectured, for there history of cough or spitting and the patient had llowed any foreign body. There was no stricture œsophagus. It was suggested that there might be rticulum whose pressure on the venæ cavæ might t for the condition of the liver.

Surgical Treatment of Internal Hydrocephalus.—ward S. Taylor read this paper. He said that in es examined post mortem there had been found always inflammatory changes in the choroid of the ventricles and ependyma covering the optic i, creating obstruction to the outflow of blood the venæ Galeni, and, therefore, favoring an al amount of secretion into the ventricles. There o a more or less extensive ependymitis, which d absorption and favored increased secretion into ntricles. A constant and important lesion was the ion of the natural outlet for the ventricular fluid. y rare cases one or other foramen of Monro might nd occluded, causing unilateral hydrocephalus. More nly either the aqueduct of Sylvius or the foramen jendie was closed. Only rarely was the central canal cord involved. These various lesions might extend a basilar meningitis, which was secondary to trauma-tubercular, gastrointestinal, nasal, or other infection. rgical aim was largely a mechanical one, to allow the of the retained fluid so as to save the brain from re-damage and to favor its return toward normal tions. He briefly reviewed the surgical attempts had been made for the cure or relief of this condition. thod of drainage to be successful must be internal, be slow, and must be prolonged or permanent. It ed to him as if a small permanent fistula between the icles and the subdural space would most closely able normal conditions, and, in the hope of attaining end, six cases were operated upon by him, under al anæsthesia, as follows:

n osteoplastic flap about two inches in diameter was ned down with its hinge over the base of the mastoid id just above the level of the horizontal lateral sinus. n the lower part of the dura mater thus exposed a semi-circular flap, base downward and about one inch in diameter, was made. Frequently one or two distended veins were encountered beneath the dural flap, and they should not be damaged, for their walls were so friable that the control of hemorrhage was often very difficult. The brain then immediately would protrude through this dural window. A slender aspirating needle was passed through the second temporosphenoidal convolution inward and slightly upward until it entered the ventricle, when the clear fluid spurted out and was collected in a sterile tube for bacteriological examination. Only a very small amount should be allowed to escape in this way. The thickness of the brain-tissue was noted during the insertion of the needle. The drain was then made of No. 2 forty-day chromic catgut. Three loops (six strands) about one inch and three-quarters longer than the thickness of the brain were bound together by a loose spiral of catgut starting at one end and stopping so as to have an inch and a quarter of the loops free. In other words, the drain consisted of a shaft of six strands of catgut a half inch longer than the brain thickness and, spreading from its base, three free loops of gut an inch and a quarter long. Around the shaft of the brain, but not covering its tip, was rolled three layers of Cargile membrane. With a long, narrow-bladed thumb-forceps the tip of the drain was seized and carried into the ventricle along the tract made by the aspirating needle. The tip projected about one-half an inch into the ventricle. The free loops of gut were slipped under the dura between it and the brain surface in different directions, but slightly downward toward the great lymph spaces at the base of the brain. A sheet of Cargile membrane was slipped between the dura and the catgut loops to prevent adhesions. Usually by this time sufficient fluid had escaped from the ventricle so that the brain no longer protruded through the dural window. The dura was sutured with catgut, the bone flap was held by three or four chromic catgut sutures, the deeper soft tissues by catgut, and, finally, the skin with silk. A good sized sterile dressing was applied with some pressure.

The mortality of the operation in the six cases was 50 per cent. In all the cases in which the ventricular fluid was evacuated freely at the time of operation, or during the first twenty-four hours, there was a sharp reaction shown by the temperature, pulse, and general condition of the patient. He cautioned against producing any sudden change in the hydrostatic condition of the brain. The first patient, now twenty months after operation, was considerably improved mentally, but still remained a hopeless physical combination of a feeble body, unable to support or move the enormous head. The second patient, now eleven months after operation, was benefited mentally and physically, and hopes were entertained that he would eventually become a fairly normal child. The third patient lived two months and died of some acute gastro-intestinal disturbance. There was absolutely no change in this patient's condition after operation. The fourth patient died sixty hours after operation. The fifth patient apparently reacted from the operation by the fourth day, then developed an otitis media which drained satisfactorily; finally aneuria developed, and death followed on the eighth day. The sixth patient died suddenly on the sixth day, when he was apparently recovering from the sharp reaction of the first three days. From the above it seemed to him fair to deduce certain fundamental principles for the operative treatment of chronic hydrocephalus: (1) The only feasible method was some form of internal or auto-drainage. (2) Drainage to be successful must be (*a*) permanent or at least prolonged; (*b*) slow, aiming rather to prevent distension of the brain than to cause rapid emptying of the ventricles. Drainage through the aqueduct of Sylvius and foramen of Majendie were naturally slow. (3) Operation must (*a*) be brief, to avoid shock in children; (*b*) involve least necessary traumatism to the brain; (*c*) involve but small escape of ventricular fluid to avoid sudden change in the hydrostatic condition of the brain.

(4) Operation to attain its best results must be done early in the disease before irreparable damage had been done to the brain structures.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held February 15, 1904.

ALEXANDER LAMBERT, M.D., PRESIDENT.

Some X-ray Skiagrams of Incision of the Elbow-joint.—Dr. JOHN H. BRANTH presented these photographs as well as many others showing both normal and abnormal conditions. He spoke of the value of the *x*-ray in epilepsy in his hands, and believed it to be one of the best treatments, making the attacks less severe and increasing the intervals between them.

Dr. WISNER R. TOWNSEND said that much criticism had been made against the employment of the *x*-ray, but he believed it was the operator that should be criticised and not the photographs. In cases of fractures it was absolutely necessary to take *x*-ray pictures from two different planes. The therapeutic use of the *x*-ray was still *sub judice*. He emphasized the proper selection of cases. In the superficial cases, such as lupus, it seemed to act very well; but in the deep processes he was rather pessimistic.

Dr. A. PALMER DUDLEY referred to the great advances that had been made in surgical diagnoses during the past twenty-five years compared to what had been done in such diseases as pneumonia and typhoid fever. He wished to give praise to any man who used any form of the rays that would aid us in reaching internal disease or injury.

The Treatment of Lobar Pneumonia.—Dr. W. GILMAN THOMPSON read this paper. In dealing with this disease he said that all methods had substantially the same aim, to maintain the efficiency of the heart, which was subjected to such a severe and unusual strain. The guiding of the heart's action was, therefore, of paramount importance at the onset, and yet this was the very feature of the treatment which was most difficult to formulate satisfactorily, for it could not be successfully conducted by rule or routine. Each case necessarily presented its own problems and evoked the judgment and skill of the clinician to the utmost. The essential factor throughout was to maintain the proper balance between the heart and vessels, between the intensity of the heart sounds, and the force of its impulse, and the volume and force of the pulse. He said it was a great mistake to overstimulate a heart which, if left to itself, would act well enough alone, and when stimulation had produced a marked improvement in the two great factors of the circulation, the heart force and the pulse tension, it might often temporarily be reduced, or even withheld for some hours to advantage. For these reasons he preferred to make frequent changes in the form as well as the quantity of cardiac drugs employed. It was sometimes stated that heart stimulants should be given to anticipate sudden great weakness, but, excepting in the aged and very debilitated, this emergency was seldom so sudden that it could not be foreseen and met. He had been surprised in following a course of pneumonia in patients having serious organic heart lesions, especially of the mitral valve, to note how tolerant such a heart might be of this infection when not overstimulated by drugs. When the temperature rose above 103 a cold alcohol sponge bath may occasionally be given. If above 105 the cold wet pack should be resorted to. He had abandoned the cold tub bath years ago. He referred to the futility of the many so-called specifics for pneumonia. At the Presbyterian Hospital during the past decade more than 10 per cent. of all cases of pneumonia had resulted in recovery without any medicine whatever, and a large percentage of the rest that terminated favorably were treated symptomatically. He had little belief in the efficacy of the creosote treatment. H not believe that a genuine pneumococcus lobar monia could be aborted when in full career by any s of treatment. Regarding the use of alcohol, he u much less than formerly, and not at all as a routine tice. Many patients did best without it, but in with feeble dicrotic pulses, dry tongues, and profo asthenic he thought it would be indicated but s more than four to six ounces of whiskey or bra twenty-four hours. In the aged and in alcoho should be given. In the majority of cases it wa to withhold it until there were evidences of failing action. If a comprehensive statement was to be regarding the employment of expectorants in pne it would be better said that they were contraind Gastrointestinal disorders he said should receive e attention in both prophylaxis and treatment bec the twofold effect: (1) mechanical, through abd distension or rigidity which embarrasses the resp movements; (2) autotoxic, through absorption ducts of mal-fermentation. The initial dose of should be given and the bowels kept open by effervescing saline laxative. Tympanitis is to be d in pneumonia as in typhoid fever, and was to be s dealt with. He had rarely known a patient to who had a persistent hiccough; it seemed to be central rather than local irritation, and could o relieved by anodynes. The mild cases of delirium best be treated by bromides, codeine, or trions cautioned against the use of morphine. If the d was the outcome of hyperpyrexia the cold we should be employed. With severe alcoholic deli maniacal delirium paraldehyde, hyoscine hydrob and morphine may all have to be tried in turn. of oxygen inhalations was of doubtful utility, said failed to make any impression upon either the or embarrassed respiration in many cases. Yet relieved the subjective dyspnœa, and thus had soothing effect upon the patient, and in some produced an impression upon the objective sy Its use should not be left until the patient wa *tremis*, but should be given early. The import keeping the air about the patient was emphasized. considerable experience with hypodermoclysis in monia he had failed to see any ill effects follow on the contrary, he had saved a few desperate which seemed past every hope of recovery. The dermic injection into the flanks of 1,000, or even of hot (110° F.) normal salt solution (0.6 per cent sometimes enable the patient to rally for an h two when the procedure should be repeated. The injection of salt solution may also prove of great Topical applications to the chest wall should be with the view of promoting the comfort of the pat but it is not at all probable that they have the slig influence upon the course or outcome of the dis Experiments seemed to justify the conclusion tha long as the superficial cutaneous circulation was m tained, the constantly moving blood conveyed either the heat or cold of any external application, the preventing an organ like the lung, which has an inde dent vascular supply, from being influenced. It hardly be maintained that any deepseated effect c into play through external applications of heat or independently of direct transmission of thermal is capable of controlling an inflammatory process o lung. As a rule heat is more soothing than cold, there are many exceptions. Strapping the chest adhesive plaster, although it relieves the pleuritic materially interferes with careful physical examin of the lung. For the above reasons it seems best to ploy no topical applications unless called for by e sive pleuritic pain, and then the choice between and cold should be decided by the patient's com The general hygienic treatment of pneumonia is

stantially like that of typhoid fever. As to diet, with high fever and tongue dried by mouth-breathing, milk is the best food, under more favorable conditions considerable variety may be allowed. The care of the mouth should receive as much attention from the nurse as in typhoid fever, for a foul tongue promotes indigestion, besides making it difficult to swallow. Overzeal in the treatment of pneumonia is more to be criticised than anything else. Overstimulation of the heart, overuse of expectorants, and above all incessant fussing about the patient. Proper intervals of absolute rest of two or even three hours should constitute a definite part of the treatment. An hour's sleep will often do more to save the patient's life than all the medication that he has received throughout the disease. Good nursing and the exercise of constant watchfulness should outweigh polypharmacy and specifics.

In closing he emphasized the following conclusions:

1. The importance of not crowding an overtaxed heart with too much stimulation, and especially of basing the selection of the proper variety of cardiac stimulant upon the existing balance between the conditions of vascular tone and the effort the heart is already making.

2. The uselessness of the so-called specifics for pneumonia, and, as a rule, of expectorants.

3. The importance of the prevention of indigestion, and particularly of tympanites.

4. The great value of hypodermoclysis in certain cases.

5. The uselessness of topical applications, excepting for the purpose of relieving pleuritic pain.

6. The necessity of prescribing proper intervals of rest in which the patient is free from incessant efforts at medication.

Dr. GEORGE L. PEABODY said that his experience had been somewhat different from Dr. Thompson's, and he believed that the essence of the attitude regarding this grave disease was intelligent symptomatic treatment. With regard to the cold tub-baths, every winter he met with cases of violent, uncontrollable delirium, in which the cold-bath acted very well as a sedative. Almost all of these cases had produced upon them a sedative effect, and he had no doubt but that in a certain per cent. of these cases he had saved life when they appeared to be doomed to die, as the result of the exhaustion from the constant delirium. He then narrated a few cases to illustrate that fact. Regarding the use of hypnotics, he said he was as strongly opposed to them as was Dr. Thompson, even if pain was present. He thought an application of heat to be quite typical, and if this failed to relieve then one-sixth of a grain of morphine, administered subcutaneously and repeated once during the night if necessary, would be productive of good. There was a confusion of ideas regarding the employment of morphine in the treatment of pneumonia. It was stated that morphine depressed the function of respiration, and on that account some dreaded the use of it in any disease with such a disordered function. Morphine did not effect the peripheral, but only the central respiratory act, and, in pneumonia, the central respiratory function was not at fault. With regard to other hypnotics, he did not use sulfonal or trional at all because they were too long in action; he preferred paraldehyde or amylene hydrate, even though they were quite nauseating. These agents may be given by rectum. Paraldehyde might be given in peptonized milk and in doses of one or two drachms. Amylene hydrate may be given in doses of one to two drachms in water. In using these drugs he advised that much of the vehicle should be used. He had no faith in the use of antiseptic inhalations in pneumonia. He was surprised that up to this time no brilliant claims could be made regarding any specific treatment of pneumonia. For some time past he had been treating cases of pneumonia in a routine fashion with one of the salicylates. Of late he had been using sodium salicylate and aspirin, because the latter was better borne by the stomach. There was needed a large number of cases before he could quote statistics in favor of any treatment, and he was not prepared at present to give any mortality rates, because of the small number of cases he had had to deal with. He had treated between sixty and seventy consecutive cases of pneumonia with the salicylates as only a part of the treatment. During the past winter he had treated thirty-eight cases this way. That this treatment had some influence upon the disease was proven by the fact that defervescence took place commonly by lysis; in 32 per cent. of them by lysis. This showed him that the salicylates had some influence upon the disease. The patients seemed to bear the disease with less disturbance. A certain number of the cases certainly did better upon this treatment than others. He believed that we should be on the lookout constantly for some specific treatment for this dread disease. Regarding the abortive treatment, he was very skeptical. Years ago the late Dr. Leeming believed in the abortive treatment by large doses of calomel, but Dr. Peabody had not seen any good effect by it. Hiccough was a bad symptom. In severe and persistent hiccough with high arterial tension he had given inhalations of amyl nitrite with good results when pushed to their physiological effects. Oxygen was an agent he did not believe one was much justified in giving, except in the early part of the disease before signs of cyanosis developed; then he believed it to be a valuable remedy, and often would turn the scale in the patient's favor. He deprecated the plan of placing it in the room just prior to the patient's death. As a local application he liked the electric warm pad, by means of which he could keep up continuously a regular temperature for some time.

Dr. L. A. CONNER spoke of his experience in the Hudson Street Hospital. In general, he coincided with all that Dr. Thompson had said. The treatment employed there was entirely symptomatic. Unless stimulants were really demanded they received none. The diet was usually milk, but the patients were required to drink abundantly of water. Regarding the use of alcohol, not one-quarter as much was used now as three or four years ago, and without less satisfactory results. During the past two years all patients had been placed upon carbonate of creosote in 10 to 15-grain doses every three hours, and he hoped eventually to be able to present some statistics regarding the effect of this agent upon the outcome of the disease. So far they had had two hundred cases; one-half of them received carbonate of creosote, and the other half didn't. The cases were not yet tabulated. He emphasized the importance of watching the condition of the abdomen in this disease, especially the tympanitis. In pneumonia this was more serious than in typhoid fever. Great difficulty was experienced in treating the tympanitis, and turpentine stupes applied to the abdomen frequently and colon irrigations of alternating heat and cold seemed to give the best results. Pulmonary œdema was best treated by dry cupping, but, to be effective, this must be done frequently.

Dr. CHARLES E. QUIMBY said that Fitz of Boston had gone over very carefully the statistics regarding this disease covering a period of forty years, and he had found that the mortality varied but very little. Topical applications he believed to be beneficial; he was thoroughly convinced that keeping a uniform temperature to the surface had a good effect upon the circulation of the lungs. The dry cough could be relieved in many cases by dry friction. He said it was very desirable to get a uniform temperature over the body. He thought it a good plan to have the temperature of the room above eighty degrees at all times, and full of moisture. Because the chlorides were diminished in the urine in pneumonia, he gave sodium chloride from the beginning of the disease.

Dr. MORRIS MANGES said that certain statistics were reported from the Massachusetts General Hospital, which covered a period of nearly one hundred years, and not forty years as quoted; the average mortality ranged between 10 and 11 per cent. In these statistics were excluded those cases that occurred in the very young and very old and, therefore, were of limited value, especially in the consideration of the pneumonias which have occurred since 1890 when grippe became prevalent. He then referred to Wells statistics which had been amplified by Osler; here were taken all cases, and the average mortality was 20 per cent. These latter statistics were taken from all over the United States, and were not 1,000 but 255,000; these were the statistics which he believed should be consulted when considering the mortality of pneumonia. He thought that the disease to-day was different from what it was a few years ago. He believed that the routine examination of the abdomen was of greater importance than the routine examination of the lungs. The paralytic distension of the bowels was not alone due to the intestinal contents, but also to a septic process. Those cases in which there was no relief from the tympany were those cases beyond the reach of local treatment. He warned against the use of even mild cathartics in cases of abdominal distension, especially when of septic character. With regard to dry cupping, those who have used it will continue to use it because of its good effects. Venesection in some subjects he believed to be valuable, especially in sthenic cases. In cases of catarrhal pneumonia associated with grippe he believed that guaiacol was an effective agent. Salicylate of sodium seemed to act well, especially in children. He said he was afraid of morphine in cases of pneumonia. Tentatively he had tried heroin, but was not satisfied with the results. He emphasized the importance of the patients getting plenty of sleep both by day as well as by night.

Dr. EDWARD W. LEE emphasized the importance of hypodermoclysis, or the injections of large quantities of water in those cases of pneumonia, especially those following surgical operations.

Dr. ALEXANDER LAMBERT said that his attention had been drawn to the use of ergot as an equalizer of the circulation, constricting the dilated vessels, and he had used it in the alcoholic and other pneumonias. He had also used it in the tympanitis distension which occurred in both children and adults. It seemed to act well in œdema of the lungs. In his hands this agent had given satisfactory results when used with dry cupping in œdema of the lungs, and was more satisfactory than anything else he had used for this condition. It had a marked effect in getting rid of the congestion.

Dr. THOMPSON closed the discussion, and said that pneumonia was so often noticed after surgical cases because of the lowered vitality caused by the operation. The pneumococcus was present in one out of every five normal mouths, so the opportunity for the disease to develop was always present under certain circumstances. He said he preferred to have the patient's body accessible and not clothed with such garments as proposed. He said he was surprised to hear what was said regarding the respiratory difficulty being seated in the lungs; the trouble was from the action of the toxic material contained in the blood which acted upon the respiratory center in the medulla. This was proven by the fact that when defervescence occurred the cyanosis cleared up, etc., when the lungs were not entirely resolved. He said the dyspnœa and respiratory symptoms were distinctly of central origin, and was due to the poison contained within the blood. Therefore, morphine when employed in those cases in which the cerebral centers were overwhelmed with the poison was injurious. To use it as a hypnotic he believed made matters much worse.

PHILADELPHIA NEUROLOGICAL SOCIETY.

At a stated meeting, held February 23, Dr. C. D. Camp exhibited a case of "Erythromelalgia" in a man, who fifteen years previously had had the right foot partially frozen. The member had now for some time been red and exquisitely painful in the dependent position, becoming however, of a deathly pallid hue when elevated, and the blood was drained from it. The general health had suffered greatly in consequence of the intensity of the pain, and the advisability of operative treatment, such as nerve-stretching or nerve-section, was being considered. Dr. Camp exhibited also a case of "Paralytic Chorea" in a boy who, when he first came under observation, presented marked loss of power in the right upper extremity, and less in the lower extremity, with comparatively slight choreic movements. The latter, however, became more conspicuous as the former, under treatment with Fowler's solution of potassium arsenite, moderated. For a time it was thought that the patient might have some lesion of the brachial plexus, the paresis was so marked. There was no history of rheumatism, and there was no heart-lesion.

Dr. D. J. McCarthy exhibited two cases of "Tuberculous Neuritis." He stated that it is not altogether rare to encounter neuritis, especially in the distribution of the anterior tibial nerve, in the terminal stage of pulmonary tuberculosis, but in the two cases presented the patients had exhibited improvement in the pulmonary lesions, and in the general condition. The affected muscles exhibited weakness and wasting, and the reflexes were enfeebled, as contrasted with exaggeration of the reflexes observed in the absence of neuritis. Under the latter circumstances a posterior tibial reflex can often be elicited by irritation of the plantar aspect of the arch of the foot, and an anterior tibial reflex by a blow below, and to the outer side of the tubercle of the tibia. These reflexes cannot, as a rule, be obtained in healthy individuals. Examination of nerves that have exhibited symptoms of inflammation has disclosed the existence of characteristic histological lesions.

Drs. C. W. Burr and B. F. Stahl reported a case of "Bulbar Myasthenia" with autopsy. There were present during symptoms of paralysis of bulbar nerves, while after death an encapsulated abscess of the persistent thymus gland, together with lymphomatous infiltration of muscles, was found. Similar conditions have been observed in other instances, so that a question arises as to the possible causal relation between the persistence of the thymus gland and its involvement in disease and the bulbar symptoms.

Dr. W. G. Spiller and T. H. Weisenburg reported three cases of "Paraplegia Dolorosa" with necropsy. In one of these cases malignant disease of the vertebræ was found, in another an abscess of the vertebral column, and in the third tuberculosis of the vertebræ. Dr. Wm. C. Pickett read a paper entitled "Mental Symptoms Associated with Pernicious Anæmia." He pointed out that Addison in his early description of the disease had noted certain mental peculiarities. In some cases symptoms of involvement of the spinal cord are present, while in others there is a more or less characteristic form of psychosis, with illusions and hallucinations, disappearing with improvement in the state of the blood.

CINCINNATI ACADEMY OF MEDICINE.

At a regular meeting of the Academy of Medicine in Cincinnati February 22, Dr. Francis Dowling presented a case of "Penetrating Wound of the Eyeball." The patient, a laborer of about forty years, had been struck in the eye about Christmas time by a piece of flying iron. He was seen first by Dr. Dowling one week later. An incised wound at the sclerocorneal margin was found, involving about two-fifths of the circumference with protrusion of the iris. The eye was found to have some

vision, so after telling the patient the dangers it was decided to try to save the eye. At present the eye has about three-sevenths vision, and has given no further trouble. Dr. Eckman of Covington, Ky., presented a case of "Double Varicocele Operation" in a boy of eighteen years. On the right side a short inguinal incision had been used and the operation, resecting of two inches of distended veins with closure of the wound had occupied six minutes. On the left side the old scrotal operation had been done, and the operation had lasted much longer. He wished to illustrate the ease and quickness with which the inguinal operation could be done.

Dr. B. F. Lyle reported a case of "Rapidly Consecutive Infections." The patient was a young boy from Kentucky, who was first seen with a chickenpox eruption, the whole family of six broke out with the same disease. The boy then began to suffer with malaise and aching pains, and was sent to the hospital, where after four days an eruption of smallpox developed, and he was sent to the pest-house. After his recovery from smallpox he broke out with the rash of scarlet fever, and is at this time in the middle of the attack. These three diseases all attacked this child within one month. Dr. Byron Stanton spoke of the paper by Dr. R. W. Marsden in the *British Medical Journal* of December 26, "The Stage of Invasion of Measles," and said he had two cases to add to those reported. He reported the case of a child which was exposed to measles, and on the eighth day had rise of temperature, photophobia, and coryza, the diagnosis of measles was made and the appearance of the rash confidently expected on the fourth day, but this failed to appear until the sixth day, fourteen days after exposure. The second case was not known to have been exposed but developed the prodromal symptoms of a typical case of measles. The rash in this case also did not appear until the sixth day. He said that it was his belief that when the prodromes came unusually soon the eruption was usually delayed to make the whole period from exposure to eruption about fourteen days, and that the earlier the prodromes appeared the longer would be the invasion.

Dr. Edward H. Shields reported a case of "Gumma of the Liver." The patient was a man of thirty-four years, married, the father of one healthy child. He had had syphilis eight years before and twelve years ago had had a sarcoma removed from the right breast with no recurrence. For a little over two years the patient had been under treatment of another physician for irregular attacks of fever with colicky pains. Four months before seen by Dr. Shields he had developed irregular attacks of high fever with chills and sweats, pain at times in region of the cæcum, meteorism, obstinate constipation, loss of appetite, and pronounced anæmia. Physical examination gave negative results, except for slight enlargement of the liver. A diagnosis was made of chronic colitis and appendicitis, with possible affection of the gall-passages. An operation was performed, and the appendix was found adherent to the cæcum, and containing concretions and bloody mucus. The gall-passages were normal, but in the lobus spigelius was felt a hard inelastic nodule the size of an English walnut surrounded by smaller nodules of similar character. The liver elsewhere was normal. The post-operative diagnosis of the liver condition was recurrence of the previous sarcoma or syphilitic gumma. Recovery from the operation was uneventful, but colicky pains recurred, and potassium iodide five drops of a saturated solution three times a day had no effect. When seen by Dr. Shields the patient had lost fifty-five pounds, and was anæmic, suffered severe pain in right hypochondrium, which often radiated to right shoulder and back, and also colicky pain in umbilical and left inguinal regions. The temperature ranged from 101° to 104°; the pulse from 100 to 120, and the respiration from 18 to 26. The liver was somewhat tender on deep palpation, no enlargement could be made out. The diagnosis of gummata of the liver was made, and potassium iodide was quickly pushed to tolerance (at this time seventy drops three times a day), and continued for six months. At end of one month patient had gained thirteen pounds, and at the end of one year weighed one hundred and eighty pounds, an increase of fifty-eight pounds.

Chicago Medical Society.

At a meeting recently held, Dr. Theodore Tieken read a paper on "Cryoscopy." He reviewed in detail the evolution of cryoscopy and the literature up to the present time. He summed up the conclusions of other workers along similar lines and compared the results with those he obtained. During the past eighteen months he had examined the blood and urine in 330 cases, making in all over 500 estimations of the freezing points. He found that the results obtained by Koranyi, Kummel, Kasper, and Richter, Rumpel, Tinker, and others were correct, and that the slight differences might be accounted for by errors in technique. He used the Beckman apparatus for both the blood and urine, and gave the normal freezing point of blood at 0.56° C. below zero, as found by previous workers. The urine, as collected for a usual twenty-four hour specimen, freezes at 1.46° C. in the average normal individual, but the normal limits vary from—.98 to 2.56°. He found that the freezing point of the mixed urine did not give so much information as to the functional activity of the kidneys and that a catheterized specimen from each kidney was necessary to be of help to us. The freezing point of the blood was nearly constant—(0.56) and the normal variations were much less than in the urine—.55-.57° C being usually given, but we must not be misled by the variations occurring in the freezing point of this fluid, as it, too, was subject to outside influences. He thought that cryoscopy would be of value in many cases, especially when used in connection with the other methods of diagnosis, as ureteral catheterization, the phloridzin test, and careful chemical and microscopical examination.

Dr. Louis E. Schmidt read a paper on "The Use of the Cystoscope in Catheterizing the Ureters as a Means of Diagnosis in Surgical Diseases of the Kidneys." He stated that examination of the bladder, catheterization of the ureters, examinations of the functional activity of the kidneys by examining separately the collected urines, especially with the aid of cryoscopy and radiography gave almost certain information by which one might be safely guided in this field of operative work. As to cystoscopy, every diagnostician agreed as to its true value in this work. With the help of the cystoscope the presence of only one or of two ureteral openings could be determined, and whether or not clear, turbid, blood-tinged, or colored urine was being secreted from one or both sides. The appearance of the ureteral orifices, tear after the passage of stone, as reported by Halban, inflammatory signs of the mucosa, or tuberculous processes, or papillomatous growths about the urethral orifice might designate descending processes. After inhibition per mouth of methylene blue, the urine became tinged green in from thirteen to fifteen minutes in the case of a normally secreting kidney. The greater the amount of parenchyma destroyed, the longer the time which elapsed previous to the appearance of the tinged urine. Voelcher and Joseph had injected sixteen centigrams of indigo carmine into the gluteal muscles. It began to make its appearance in the urine in from fifteen to thirty minutes. It had the advantage of being excreted solely by the kidneys, and was harmless. The same authors gave individuals iodide of potassium, and filled the bladder with a solution of peroxide of hydrogen containing starch. As soon as the iodide of potassium was being excreted, the urinary whirl became of a bluish

color. When catheterization of the ureters or segregation was impossible or undesirable, when the ureteral openings could not be seen, it was possible by means of a cystoscopic examination to make some deductions as to the functional activity of the kidneys when considering the foregoing points. Besides, it was possible to ascertain approximately the functional activity by watching the frequency and force of each contraction, the quantity of urine which was expelled at each contraction of the ureter, and also some idea as to the ascent or descent of the whirl when the bladder was filled with fluids of varying specific gravities. Reference was made to the use of the different segregators. After considering the advantages and disadvantages of the various methods, the author said that ureteral catheterization was constantly becoming more popular. While he did not care to make a comparison of segregation and catheterization of the ureters, he believed there were but few, if any, authentic cases of infection of the ureter following catheterization. There could be no question in the minds of those who had followed the subject, and who had had practical experience, that the establishment of the functional activity by the examination of the urine gained by ureteral catheterization was the most important achievement in renal surgery. In addition, certain information which was of importance in every case was derived by ureteral catheterization, which any one of the segregators and cystoscopy alone could not give. It was a method of diagnosis which could give valuable information in both ureteral and renal affections. When a stone in the ureter had been diagnosed, and the skiagraph showed it to be correct, Kolischer, Caspar, Hausmann, and the author had been able to inject sterilized liquid vaselin, which had been sufficient to cause contractions and to loosen the stone and cause the spontaneous expulsion of it into the bladder, and then subsequently it was passed naturally per urethram. It was not to be forgotten that when a catheter or bougie was in place, it could be used as a guide in ureterotomy, and also to locate and prevent traumatism of the ureter whenever bound down by tumors or inflammatory processes. Whenever one was performing a plastic or other operation, on the pelvis or kidneys, a bougie in place might serve as a guide. For draining the pelvis in cases of pyelitis and flushing it out and treating it, nitrate of silver, or other solutions had long been in vogue, and in some cases with beneficial results.

Medical Society of City Hospital Alumni of St. Louis.

At a stated meeting, held on February 18, Dr. J. Mather Pfeifferberger reported a case of "Ligation of the Common Carotid Artery." The patient had been stabbed on the left side of the neck, about half an inch below the angle of the jaw. The wound was enlarged and extended down to the anterior of the sternocleidomastoid muscle, the compression removed, and the site of injury to the artery located near the bifurcation. The vessel was dissected out from its sheath, an aneurysm needle with ligature attached was passed under the artery, and the vessel drawn up and ligated in two places. This controlled all hemorrhage. Before reaching the hospital the patient had lost a great deal of blood, and two injections of normal saline solution 850 c.c. each were given. Three hours after operation the patient vomited, and an hour later there was profuse sweating on the right side of face and body, and he was unable to move that side of the body with the exception of the fingers. The tongue protruded toward the left side and could not be moved to the right side. There was a slight drooping of the angle of the jaw to the left side. Pupils responded to light and accommodation. There was some difficulty in speech and swallowing. On the next day the pulse was 126, respiration 24, temperature 99° F. When asked to move fingers on the paralyzed side patient could do so, but not without moving the fingers on the other hand also. On the fifth day the pulse was 90, temperature 99.4°, respiration 24. Could move fingers on paralyzed side when the other hand was closed. After this the pulse and temperature gradually dropped to normal. On the eighth day he could put his hand to his mouth and raise arm from his chest, but could not move the rest of the right side. Impediment in speech was still present. On the fourteenth day patient was taken home.

Analyzing the symptoms following the ligation of the artery Dr. Pfeiffenberger thought the disturbance in speech and swallowing was probably due to injury of the descending hypoglossis, which was probably severed at the time of injury to the artery, but it might have been due to a central lesion. The partial hemiplegia could be explained by the condition of anæmia produced by the sudden cutting off of the blood supply to the left side of the brain. Although the patient lived and improved, the essayist since investigating the results of ligation of the common carotid, thought more conservative surgery might be advisable, but the condition of the patient in this case demanded immediate attention, and the course pursued seemed to be the only one open.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Transactions of the Maine Medical Association. Vol. XIV, Part III. 8vo, illustrated. Stephen Berry, Portland, Me.

Studies in Heterogenesis. By Dr. H. Charlton Bastian. 4to, 354 pages. Illustrated, muslin. William & Norgate, London. Price, 31 shillings, sixpence.

Subjective Sensations of Sight and Sound, Abiotrophy, and Other Lectures. By Sir William R. Gowers, M.D. 8vo, 250 pages. Illustrated, muslin. P. Blakiston's Son & Co., Philadelphia.

A Handbook of Ophthalmic Science and Practice. By Dr. Henry E. Juler. 8vo, 733 pages. Illustrated, muslin. Lea Brothers & Co., Philadelphia.

La Torsion du Cordon Spermatique et l'Infarctus Hemorrhagique du Testicule. Par Dr. Andre Lapointe. 12mo, 180 pages. Illustrated. A. Maloine, Paris.

Phychic Life and Laws, or The Operations and Phenomena of the Spiritual Element in Man. By Dr. Charles Oliver Sahler. 12mo, 219 pages. Illustrated, muslin. Fowler & Wells Co., New York.

Howe's Handbook of Parliamentary Usage. By Mr. Frank William Howe. Narrow, Hinds & Noble, New York. Price, 50 cents.

Précis d'Urologie Clinique. Par Auguste Létienne et Jules Masselin. 8vo, illustrated, 463 pages. C. Naud, Paris.

Transactions of the Ophthalmological Division of the American Academy of Ophthalmology and Oto-Laryngology. 8vo, 138 pages, muslin. Illustrated. *American Journal of Ophthalmology*, St. Louis, Mo.

Formulaire Magistral. Thirty-third edition. By Dr. G. Bouchardat. 32mo, 692 pages, linen. Felix Algan, Paris. Price, 4 f.

An Atlas of Human Anatomy. By Dr. Carl Toldt. 4to, Third section, muslin. Illustrated. Rebman Company, New York. Price, $2.50.

Gesammelte Arbeiten zur Immunitätsforschung. Von Dr. P Ehrlich. 8vo, 776 pages. Illustrated. August Hirschwald, Berlin.

Annual Report of the Surgeon-General of the Public Health and Marine-Hospital Service of the United States for the Fiscal Year 1902. 8vo, 487 pages. Illustrated.

Medical Union Number Six. By William Harvey King. 16mo, 60 pages. The Monograph Press, New York. Price, boards, 35 cents.

The Man Who Pleases and the Woman Who Charms. By John A. Cone. 12mo, 131 pages, muslin. Hinds & Noble, New York. Price, 75 cents.

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By H. J. BOLDT, M.D.,
NEW YORK.

sence of a suitable office table of modern admitting of easy and rapid adjustment to he various requirements for ation by the surgeon or the logist has prompted me, with istance of The Kny-Scheerer New York City, to design a e table which answers every ment.

table (Fig. 1) is constructed of nished in white enamel, and it of easy adjustment to place tient in any position without to the patient. It is easily and

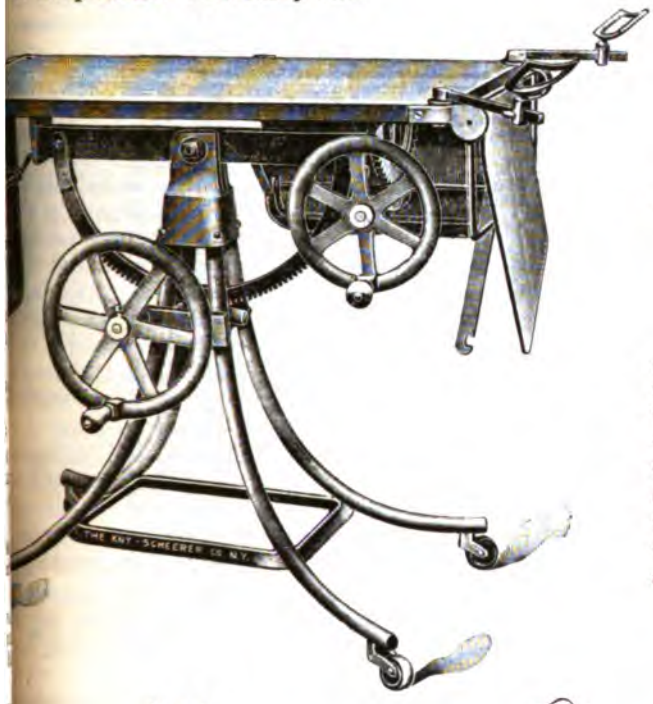

Fig. 3.

y depressed at either head end or foot tilted laterally to the right or left by g the wheels to the side. It is parti- y adapted to the knee-chest position for amination of the bladder, and catheteri- of the ureters if used with the side- shoulder support and body strap as shown re 2. The table is equipped with adjust- nickel-plated heel stirrups which can be ted to any desirable angle. It has an table plate to facilitate the Sims position tly as shown in figure 3.

e table is strongly constructed, and when e as an operating table, the side plate e placed horizontally to hold an instru- tray or a hand basin. The dimensions e table top are 22 inches wide, 36 inches The total length including the Sims and head end when raised is 66 inches. height is 31½ inches. The side shelf for nees is 10 inches wide by 18 inches long. preciation of the popular success of my er efforts in designing a general operating with the assistance of the same firm, warrants me in submitting this new model of office table in the anticipation that the profession may find it of assistance.

30 East Sixty-first Street.

Nauheim Treatment.—Thorne gives, in the *Lancet*, a classification of cases of heart disease based on their suitability or not for the Nauheim treatment. The cases which will be either cured or greatly benefited are: dilatation of the heart from influenza, typhoid fever,

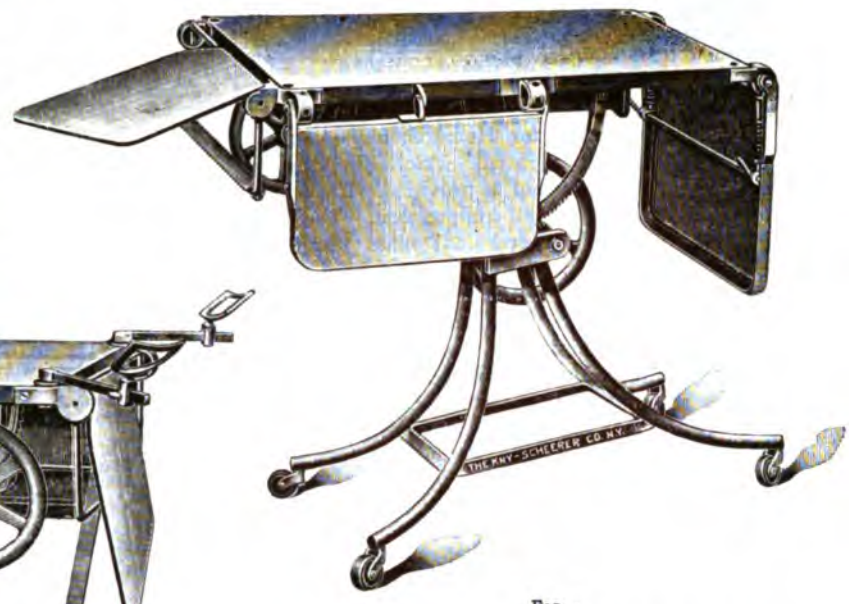

Fig. 1

malaria, excessive smoking, and due to the raised arterial tension of the gouty diathesis. The cases which will be benefited are those of valvular disease with commencing cardiac failure. Unsuitable cases are: habitually heavy drinkers, cases of syphilitic disease of the heart, those with marked degeneration of the vessel walls, those with typical aortic regurgitation, and very old people.

Fig. 2.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending March 5, 1904:

	Cases.	Deaths.
Measles	1435	30
Diphtheria and croup	408	41
Scarlet fever	551	27
Smallpox	1	...
Varicella	136	...
Tuberculosis	405	188
Typhoid fever	27	8
Cerebrospinal meningitis	...	11

A New Operation for Hemorrhoids.—Landström employs a modified angiotribe which has long thin jaws, with rounded edges, and is provided with a heavy screw for producing powerful compression. The sphincter is dilated and the hemorrhoidal mass seized as in the clamp and cautery operation. The jaws of the instrument are then tightened as forcibly as possible by means of the screw and the tumor is cut away. Owing to the compression of the tissues, no cauterization is necessary and the clamp may be removed at once. The pedicle is as thin as paper and does not bleed from its edge or base. The clamp may be applied to several points of the circumference without any danger of hemorrhage. The operation is more rapid and followed by less pain than by any of the other methods.—*Centralblatt für Chirurgie*, 1903, No. 47.

The Röntgen Therapeutic Reaction.—Guido Holzknecht says that the remarkable peculiarity of Röntgen dermatitis is its long period of "latency." It is known that one to four weeks intervene from the day of exposure to the date of visible reaction, and that the "latency" time is longer as the absorbed mass of light is less. Applied to the normal skin of the face (hypertrichosis), in order to secure a reaction of the first degree (erythema, depilation), 3.5 H (H=the author's Röntgen light unit) was used. An hour later the whole area not covered with lead sheeting appeared light reddish, burning, and hyperæsthetic. The condition reached its climax in two hours, the redness alone remaining, growing less daily until the eleventh day. The erythema increased, the color becoming a deep blue-red. On the fourteenth day the hairs were loose and could be removed without pain. The true Röntgen reaction appeared, therefore, on the eleventh day, after the period of latency, and we must separate the unusual prior appearance of the light, superficial inflammation of the "rayed skin," which is termed "prereaction," from the true Röntgen reaction. The further course of the reaction differed materially from the common reaction. The dose (3.5 H) led one to expect the beginning of a reaction of the first degree, and a period of convalescence in about two weeks. This would have been expected after a period of latency of eleven days, but a reaction of the second degree took place. On the twentieth day vesicles appeared, and soon afterward an excoriation of the whole surface resulted. The usual progress would be a period of convalescence of four to six weeks, but after two weeks the whole exposed surface was covered with skin. The prereaction in the superficial layers of the skin upon the following typical reaction no doubt intensified the inflammation. No similar change took place in the deeper tissues, allowing quick recovery. We see, therefore, that the prereaction complicated the course of the Röntgen reaction and of the convalescence. It produced superficially an intense reaction. The prereaction is not constant; it is no doubt influenced by peculiar conditions. It was found that the tube was coated black in all the cases of prereaction. The prereaction can be avoided by discarding every tube as soon as it causes a prereaction for the first time.—*Archiv für Dermatologie.*

Surgical Treatment of Exophthalmic Goiter.—[illegible] sums up his conclusions as follows: (1) Exoph[thalmic] goiter is successfully treated by operation in [the] majority of cases (about 75 per cent.). (2) T[he] rate of the operation is very high, but in the [hands] skilled surgeons is reduced to 6.3 per cent. (Koc[her]) in cases operated upon early as low as 2.4 per cent. (3) The principal dangers from the operation [are] from the anæsthetic, hemorrhage, and post[operative] thyroidism—dangers which may be partially [avoided] the use of local anæsthesia, by skilled manipu[lation] proper preparation of the patient and by early [operation] (4) The question, whether or not operations on t[he] are preferable to those on the sympathetic ner[ves] be decided until we have fuller statistics of t[he] of sympathectomies at our disposal.—*Detroit Journal.*

Health Report.—The following cases of [smallpox,] yellow fever, cholera, and plague have been [reported] to the Surgeon-General, U. S. Marine Hospital [Service] during the week ended March 5, 1904:

SMALLPOX—UNITED STATES.

			Cases
Arkansas, Fort Smith	Feb.	13–20.	
California, San Francisco	Feb.	14–21.	
Colorado, Dever	Dec.	26–Jan. 30	
Delaware, Wilmington	Feb.	20–27.	
District of Columbia, Washington	Dec.	20–27.	
Florida, Jacksonville	Feb.	20–27.	
Illinois, Belleville	Feb.	26–27.	
Chicago	Feb.	20–27.	
Danville	Feb.	20–27.	
Maryland, Baltimore	Feb.	20–27.	
Michigan, Detroit	Feb.	20–27.	
83 localities	Feb	13–20.	
Missouri, St. Louis	Feb.	20–27.	
New Hampshire, Manchester	Feb.	20–27.	
New Jersey, Trenton	Feb.	20–27.	
New York, Buffalo	Feb.	20–27.	
Ohio, Bucyrus	Feb.	20–27.	
Cincinnati	Feb.	12–26.	
Cleveland	Feb.	20–26.	
Toledo	Feb.	20–27.	
Pennsylvania, Allentown	Feb.	20–27.	
Johnstown	Feb.	20–27.	
Philadelphia	Feb.	20–27.	
Pittsburgh	Feb.	20–27.	
Williamsport	Feb.	13–27.	
South Carolina, Charleston	Feb.	20–27.	
Tennessee, Memphis	Feb.	20–27.	
Nashville	Feb.	20–27.	
Virginia, Pocahontas	Feb.	1–29.	
Wisconsin, Milwaukee	Feb.	20–27.	

SMALLPOX—FOREIGN.

Africa, Cape Town	Dec.	1–31.	
Green and Sea Point	Dec.	1–31.	
Austria, Prague	Jan.	30–Feb. 13	
Belgium, Antwerp	Jan.	30–Feb. 13	
Brussels	Jan.	30–Feb. 13	
Brasil, Rio de Janeiro	Jan.	24–31.	
Canada, Quebec	Feb.	13–27.	
China, Hongkong	Jan.	9–16.	
Shanghai	Jan.	9–16.	
France, Nantes	Jan.	1–31.	
Rheims	Feb.	7–14.	
Great Britain, Edinburgh	Feb.	6–13.	
Hull	Feb.	6–13.	
Leith	Jan.	30–Feb. 13	
London	Jan.	30–Feb. 13	
Manchester	Feb.	6–13.	
South Shields	Feb.	6–13.	
India, Bombay	Jan.	26–Feb. 2	
Karachi	Jan.	24–31.	
Java, Batavia	Jan.	16–23.	
Malta	Jan.	16–30.	
Mexico, City of Mexico	Feb.	14–21.	
Netherlands, Amsterdam	Feb.	6–20.	
Russia, Moscow	Jan.	23–Feb. 6	
St. Petersburg	Jan.	30–Feb. 6	
Spain, Santander	Jan.	8–15.	
Turkey, Constantinople	Jan.	31–Feb. 14	

YELLOW FEVER.

Brasil, Rio de Janeiro	Jan.	24–31.	
Mexico, Merida	Feb.	13–20.	
Vera Cruz	Feb.	13–20.	

CHOLERA—INSULAR.

Philippine Islands, Provinces	Jan.	9–16.	21

CHOLERA—FOREIGN.

India, Calcutta	Jan.	23–30.	
Madras	Jan.	16–22.	

PLAGUE—UNITED STATES.

California, San Francisco	Feb.	8.	

PLAGUE—INSULAR.

Philippine Islands, Manila	Jan.	9–16.	5

PLAGUE—FOREIGN.

Africa, Port Elizabeth	Jan.	9–16.	
Brasil, Para	Jan.	28–30.	
Rio de Janeiro	Jan.	24–31.	
India, Bombay	Jan.	26–Feb. 2	
Calcutta	Jan.	23–30.	
Karachi	Jan.	24–31.	11
Mauritius	Jan.	21–Feb. 4	45

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Original Articles.

W TREATMENT FOR FRACTURE OF THE NECK OF THE FEMUR.

By ROYAL WHITMAN, M.D.,
NEW YORK.

uld appear that my contention, that fracture e neck of the femur is not uncommon in early s now generally admitted. Further experience onvinced me also that this fracture is far more on in young and vigorous adults than statistics te. In my last communication on the subject *ls of Surgery*, November, 1902) I cited five seen in one year in patients from twenty-eight y-five years of age, in not one of which had the osis been made. From the histories of these f similar cases, it would appear that in middle s is almost always the case in childhood, the re is often incomplete, and is therefore unrecog-

But that an injury, presenting such obvious al signs, is so often mistaken for contusion, after the disability has persisted for months, e explained only by ignorance of the details ysical examination and of the characteristic toms of distortion of the neck of the femur.

is the number of these patients, crippled in ous life, who have sought treatment months or after the injury, not merely for functional dis- y but for persistent discomfort and pain, that timulated my interest in the question of pre- on by more effective treatment.

the outset one encounters the traditional belief, this particular fracture usually occurs in the , the fat, and the aged. Or, more particularly, the age of the patient in most instances makes pplication of effective treatment impracticable. belief is not, however, supported by statistics. in Hamilton's cases treated at Bellevue Hos- which are manifestly not representative, it may ted that but 37 per cent. were more than sixty of age, and that 40 per cent. were fifty or less. the general belief, also, that the mortality after injury is high, yet, in a series of 241 cases treated ree consecutive years at Bellevue Hospital, were but three deaths; one from pneumonia in twenty-four hours after admission, and two alcoholism and nephritis. In seventy-one treated at the New York and St. Vincent's pitals during the same period, there was but one h. (Bissell, *Philadelphia Medical Journal*, May 1903.)

aditional teaching has more influence for ill than d at first appear. For example, if the elbow of ung person is injured, fracture is suspected be- it is known that fracture is common in this tion. If the same person sustains an injury at hip, it is classed as a contusion because fractures supposed to be so unusual in this locality. Thus favorable opportunity for treatment is lost in very cases in which it should be most efficacious. It may be assumed, also, that the supposed grav- of the accident prevents, in many instances, the plication of local treatment in the older class, and any event this treatment is usually perfunctory and symbolic in character. In fact, the patient, of whatever age or condition, is practically condemned to greater or lesser disability when the diagnosis is made. Bissell, in the article already referred to, presents the patient's prospects as follows:

"If he escapes with his life he has to be contented with loss of function, loss of symmetry and equipoise, and is often obliged to go about permanently crippled."

Scudder investigated sixteen cases that had been treated at the Massachusetts General Hospital. Seven of these were between forty and fifty years of age and but three were more than sixty. "In but two instances could the limb be said to be functionally useful."

Hyde (*Medical Gazette*, April 17, 1880) examined twenty patients after discharge from Bellevue Hospital. He states that but one of these was free from pain. In the majority of cases the limb was flexed, and support was necessary to enable the patient to walk. Several of the patients were bedridden.

It is interesting to note that the treatment of fractures in general is skilled treatment in the inverse ratio to the severity of the injury. For, while ambulatory cases in the class in which fractures are most common are treated by surgeons whose experience has enabled them to become expert, the bedridden class comes under the prentice hands of house officers, whose treatment must of necessity conform to established methods.

Whether the statistics quoted are representative or not, it will be generally admitted that the results of treatment of fracture of the neck of the femur, as compared with those ordinarily attained in other situations, in the same class of patients, are most unsatisfactory. The reasons for this will be apparent on consideration of the nature of the injury and of the means that are employed to remedy it.

Although the old distinction between intra- and extracapsular fracture has lost much of its significance, yet the situation of the fracture is of great importance. If it be at the junction of the neck with the shaft it should be comparatively easy to secure union because of the large area of the fragments and because the fracture is often incomplete, as in the younger class of patients.

If it be of the small part of the neck, apposition and retention will be more difficult, and union of course unlikely if the primary shortening of the limb is not overcome. If the head of the femur be involved, as in epiphyseal fracture or separation in young subjects, the irregularity at the articulating surfaces will inevitably cause interference with function, even, it may be, to the degree of practical ankylosis.

The typical treatment for complete fracture of the neck of the femur is the long lateral T splint to which the limb and body are bandaged, supplemented by the traction force of a weight of from five to twenty pounds attached to the limb. The splint is applied to prevent movement at the seat of injury, and the traction is supposed to resist muscular spasm and to overcome eventually the shortening caused by the upward displacement. It should be apparent, how-

ever, that the weight acting against the friction of the bed, upon a limb bandaged to a lateral splint, can have but slight influence on the deformity, as is demonstrated by the shortening that is present in most instances when the apparatus is removed. It is evident, also, that if the fracture be of the small part of the neck, the persistence of an inch or more of shortening practically precludes union, because in such cases the fragments are not in apposition. Even if this apposition were attained, there must be, in the absence of antero-posterior support, a degree of mobility, as the patient is necessarily moved from time

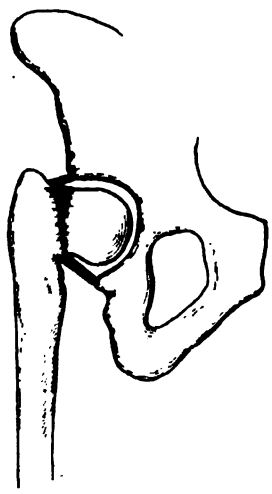


FIG. 1. Incomplete fracture, of the type often found in childhood illustrating the mechanical limitation of abduction.

to time, that would interfere seriously with union. In some instances sand-bags are used in place of the splint, or traction alone is employed, or the limb is suspended in a Hodgen apparatus, but the principle is essentially the same.

In impaction or incomplete fracture, the neck is forced downward and usually backward, or in some instances is driven into the shaft of the femur, a deformity that might be described as traumatic coxa vara. One is taught that no attempt should be made to remedy the distortion for fear of non-union. Yet this surely condemns the patient to disability,

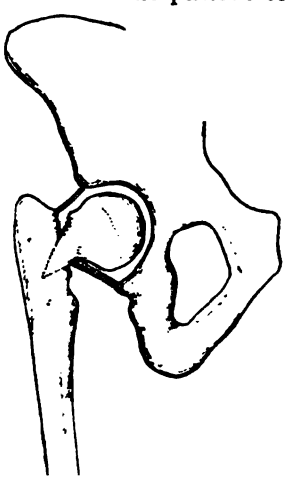


FIG. 2. A form of impacted fracture.

not because the limb is rotated outward and somewhat shortened and because the patient limps, but because of direct interference with the function of the joint. For, with the lowering of the femoral neck, there is corresponding limitation of abduction of the limb, a limitation that is usually progressive and that leads, in many instances, to persistent flexion and adduction. This distortion is induced primarily by the deformity; it is favored by the attitude assumed by the patient during the stage of weakness and repair, and it is confirmed by the accommodative shortening of the adductor muscles.

In most cases of this character there is persiste discomfort and pain whenever the contracted m cles are suddenly stretched by an unguarded st It is probable, also, that the greater strain to wh the depressed neck is subjected may, as in youn subjects, lead to further distortion and induce nutritive changes of the osteoarthritic character p sented by museum specimens.

As the object of treatment is the restoration normal function, the present treatment of fract of the neck of the femur is defective in principle in practice, since no attempt is made to restore normal contour when the fracture is incomplete,

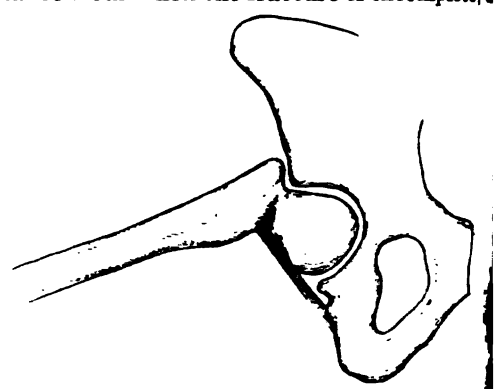


FIG. 3. The deformity reduced by leverage against the upp of the acetabulum.

when it is complete the means taken to secure are feeble and perfunctory.

It is far easier to point out defects than to s a practicable remedy, and as that to be presen the outcome of actual experience it may be of est to sketch briefly the process by which it wa it were, evolved.

When the first case of fracture of the neck of femur in childhood came under my observation fo teen years ago, it was looked upon as a surgical c osity and of particular interest in the differe diagnosis of tuberculous disease of the hip-joint which it had been mistaken. The obvious t ment was to relieve the symptoms by appropr

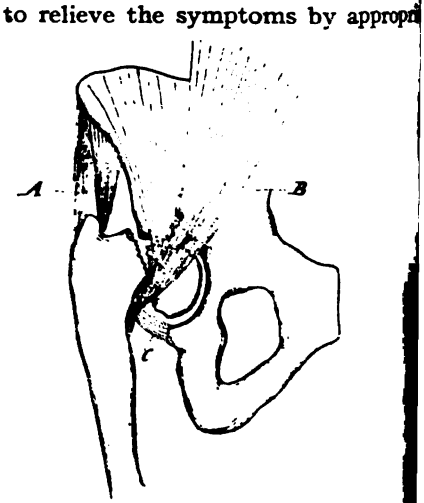
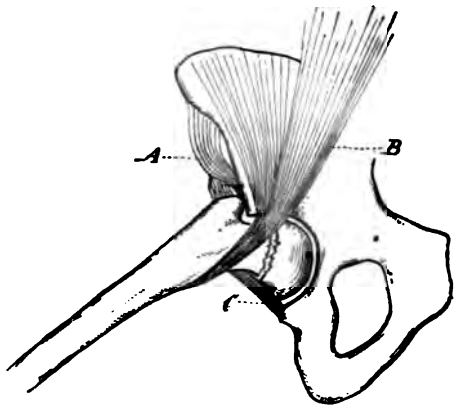


FIG. 4. Complete fracture of the neck of the femur, illus muscular action in increasing the separation. A, Abductor B, Iliopsoas. C, Capsule.

support; for at that time, before the now fa subject of coxa vara had been discussed, the dep ence of normal function upon normal form wa appreciated. The later examination of this similar cases showed that increasing rather tha creasing disability was the rule; in other word the traumatic as well as in the simple forms of vara slight depression of the neck of the femu duced greater depression. The first conclusion that one should wait until the process had checked by the resistance of the depressed bone then remedy the adduction and rotation of the

simple linear osteotomy of the shaft of the femur. The next step in treatment, both for simple and matic cases, was in the direction of prevention the progressive deformity. At first the only cticable means seemed to be the application of race, but this treatment, burdensome, tedious,



5. Reduction and fixation in abduction, showing security by direct bony contact of the neck and trochanter with the pel- the effect of the attitude on muscular action. A, Abductor B, Iliopsoas. C, Capsule.

uncertain, was particularly unsatisfactory be- it did not remedy the deformity already pres- For if traumatic depression of the neck of the in a healthy child induced further depression e of the greater strain to which the lessened ubjected it, the obvious remedy was to restore rmal angle and thus to relieve the strain. this purpose the removal of a sufficient wedge

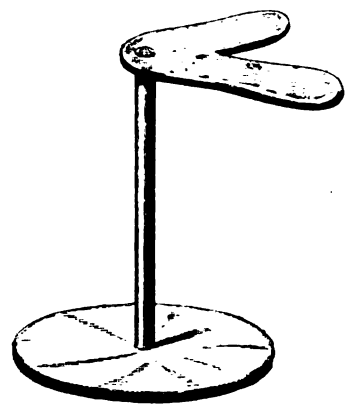


Fig. 6. Pelvic Support of the Lorens Model.

e from the base of the trochanter seemed to manifest advantages over simple osteotomy of haft, in which there was a possibility of over- g of the fragments, or direct operation on the with the possibility of non-union and of in- n.

he first case treated by this method it was very lt to bring the opposing surfaces of the wedge ontact, but later this difficulty was overcome ducting the thigh until the trochanter and neck into contact with the upper border of the ulum, then further abduction of the limb, g the thin cortical substance on the inner side, the wedge-shaped opening, if of proper size, y, when the normal limit of abduction was d. In this attitude of abduction the limb was by a plaster spica bandage until repair was te. When it was replaced in normal position, clination of the neck was restored and the t was cured.

next step was more direct. It had been strated that the range of normal abduction pendent upon the upward projection of the l neck, and that lowering of the neck checked responding degree this range. In the cases of some duration, particularly those of coxa vara, the restriction is always increased by accommodative muscular adaptation, but eventually by the direct contact of the upper border of the neck and trochanter with the projecting rim of the acetabulum. Thus, in impacted fracture, there is an immediate limitation of abduction which is one of the most significant of the diagnostic signs. If, then, in an early case, the patient being anæsthetized, one were slowly to abduct the thigh, one might, by the means of the fulcrum offered by the rim of the acetabulum and the leverage of the extended limb, actually restore the normal angle. In such a case, the fact that the restriction had been overcome would indicate the removal of the deformity. For although in the normal subject the capsule might be stretched or ruptured, permitting a downward dislocation of the head before the neck would give way, this would be very unlikely if the neck were already broken through. If the deformity were overcome, then fixation for a time in this attitude of normal abduction should assure union with an approximately normal

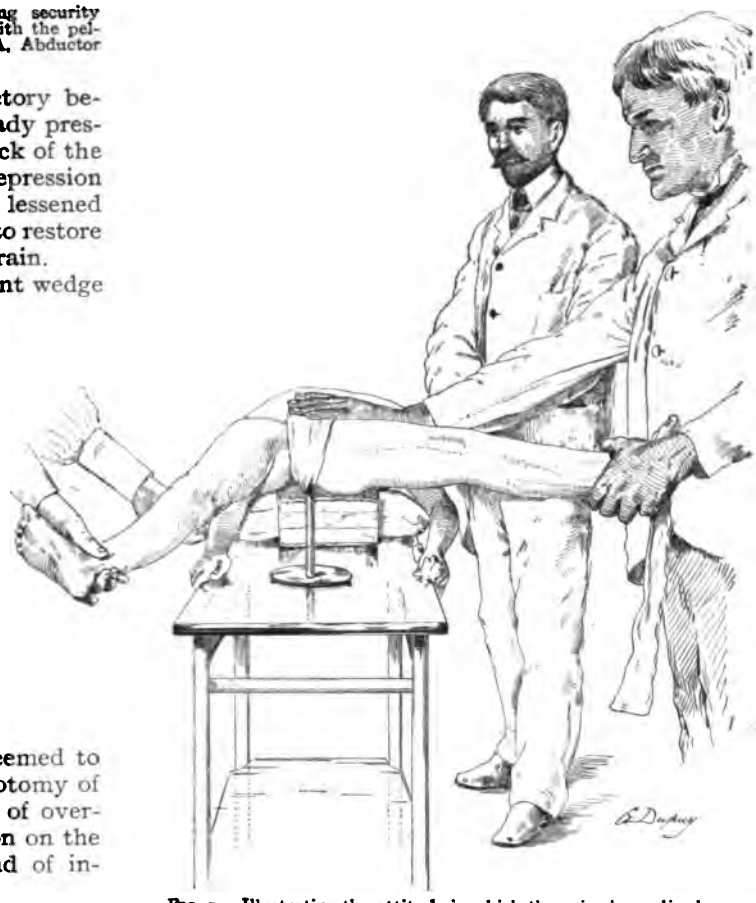


Fig 7. Illustrating the attitude in which the spica is appli ed.

contour. Fortunately, the opportunity to test the treatment was soon offered and it was applied in October, 1901, for incomplete fracture of the neck of the femur in a boy of eight years of age, who had fallen a distance of fifteen feet three weeks before, the characteristic symptoms of shortening, elevation of the trochanter and limitation of motion making the diagnosis evident. The final functional result was perfect, and a Röntgen picture showed restoration of the normal angle.

Not long after, the treatment was applied to a girl of six who had sustained a similar injury after a fall from a second story window, and the result was equally good. These cases were the only ones that I had ever seen or heard of in which there was complete functional recovery after this injury.

The final step was manifestly to apply the same treatment to adult cases, for, as there is no reason to

doubt that traumatic depression of the neck of the femur entails the same penalties at one age as at another, the treatment should be the same. Thus, contrary to the accepted teaching, one should always aim to disengage an impaction in order to restore, as far as possible, the normal contour, for under efficient fixation there should be but little danger of non-union. One might hope, also, that repair would be unaccompanied by the exaggerated formation of osteoid tissue often seen in museum specimens, since it may be inferred that such changes are favored by mal position of the fragments or by inefficient splinting or by want of protection during repair.

If, on the other hand, the fracture were complete, as is common in older subjects, the shortening having been overcome by traction, the limb should then be abducted to utilize the tension on the capsule to direct the outer toward the inner fragment contained within the acetabulum and to bring them into more or less accurate apposition. The attitude of complete abduction makes muscular contraction powerless to induce deformity. This influence, which is described in all textbooks as of great importance, is more directly that of the abductors, the external rotators and the iliopsoas muscles. In abduction the former group is entirely relaxed and impotent while contraction of the iliopsoas would tend to draw the femur directly inward and thus to appose rather than to separate the fragments. Fixation is, however, more directly assured by the contact of the neck with the rim of the acetabulum and of the trochanter with the side of the pelvis. In this attitude the comprehensive support of the plaster bandage should provide the rest most favorable to repair.

This method, at first suggested as particularly applicable to childhood, is now urged as a routine measure for all cases of fracture of the neck of the femur in which local treatment is to be attempted.

It may be noted again that perfunctory treatment or non-treatment is usually excused by the age of the patient; sixty years or even less being accounted old age in this class of cases. It would appear, however, that in most instances it is the probable futility of treatment rather than the condition of the patient that explains neglect, for this, or a greater, age is no bar to operations for other conditions, nor does it prevent the successful treatment of fractures in other situations. For the present discussion, however, let all those cases in which age or other circumstances might seem to contraindicate such treatment be excluded from consideration, for even then, there will yet remain the larger proportion, and by far the most interesting class of cases, since it will include the children and many vigorous adults who now, for failure of diagnosis, are untreated.

The details of application of the method are, in general, as follows: A piece of ordinary seamless shirting, such as is used for plaster jackets, about six feet in length, cut and sewed in a shape to cover the body and the limb, is first applied and is fixed securely in place by bands passing over the shoulders. This is threaded with several long bandages, the "scratchers," designed to keep the skin in good condition. It is also advisable to insert a substantial "dinner pad." The patient is then anæsthetized and is placed in position for the application of the bandage. The head and shoulders may be conveniently supported on a box of proper length and about eight inches in height; the pelvis rests upon a sacral support. This is a thin plate of steel about the size of the hand, of a trowel or heart shape, carried on an upright bar fixed to a wide base or screwed to the end of the table. Such a support is almost indispensable, because it does not interfere with the proper application of the posterior surface of the spica, as do the blocks or other supports in common use. A wide, firm band of cloth is then carried about the perineum, the two ends of which united over the shoulder and held by an assistant furnish counter traction. If the fracture is incomplete, as is usual in young subjects, the limb under gentle traction is slowly abducted, an assistant at the same time adducting the sound limb to prevent the tilting upward of the pelvis, and to demonstrate the normal range. If the fracture is complete, the shortening is first entirely overcome by the traction and counter traction. The limb in the extended attitude, under traction, is slowly abducted by the assistant until the trochanter is fairly apposed to the side of the pelvis; the operator meanwhile pressing the trochanter downward and inward. In some instances there is a distinct snap as the outer part of the neck slips beneath the rim of the acetabulum, and in any event the abduction is increased until the trochanter is firmly apposed to the side of the pelvis. In the first instance the primary object of the abduction is by leverage against the upper border of the ace-

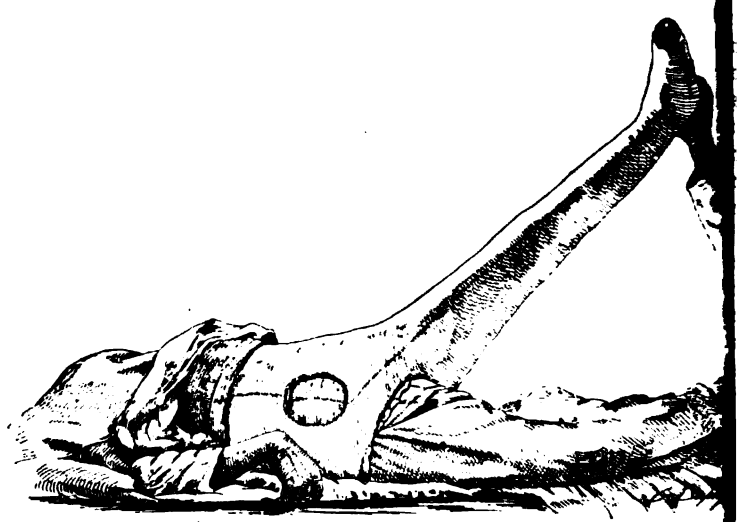


FIG. 8. The long spica as applied for fracture of the neck of the femur in the adult illustrating the advantage of an appliance which permits movement without danger of displacing the fragments; an opening has been made to lessen the constriction of the abdomen.

lum to overcome the deformity; in the second tension on the capsule to remove folds to approximate the fragments and by actual contact of the with bone to oppose re-displacement.

The limb being held in this attitude, the pelvis, ribs, the bony prominences of the knee and foot protected with layers of sheet wadding, and the and body are then covered in carefully with co flannel bandages, which are in themselves a pro tion against pressure. A plaster spica is then plied, extending preferably from the mammary to the toes. This should be drawn snugly about hip, and most important of all, should compl enclose and support the buttock, not only to pro antero-posterior support, but to prevent the exc tions that are inevitable if the tissues are allowed hang over the edge of the plaster. The insertion thin strips of wood or iron about the hip and permits of a lighter bandage than would other be possible. When the bandage is completed carefully cut away to allow complete flexion of sound limb, the shirting is drawn over the edge the bandage, carrying beneath it the cotton, and

ved preferably to an outer cover of shirting drawn er the bandage. Thus a smooth, even surface pposed to the body and the skin may be kept in dition by drawing the friction bandages back forth at intervals. These bandages, popularized Lorenz, are always placed beneath the body part he spica and with the exercise of a little ingenuity ir use can be extended to the limb also.

or greater precaution it may be advisable to cut nings in the plaster at all points where pressure ared, and a part may be cut away from the front he body part if the constriction is too great.

s a rule, the support is comfortable because it ficient, and it permits the necessary movements the patient and even transportation from one ch to another without fear of displacing the frag-nts. In fact, the use of the plaster spica support he treatment of adults is so common in orthopedic ctice that it hardly needs discussion. It is true its proper application requires some care and , but surely not greater than are demanded in r surgical emergencies, nor more than one has ght to expect from those who propose to treat class of injuries.

he long spica is most efficient in that it abso-y prevents rotation of the limb, but the short may be used in impacted or incomplete cases, hich displacement is unlikely, or less burdensome support is red. The steps in the applica-are the same, except that it olded more accurately about the ac crests and the joint, and is especially thick and strong. then cut away so that a band more than four to six inches in h remains across the front of abdomen. The lower extrem-may be carried a little below knee to fix the part more curely or cut away to allow free vement at this joint, if desirable. The short spica permits the patient assume a semi-reclining posture, if the limb were during the plication slightly flexed, it would w the patient to assume practi-y the sitting posture. Such varia-s in technique might be required the condition of the patient.

ne hears much of the physical depression that ws this injury, but this may be due not so much the confinement to bed as to the persistent pain t often follows a fracture which is not reduced and protected, an opinion which is supported by the timony of many of the patients themselves.

If the long spica is used, it may at the end of four eks be shortened to allow action at the knee, and the end of eight weeks, or when it may appear that on is assured, it may be removed.

t this time massage and passive and voluntary tion may be employed, regulated, of course, by the ations of the patient. The limb should not be d to support weight for at least four months. A brace that will permit functional use by support-a part or all of the body weight, combined with sage, is of course the ideal after-treatment. This however, not attainable for ordinary cases, and best routine method is the use of a light, short ster spica holding the limb in moderate abduction. first the patient uses crutches, and resumes weight ring little by little.

In this connection it may be noted that in cases of akness and discomfort either from joint disease injury, simple weight bearing without motion is far less of a strain than weight bearing with motion. In any event, increased and especially persistent discomfort after functional use indicates that the joint is not equal to the work that is required of it. Yet it is an indication that is almost always disregarded, patients being not only encouraged but forced to use the limb even within a few weeks after the injury. If, as in many instances, there is non-union, little harm other than the unnecessary discomfort may result, but if one hopes for approximate restoration of function the natural indications must not be disregarded, and the resumption of activity must be regulated by the symptoms.

The best time for the application of the treatment is, of course, immediately after the injury, for with the comprehensive support of the entire limb, from the toes up, there is little danger of constriction. In fact, it is probable that in many instances the local swelling is aggravated by want of support, and that the persistent œdema of the limb that is occasionally observed is secondary also. If, however, the bruising were extensive, sand-bags and traction might be employed as preliminary to the application of the fixed dressing. The question of after how long an interval treatment may be applied with hope of success, is of far greater importance. It would seem that one could hardly hope to break up an impaction after an interval of more than three months, but it would appear that in certain of the incomplete fractures consolidation is delayed for a long time, as is evidenced by the symptoms of insecurity, and by the pain on motion of which the patient so often complains. The cases of complete separation in which the fragments have never been apposed might merit treatment at a much later time.

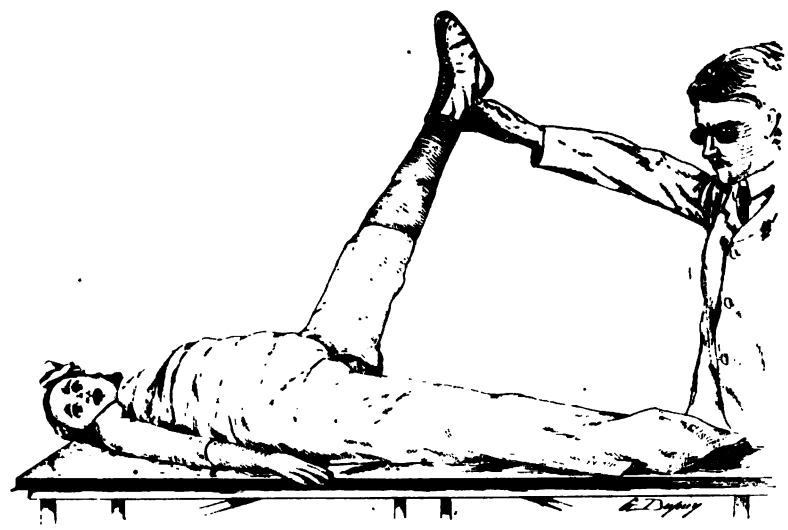


FIG. 9. The plaster spica applied, after reduction of the deformity, in a child: illustrating a greater range of abduction than in the adult. Compare with Fig. 8.

In the review of treatment no mention has been made of the Thomas hip splint. This apparatus, when properly adjusted, is an efficient splint, but except in this regard, it does not fulfil the requirements that are considered essential to success. In this connection it may be noted that it is the attitude in which the limb is fixed and the manipulation that precedes fixation that constitute the novelty of the treatment that has been advocated. The plaster spica is the most practicable means of support, but it might be replaced by appropriate apparatus if this were attainable.

Direct operative intervention is practically a last resort when other treatment has failed, and if the method described has been unsuccessful, the parts, in the absence of swelling and shortening, should then be in the best possible condition for this procedure.

Bissell, in the article referred to, impressed by the futility of ordinary treatment, apparently favors operative exploration as a primary measure, but in any event it would be indicated only in cases of complete separation and it could be applied only under exceptional circumstances. It may be noted that in such operations one is advised to remove the fragments if union seems unlikely and that excision of the head of the femur, in cases of partial epiphyseal separation is classed as a remedy rather than as a necessity of treatment. This indicates an ignorance of the mechanism of the hip-joint and of the ultimate effects of excision upon its function. Excision is justifiable for advanced tuberculosis or other destructive disease and for relief of distortions, as, for example, after unreduced dislocation of the hip, but under almost no other circumstances. The most important function of the lower extremity is weight bearing, and security, even with ankylosis, is much

FIG. 10. Ambulatory treatment with the limb in extreme abduction. In this attitude weight is borne on the trochanter and outer extremity of the neck of the femur. This is the patient shown in Fig. 9.

preferable to free motion with insecurity. Ankylosis does not preclude comfort, security, and symmetry, but motion obtained by excision is often at the expense of all these. For if the head of the femur is removed the shaft is almost always forced upward upon the side of the pelvis and, in consequence, the limb becomes flexed and adducted, approximating the attitude characteristic of dorsal dislocation of the hip. When therefore one, in the treatment of ununited fracture, finds it necessary to remove the head of the femur, he should attempt to secure bony union between the extremity of the neck and the acetabulum, the limb being fixed in extension and slight abduction. If this is impracticable the upper extremity of the femur should be forced forward beneath the tissues attached to the anterior superior spine. This remedy may be applied after the suggestion of Lorenz, without open operation in the cases in which pain and deformity persist after ununited fracture. The position is maintained by hyper-extending the limb and applying a short spica bandage. This support usually enables the patient after a time to walk about with but little discomfort, but from my experience the support must be continued for at least a year to insure the necessary stability.

Epiphyseal separation or fracture is a rather unusual form of injury. It is very uncommon in ear childhood, the injury in such cases being usually the middle or outer extremity of the neck and of incomplete or green stick variety. This is indic by the fact that joint movement is perfectly nor until it is checked in abduction and flexion by distortion of the neck. Whereas, if the articula extremity of the femur were broken or displa motion would be far more restricted, especially ing the process of repair.

In twenty-five cases of fracture of the neck of femur in childhood that have come under my

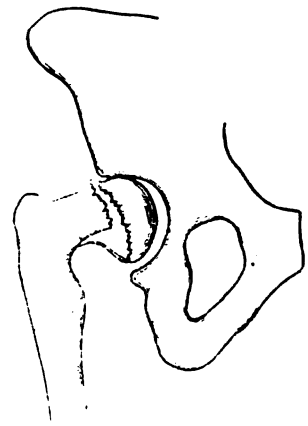


FIG. 11. Complete traumatic epiphyseal separation.

servation, direct, immediate, epiphyseal separa occurred but once. One speaks of immediate physeal separation in the sense of a direct and abling injury, the result of violence in a healthy ject. What is ordinarily described as epiphy separation is very closely allied to coxa vara in onset and in its symptoms. The patients are alm always adolescents, often of the weak and ov weighted type. The symptoms, usually slight li stiffness and discomfort about the joint begin alm imperceptibly sometimes after injury, but of without known cause. After these have persis for a time the patient may become suddenly disab

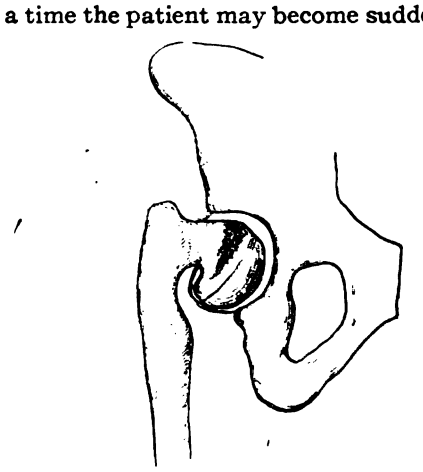


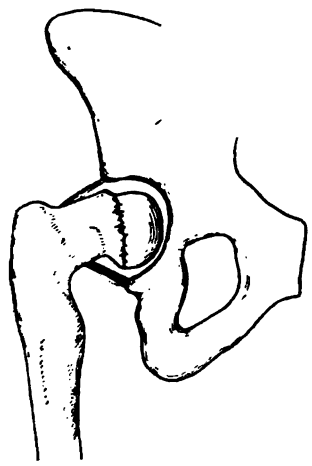
FIG. 12. Epiphyseal coxa vara, in which the deformity is marked on the outer side of the epiphyseal cartilage.

after over-exertion or strain, which, but for the p vious history, would have been credited as the i mediate cause of the disability. In these cases deformity will be found in two varieties. In common form the head of the bone is distorted by giving way of the inner extremity of the neck ne but not at, the epiphyseal junction. A form epiphyseal coxa vara. The other is a true part separation, the head of the bone being displac downward and backward. In cases of this ty motion is greatly restricted. The pain and discom fort are much more noticeable than in ordina fracture or coxa vara. In ordinary fracture t

ıptoms, as in the adult, follow the injury immeely and decrease as repair advances. In episeal separation the first symptoms are not well ked, but they gradually increase until the ient may be disabled. It may be noted that the of the patient is an important element in the gnosis. For it would appear that the epiphyseal tion becomes actually a weak point as the time roaches for its obliteration, when the thick wall artilage that covers it in childhood has been ced to the adult type.

is has been mentioned, the treatment advoed for partial epiphyseal separation, by Sprengel others, is immediate excision, which, from the dpoint of ultimate functional usefulness, is illised. Either one should attempt to replace the d by direct operation, or, if the deformity is not eme, to cut away the irregularities that interfere h motion. It is probable, too, that a simple otomy of the shaft of the femur to remedy the ortion of the limb after repair is complete, would re a more useful limb than that attained by ion.

t may be noted that while the forcible abduction ht be of service for direct or complete epiphyseal ration, it could hardly be efficacious in cases of ordinary type. It has been employed, however,



13. Incomplete traumatic epiphyseal separation, the common form.

h apparent success in cases of rapidly increasing a vara in which it was evident that the resistof the femoral neck was slight.

piphyseal fracture or displacement is numerically light importance, and it is introduced simply to plete the consideration of the three classes of cture that have been mentioned.

In conclusion, attention is again called to the fact t for the purpose of this discussion the application this treatment as that of routine for fracture of neck of the femur is limited to what may be med the favorable class. It is my opinion, howr, that it could be used in practically any case, h the modifications that have been suggested, to ch the methods now in common use might be lied. Doubtless the method would require a ain degree of skill in its application and careful ervision to make it tolerable, but far less than ld be necessary to make the ordinary treatment fil the purpose for which it is used.

At the present time, all patients, whether young d vigorous or old and feeble, are treated, if at all, the same manner. In other words, the limitaas of the aged are extended to the young, whereas young should be treated effectively because they e vigorous, and the aged should be treated effectly, if they are treated at all.

A new treatment must appeal to reason rather ain to experience, and to forestall a probable criticism, it may be stated that it is not claimed that perfect apposition of the fragments is always possible, any more than it is after fracture in other situations where the difficulty of adjustment is far less, or that union can always be obtained, or that distortions can always be overcome, or that the treatment can be applied in all cases, or continued in all cases after it is applied.

It is claimed, however, that improved functional results are far more likely to be obtained than under any other treatment at present in use. The treatment has been proved to be thoroughly practicable,* and whatever may be the outcome, one who applies it will, at least, have the satisfaction of attempting to fulfil under difficult conditions the requirements that are acknowledged to be essential to success in the treatment of the simplest fracture.

*The treatment was first applied to the adult in January, 1902, and last in January, 1904; a report of final results is for the present deferred.

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THE SOLUBLE FERMENTS OF COW'S MILK.

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It is a well-known fact that milk is in itself a complete food, since it contains the three alimentary elements by which all life is sustained, namely, the albuminoids, the fats, and the sugars. But, although human life may be indefinitely maintained by the exclusive use of milk, the seemingly paradoxical fact has been established that an artificial mixture of albumins, fats, and sugars, although in the same proportions as when contained in natural milk, will not sustain life beyond a limited period. The following experiment made by Lunin demonstrates this interesting fact:

Mice, as well as men, can live indefinitely on natural milk as a sole diet. But when they are fed on artificial milk containing all the chemical constituents of an excellent milk, they die in from twenty to thirty days. In this experiment Lunin prepared his milk in the following manner: The milk was diluted with water, and then precipitated by acetic acid. The flaky precipitate was then washed with acidulated water, leaving it a mixture solely of casein and fat. To this quantity of albuminoid and fatty matter, he added cane-sugar in the proper physiological proportion to represent the carbohydrates. Finally he added the salts that are contained in natural milk, in the exact quantities in which they are found in that substance. Theoretically this artificial milk constituted a perfect food, since it contained the three principal groups as well as the salts. Nevertheless, the mice on which the experiments were made did not live, although they relished the diet and ate plentifully of the food.

Lunin was studying the rôle played by the mineral salts in nutrition, and at the time when he announced the results of his experience the scientific world was considerably surprised.

It is now well understood that the factor which was lacking in Lunin's artificial milk, that which was necessary in order to make this product capable of sustaining indefinitely the life of his mice, was that chemically intangible constituent, the active living force, in fact the enzymes or unorganized soluble ferments that were destroyed by his method of preparing and treating the milk. This fact explains why sterilized milk and other sterilized foods have not fulfilled the general expectations of the scientific world. Received at first with enthusiasm by the medical profession, it was gradually shown in the course of time, that they did not

constitute an ideal method of feeding. Many medical men, recognizing the lack of result without knowing the real cause of failure, returned to good natural milk, either simply diluted with water, or not. Careful observation showed that milks that had not been heated beyond a natural temperature were more easily digested, and gave greater vitality to the system. It was observed that sterilized milks produced in children soft muscles, a generally irregular development, and a weakened resistance to infectious diseases. Some men even stated that they were the indirect cause of infantile scurvy. And these unsatisfactory results were observed even when the very best methods of blending were being used, and the milk had been modified so as to make it, from a chemical standpoint, not only merely resemble mother's milk, but actually almost identical with it.

These facts were verified, but without any reasonable explanation of the cause. However, the work and thorough investigation to which milk has been subjected within the last few years, have thrown an entirely new light upon the subject. The constituents which are lacking in sterilized milk, or more properly speaking, are destroyed when the temperature of the milk is raised to 176° Fahrenheit, are the enzymes, those mysterious ferments which govern the equilibrium of the protoplasm. Not only in the animal kingdom, but in the vegetable kingdom as well, every vital phenomenon seems to be dependent on these ferments. The grain of wheat, planted in the soil, owes its development and growth solely to these special ferments. Under the influence of soluble substances secreted by microbes in the bosom of the earth, the grain of wheat emerges from its lethargic condition and becomes a living organism, capable of growth and reproduction. It has been shown that absolutely sterilized earth is useless for the growth of seeds, and that these do not come to maturity in such soil. (Ref. Nobbe, Dresden.)

The same thing applies to the animal kingdom. Animals kept in an aseptic atmosphere and fed on sterilized foods cannot live. The quantity and proportion of albumen, of carbohydrates and of fats may be perfect, but that particular force which separates and disintegrates them into their ultimate terms of absorption no longer exists, and these food substances become inert. According to Kejanitzin, the disastrous effect of the sterilized air breathed, continues even after the animals have again been placed in a normal atmosphere. This author explains, that in breathing ordinary air the microbes inhaled are absorbed by the leucocytes, which separate the ferments which these microbes contain and spread them throughout the organism, where they regulate oxidation and prevent the accumulation of leucomains and other toxic principles.

It is a path abounding in beautiful discoveries that science has opened. It is found that the malignant ferments, producers of illness and death, are in reality only an accident in nature. If there exists those that are responsible for the shortening of some lives, on the other hand their very kin are they that since the creation of the universe have perpetuated species, and finally, the evolution of the higher organisms is corollary to that of the infinitely small. Although there are injurious germs whose secretions disturb the vital harmony and cause a disturbance of the physiological phenomena, yet by way of retaliation or compensation there are a much greater number of those whose secretions are of direct benefit. It is true that, as yet, we know but a small proportion of these, but the list is growing and continues to grow as time passes. Let us salute, *en passant*, the noble germs, creators of fi wines, of good ciders, of fragrant vinegars, and savory beers.

If we have entered somewhat fully into the ab considerations, it is because the ferments that found in milk originate both in the organic cell in the bacterial cell; the former, being necessa in the milk because they are contained in organism and in the gland cells which give ris the milk; the latter, being accidental, but at same time always found in the milk, since they secretions of the bacteria which exists everyw and consequently gain entrance into the m many of them even before it leaves the galactife ducts. These bacterial ferments were thorou studied long before the cellular ferments, and the observations and work of Duclaux are kn intimately. They are for us less interesting t the others, and to them, the cellular ferments, would more particularly devote our attention.

The clear ideas which we at present pos regarding the soluble ferments of milk, have t a long time to come to light. While the first on the digestive ferments of the human alimen canal dates back some fifty years, only five years h elapsed since any serious attention has been g to those of milk. After having discovered pty in the saliva, pepsin in the gastric juice, and tryptic ferments in that of the pancreas, sci rested. Bacteriology acquired a tremendous petus from the ideas of Pasteur; a keen interest aroused that engrossed all thinking minds. B a return to the original ideas, bacteriology discovering the secretions of the microbes, bro these same thinkers back to the study of the se tions of the organic cells, and demonstrated that two are identical, and that there is no biolog difference between the constituent cells of organism, and those minute cellular individu the microbes.

Babcock and Russell of Wisconsin were, so as we can learn, the first to demonstrate the pres of soluble ferments in milk.

In the earlier days the various phenomena t take place in milk were explained as being so chemical—the reaction of one body on anot Then, in the time of Pasteur, the facts becam little better known, and all the transformation milk were ascribed to the action of bacteria. L and Freudenreich made known the consider part played by bacteria in the maturing of Ched and Emmenthaler cheeses.

Babcock and Russell, struck by the fact that the changes taking place in milk could not explained by the activity of bacteria alone, un took a long series of experiments in order to el date the apparent difficulty. They experimen partly with natural milk and partly with milk t had been worked by cheese-makers. To samp of fresh milk they added in some cases chlorofo in others ether, both of them substances wh arrest bacterial growth. They found that coagu tion of the milk set in within a few days witho any corresponding increase of acidity. In th experiments the anæsthetic would have prevent coagulation if that phenomenon were due entire to bacterial life.

Then, as Conn had announced that saprophyt possessed the power of secreting an enzyme anal gous to rennet, and capable of coagulating mil and as Duclaux, in a lenghty communication ha brought to light the important rôle played by th saprophytes in the phenomena of the maturing cheeses, Babcock and Russell determined to inve tigate the question as to whether the coagulatio

the milk in spite of the use of the anæsthetics d been caused by bacteria. They took every ecaution, surrounding themselves with every eguard in order to prevent the contamination of milk by saprophytes. The udder of the cow s carefully sterilized, the first milk was thrown ay, and then the balance was milked direct into ttles containing an excess of an antiseptic prep- tion. By this process the bacteria with spores ich produce the coagulating ferments were ex- ded, and if by chance any of them, coming from lactiferous ducts, reached the milk, they were mediately paralyzed. Under these conditions which ld eliminate all bacterial activity, the same nomena of coagulation and transformation of caseine took place as before, and in the same e. These experiments were repeated with all septics known to arrest microbial reproduction, as fluoride of sodium, salicylic acid, etc., and results were always the same. Moreover, in portion to the age of the various samples of sticized milk, these exhibited a gradual in- se in the percentage of albumoses, formed at expense of the caseine. For example, in milk ve days old, the proportion of the products of digestion was 30 per cent., while in the e milk, two hundred and forty days old, the portion was 63 per cent. Babcock and Russell arrived at the conclusion that besides the nized ferments, there are in milk other fer- ts which are inherent in the milk itself. In uing their investigations further, they found e ferments in the milk of all the mammifers they studied (ass, mare, goat, sheep, sow, falo, and woman). In the cow's milk it is par- ularly abundant and more easy to isolate.

To this ferment they gave the name of Galactase, classified it in the same family as Trypsin, the ncreatic enzyme.

This view of the matter was confirmed in the y same year. Bertrand and Bourquelot, with- knowing anything of the work of Babcock and ssell, demonstrated by other processes the ence in milk of oxidizing ferments. As long as 1881, Arnold had found that fresh cow's k became blue on contact with tincture of guaiac, that this reaction is no longer produced if the k is heated to a temperature of 80°C. In 1890 walesky established undeniably that the same tion takes place in milk when mixed with old pentine. But at that time this reaction was ributed to the presence of ozone. Later it was ognized that free ozone cannot exist in the sys- n, and Bertrand and Bourquelot demonstrated t the reaction of milk toward oxidizing agents due to the presence of a ferment. Of itself it is werless to oxidize oxidizable substances without assistance of an intermediary agent highly ygenated, such as the tincture of guaiacum, old pentine or oxygenated water. But, when these nts yield their oxygen to this ferment, the ter is able to hold it, and in consequence to idize any oxidizable substance with which it nes into contact. For example, if some drops tincture of guaiac are added to fresh milk, this es not change color. But if at the same time me drops of oxygenated water are poured into e milk, a blue color begins to show itself at once. he ferment has absorbed a portion of the oxygen, d coming into contact with the guaiac has idized the latter. Thus this ferment belongs the family of anaeroxydases. At this same time Dupouy, and in the following year (1898) W. Raudnitz, studied this oxydase and found that it is present in the milk of the goat, the cow, and the ewe, and that it is absent, or that its action is very weak in the milk of the ass, the mare, the dog, and in human milk. Marfan and Gillett have also studied this ferment, and confirm its presence in the milk of the cow.

In 1901 Spolverini took up this line of research and recognized in cow's milk the presence of pepsin and trypsin. Working on milk aseptically treated, and in which perfect asepsis was maintained by thymol, he placed in a drying-stove, at 104° F., various quantities of milk, some acidified for the research for pepsin, other alkalized for the research of trypsin. After a certain time he determined the quantity of soluble albumin in it by the biuret reaction. A boiled sample served as a means of verification. By proceeding in this manner, Spolverini found that the pepsin and trypsin were to be met with in all the milks, but were most abundant in cow's milk. The proportion diminishes in the milk of the dog, the goat, human milk, and that of the ass.

Besides these ferments, of which we have already spoken, still another is to be found, which Spolverini identifies with the glycolytic ferment of the blood. If the sugar contained in a given quantity of fresh milk is determined, and the latter is placed in a drying-stove at a temperature of from 38° to 41°C., and the quantity of sugar is again determined after a lapse of twenty-four hours, it will be found that the quantity of sugar has considerably diminished. A portion has been destroyed. This is by the action of a glycolytic ferment. This ferment shows itself fairly active in cow's milk, but slightly less so in other milks. Moreover, in 1901 Luzzati, Biolchini, and Marfan, and in 1902 Gillet, as well as Spolverini, separated still another ferment that belongs to the family of hydrolytic ferments. Under the influence of this ferment monobutyrin resolves itself into butyric acid and glycerin. These authors operated by distilling a mixture of milk and monobutyrin, and in then determining the acidity of the distilled products. They encountered this reaction of splitting up monobutyrin in the milks of the woman, dog, cow, goat, and ass, stronger in the former, and less energetic in the latter. They have agreed upon giving this ferment the name of lipase, a name which Bourquelot had given to a ferment of the same nature, which Hanriot was the first to discover in the blood.

Summing up the various researches and discoveries made in connection with cow's milk, we find then, that this milk contains numerous ferments. We have determined definitely the presence of trypsin and of pepsin, of the lipasic and oxidizing ferments, and of a glycolytic ferment. There is, moreover, reason to expect further discoveries in this direction, and this is not improbable when the extremely complex nature of milk is taken into consideration.

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SOME OPERATIVE METHODS FOR THE FIXATION OF MOVABLE KIDNEY AND THEIR RESULT.*

By ALEX. B. JOHNSON, M.D.,
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Your chairman has honored me by an invitation to present to the society a review of some of the methods used by surgeons for the fixation of movable kidney.

I shall limit myself to a consideration of the principles involved in these operations, to a brief description of some of the commoner variations in technique employed, and to the advantages of some of these variations from a theoretical, and, as far as may be, from a practical point of view. The indications for operations in these cases I shall not discuss. The primary object of operations for the relief of the movable kidney is to permanently fix the organ in such a position that the kidney may continue to perform its functions without the occurrence of mechanical obstruction to its own blood circulation without the occurrence of ureteral obstruction due to bends, kinks, or twists.

And, furthermore, without interfering by pressure or by traction, direct or indirect with the blood circulation of the ascending colon, or with the patency of the duodenum.

If the kidney be fixed in the loin at a convenient point, even though the upper pole be no higher than the last rib, with the inner border of the kidney directed inward toward the median line, or inward and a little downward, so that a sharp bend in the ureter will be less likely to occur, the indications appear in most instances to be accomplished.

It does not appear to be necessary to restore the kidney to its anatomical position in order to relieve the symptoms.

To meet these ends a large number of operative procedures have been devised.

The excursions of a movable kidney may occur within a loosely fitting fatty capsule, or the fatty capsule may remain firmly enough attached to the kidney, while fatty capsule and kidney together may be movable, or a combination of these two kinds of mobility may exist.

All the operations devised consist in exposing the kidney in the loin, with one or two exceptions, by an incision which does not invade the peritoneal cavity.

The incision may be vertical, extending from the neighborhood of the last rib downward to near the crest of the ilium along the border of the erector spinæ muscle, there or thereabouts. The position of the incision is sometimes described as extending along a line four fingers breadth distant from the spines of the lumbar vertebræ.

Other surgeons have preferred an incision extending obliquely downward and forward, beginning above, just below the last rib, and of varying degrees of obliquity, according to the choice of the individual operator, a variable distance, according to the needs of the particular case.

The general direction chosen for this oblique incision has been toward the middle of Poupart's ligament.

*Read before the New York County Medical Association.

Some surgeons have advocated an incision parall to the direction of the fibers of the external obliq muscle, and have exposed the kidney by blu separation of the several muscular layers encou tered; in other words, the kidney is exposed by method similar to McBurney's intermuscular i cision for appendicitis. The kidney may also exposed by a cut below and parallel to the fr border of the ribs.

This incision has been used by surgeons in so cases in order thereafter to resect the twelfth and to suture the kidney to the tissues of eleventh intercostal space, thereby fixing it in position as nearly like the anatomical situati of the kidney as possible. After exposure in wound, the kidney is fastened to the adjacent str tures by one of many procedures. The origi operation of Hahn consisted in dragging the kid enclosed in its fatty capsule well into the wound suturing the divided edges of the fatty capsule the muscular and fascial layers. The wound then closed.

The proportion of failures following this operat led to the development of a large number of spe methods of technique.

They all depend for their success upon the for tion of firm organic adhesions between the kid and the surrounding structures.

While these adhesions are forming it is neces that the kidney should be held firmly in place f number of days.

This may be accomplished by holding the kid in position by gauze packing without sutures, fixation of the kidney depending entirely upon production of granulation tissue, upon the face of the kidney and of the surrounding tissue

The operations of Senn, Jabaulay, and B afford good illustrations of this method.

Senn, after exposure of the kidney throug vertical incision, divided and removed the f capsule. He then scarified the fibrous cap freely with cambric needles. He passed underne the upper extremity of the kidney a strip of ga twelve inches long and two inches wide, placi gauze pad over the exposed portion of the kid and carrying a sling of gauze around the kid fastened it in position over the gauze pad. He troduced two sutures into the upper angle of wound, leaving them untied.

He then packed around and beneath the kid abundant gauze, and placed and bound into pos over the right hypochondrium a pad of suffi dimensions to reinforce the gauze supports.

The secondary sutures were tied upon the t day. The packing beneath the kidney was rem in six days. The gauze sling was removed in el days.

The external wound was then strapped with st of adhesive plaster carried around the body. patient was kept in the recumbent position u the adhesions were firmly organized.

The advantages of this method, as alleged by author, are: (1) An extrarenal support of kidney is obtained. (2) This support is formed union of the fibrous capsule of the kidney with pararenal connective tissue, hence no interfere with the kidney itself. (3) The gauze sling dr the lower pole of the kidney in an outward directio placing the axis of the kidney at an oblique ang with the spine. This position secures support fro the parietal wall at the lower angle of the wou and favors correction of flexion of the ureter.

Another similar operation is that of Beaver. H removes the fatty capsule entirely from the posteri

ace, and as far as the hilum on the anterior ace. He passes gauze beneath the upper pole e kidney, and below the lower, allowing it to in in place for a week or ten days. Gauze is ed around the kidney and the hypogastric ress is employed as in Senn's operation. Heal- f the wound takes place in from four to five s.

is certain that the fixation of kidneys operated by either of these two methods is firm and anent.

another large class of operative procedures the y is sutured to the deeper portion of the d: (*a*) The sutures are made to pass through ibrous capsule of the kidney and the muscular s of the wound (Vulliet). (*b*) The sutures are d through the parenchyma of the kidney ut stripping the capsule (Albarran, Henry is). (*c*) The capsule of the kidney is split, cted off the surface of the parenchyma, and es are passed through the fibrous capsule and uscular borders of the wound, and the wound sed by sutures. (*d*) The fibrous capsule is and stripped and sutures are passed through it, through the parenchyma of the organ, includ- he wound edges, and the wound is closed by es (Tuffier). (*e*) The fibrous capsule is split stripped from the surface of the kidney; its s are sutured to the edges of the wound, and e packing is introduced down to the exposed ce of the renal parenchyma; the upper and r angles of the wound are closed by suture, the central portion of the wound is kept open epeated packing, so that a firm mass of scar e is formed between the kidney on the one hand the abdominal wall on the other. The quan- of packing introduced into the wound is gradu- diminished, and the wound is allowed to in from four to six weeks (Riedel-Kocher).

considerable number of special methods have devised which will receive brief mention. thnot Lane practises a modification of this od. He creates by incisions through the us capsule ten small triangles, the bases of which spond to the surface of the kidney. These gles of fibrous capsule are stripped from the nchyma of the organ, leaving their bases at- ed. The triangles are then twisted and at- ed by means of sutures to the transversalis cles and superjacent structures.

erations which include stripping of the cap- suture of the reflected flaps of fibrous capsule he muscular and aponeurotic structures, and re of the wound by suture, are those of Newman, bson, Law, and Edebohls.

assini, in 1882, fastened the kidney by sutures ed through both the fibrous and fatty capsules. me of the sutures were attached to the peri- um, covering the eleventh rib.

ccherelli, in 1884, introduced four catgut res through the cortex of the kidney.

ne or more of these sutures was tied around the fth rib.

aoli and Buret excised a portion of the twelfth and sutured the proper capsule of the kidney e surrounding parts.

uret added a suture to the twelfth rib.

ulliet of Geneva used a method of fixing the ey which he published in the *Revue Medicale Suisse Romande*, June 20, 1895. After expos- and freeing the kidney in the usual manner, a rate short and vertical incision is made parallel h the spinous process of the first lumbar vertabræ, osing the tendon of the erector spinæ muscle. tape-like slip of the tendon, ten inches long and a quarter of an inch wide, is detached and pulled out through this wound, but is still left attached by its lower end to the muscle.

This tendinous slip is used as a suture and is passed by means of a long straight blunt needle in a handle and with a large eye in its extremity through the muscular tissue intervening between the one wound and the other down to the capsule of the kidney, and having been made to underrun the fibrous capsule of the kidney upon its posterior surface and near the external border, it is then passed back again and fixed to the erector spinæ muscle by means of a suture of fine silk (Carl Beck).

This operation has been used by Henry Morris, and he has also modified it in the following manner: "If too short a length of tendon tears out I have split the width of the tendon and passed each portion separately through the intervening muscle mass down to the kidney. Having underrun the kidney capsule with one length of the tendon, the two lengths of tendon are tightly tied together. The kidney is thus slung into close contact with the lumbar fascia."

Among the numerous methods of special technique is that of Albarran. He attaches great importance to the separation and removal of the fatty tissue which covers the posterior surface of the kidney, with the view that the kidney, denuded of all tissue except its fibrous capsule, should be applied directly upon the anterior surface of the quadratus lumborum muscle. The fatty tissue is removed with the fingers.

When the surface of the kidney has been exposed, three sutures of thick catgut are passed through the kidney by means of a large curved needle. Each suture is passed through the kidney from before backward and includes a liberal portion of kidney tissue.

One suture is passed opposite the middle of the external border of the organ. Of the other two, one is passed above and the other below this point. The sutures are each double, and at the point of entrance and exit of each double thread a double knot is made. When the kidney is drawn up into good position the upper suture is tied around the twelfth rib. The middle suture is made to include both muscular walls on either side of the wound. Likewise the third suture.

It is believed by the originator of this method that the series of double knots prevent the tension exerted upon the ends of the sutures from cutting through the kidney tissue. The tension is supposed to come not upon the kidney tissue but upon the knots. The wound is closed by sutures. The patient is kept in bed for three weeks. The operation of Henry Morris may be described briefly as follows: After exposing the kidney by an oblique lumbar incision a considerable portion of the fatty capsule is removed. Three sutures are then passed deeply into the posterior surface of the kidney—one near the upper—the other near the lower end, and the third midway between the other two but nearer the hilum. Each suture is buried for a length of three-quarters of an inch within the renal substance and penetrates about half an inch into the thickness of the organ. The upper suture passes through the upper edge of the fatty capsule, the transversalis fascia, and the deep layer muscles, and is tied to them. The lower suture is similarly passed through and tied to the lower edges of the same cut structures, and the middle suture is passed through both edges of the wound, including the fascia and the muscles. The remainder of the wound is closed by sutures. The patient is kept in bed from four to five weeks.

Morris reports fifty-seven cases with fifty-seven cures.

The Method of Bazy.—Since 1885 Bazy has practised a method for the fixation of movable kidney which he calls "Nephropexia-en-hamac."

After exposing the kidney by a lumbar incision three catgut sutures are then passed transversely under the fibrous capsule of the kidney at a distance of three-quarters of an inch from one another. The first suture is passed at the middle of the external border of the kidney; the third close to its lower pole, and the second midway between the two. The ends of the first suture are passed at a distance of one inch from one another through the eleventh intercostal space. The ends of the other sutures are drawn through the muscles, close under the twelfth rib, and tied. Thus the kidney is made to lie well up against the ribs. The cellulo-adipose tissue is puckered up by a series of stitches under the kidney and held there by a catgut suture passed through the tissue from outside the muscles below the last rib and tied. Thus the kidney below is supported by a kind of a hammock of fat. On account of the development of scar tissue which follows the introduction of sutures through the substance of the kidney, many surgeons prefer an operation, in which, as in Senn's method, the kidney is fixed in its position temporarily by strands of gauze and gauze packing, and permanently by the formation of cicatrical tissue between the fibrous capsule of the kidney and the surrounding structures. Many of the operations in which the fibrous capsule of the kidney is split and lifted off the surface of the organ, either in the form of two lateral flaps, or in a number of small flaps, or in one large flap, which is drawn through a slit in a neighboring muscle and there fixed by sutures, have been devised with the intention of causing cicatricial union between the bared kidney parenchyma and the surrounding structures without causing any wound of the kidney itself.

As already stated, some of these operations involve immediate suture of the wound. In more than one instance I have had the opportunity to examine kidneys *in situ* which had previously been operated upon in one of these ways involving decortication.

They were very firmly fixed by scar tissue, so firmly that the kidney could not have been torn loose without leaving a considerable portion of the organ behind. I have also had the opportunity to inspect two kidneys operated upon by the method of Riedel, viz., that method, very popular in this country, whereby the fibrous capsule is incised along the convex border of the kidney separated for a moderate distance on either side of the incision from the parenchyma and sutured to the muscular structures on either side of the wound. A somewhat funnel-shaped cavity is thus produced with a surface of naked kidney at the bottom, perhaps two and a half inches long and one and a half inches wide. Upon this surface sterile gauze packing is introduced, the upper and lower angles of the wound are closed by sutures, and the center of the wound, for a distance of at least two inches, is kept open by packing, and thus a considerable mass of cicatrical tissue is formed, fixing the kidney permanently in position.

The patient is kept in bed from four to six weeks. The wound is usually allowed to heal in from three to four, and in the practice of some surgeons not until the end of five weeks. In these two cases also the kidney has been found very firmly fixed in its new position. An observation of about twenty cases operated upon in this way leads me to believe that as far as the fixation of the kidney goes, and freedom from risk in the operation itself, this method leaves little to be desired.

About one-half of these twenty cases have been seen after a considerable interval. In none of them could mobility of the kidney be detected.

Under the safeguards of good surgical technique there should be no mortality as the result of operations for the fixation of movable kidney. That in very large number of operations a solitary fatal result may be expected, as one of the occurrences likely to follow any operative procedure, accompanied by the use of a general anæsthetic, goes without saying.

To select one method of operation as superior to any other is impossible. It is probable that nearly all the methods at present in vogue result in the majority of instances, in a sufficiently firm fixation of the kidney.

Many surgeons believe that sutures passed through the parenchyma of the organ furnish a larger proportion of successes than do other methods of procedure. Among those who entertain this view are Tillmanns, Hahn, Langenbuch, Vaunefville, Tuffier, Frank, Keen, Angerer, Henry Morris, and others. According to the statistics of Keen, of fifty-six cases in which the sutures were passed through the substance of the kidney, thirty-nine were cured.

According to Frank, of thirty-nine cases twenty-one were cured. According to Albaran, who collected statistics in regard to 374 cases, the method in which the sutures were passed through the substance of the kidney were attended by 78 per cent. of cures. Küster, who fixed the lower pole of the kidney to the twelfth rib by means of silver wire, reported permanent and complete cures in 64 per cent. of sixty cases. Kocher's method in nineteen cases reported by Zbuider. Thirteen cases were examined; in all the kidney was fixed. In the fixation of the kidney suture material of the most varied character has been used.

Personally, I believe that sterile catgut offers advantages not possessed by silk or other non-absorbable material. In estimating the value of any particular method of procedure, it is well to bear in mind that the success of an operation, as far as mechanical fixation of the kidney is concerned, is not always identical with a cure of all the symptoms. It is more than probable that many patients whose kidneys have been movable, and who have suffered from symptoms such as are often caused or accompanied by movable kidney, have been operated upon without benefit as far as the symptoms are concerned, and yet their kidneys have been very firmly fixed as the result of the operation. Several such cases have come under my notice.

It is also probable that many patients presenting movable kidneys, and who have suffered from neurasthenic and other symptoms, have been benefited by what I suppose it is fair to designate as the influence of the operation *per se*, irrespective of the question of whether the kidney was firmly fixed or not.

12 East Fifty-eighth Street.

The Alleged Curability of Cancer.—The strong and pessimistic opinion of C. F. Marshall is based on the embryonic theory of cancer. He thinks that parasites take little part in this disease. Mr. Butten and Sir James Paget are quoted in support of the heredity of cancer. Jansen's success in transplanting cancer is not beyond question. On account of the nature of the case, if the embryonic theory is correct, cure of cancer is out of the question, for the embryonic rudiment cannot be gotten rid of. The best treatment is early and thorough operation. The *x*-rays have not been used long enough to determine the amount of recurrence following the treatment. Coley's mixed toxins have apparently caused disappearance of inoperable sarcomata. "I should not expect any better results than might be obtained by dynamite!" This is the author's opinion of radium.—*Treatment.*

STHENOPIA AND HEADACHE FROM EYE-STRAIN.*

By JAMES R. NELSON, M.D.,
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om the time of Paracelsus and Hippocrates to the sent, headaches have been the opprobium of the fession. And suffering humanity still comes efully to the druggist, who goes merrily round his nter to place in their hands the headache-powder aranteed to cure in a few minutes. Or the more ve and dignified doctor prescribes for them some l-tar product, caffeine, *et id genus omne*, with estion of return for another visit in the future, ch does not augur well for a permanent cure. forbears in medicine gave to their patients with dache an emetic or calomel for supposed bilious- , or a venesection or leeches for alleged cerebral estion, thinking that they had got at the causa- factor. We have advanced somewhat to the heroic guarana and other medicinal plants, with bromides and the synthetic analgesics to the end e chapter. But this will not satisfy our patients, demand not simply a few hours relief, but entire nce of the pain which too often makes life not h the living.

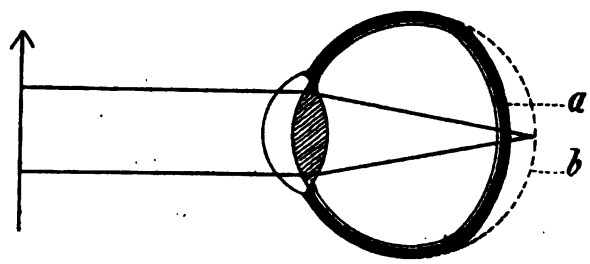
think that the consensus of opinion among ntific medical men of to-day would divide the es of headache, not traumatic or due to cerebral se, broadly into two classes, viz., toxæmic reflex. The toxæmic headaches include, of se, those due to toxic agents introduced from out, such as tea, coffee, tobacco, alcohol, lead, s, etc., as well as those that have their origin in the body—as the headaches of Bright's and gastrointestinal disorders producing toxins. In class of reflex agents, no doubt eye-strain stands mount as a causative factor, not only directly indirectly; through its effect on the nerve cen- , lowering nervous energy, it invites a toxæmic dition, especially that originating in the digestive t, by inhibiting the action of those bacteria ing for us and working constantly in the pro- ion of the antitoxins. For undoubtedly nature ly protects us in this manner from disease. If eyes could be opened like the prophet Elisha to these invisible agents, then would we exclaim him, "they that be with us are more than they be with them."

We get an idea of the progress of medicine if we back only fifteen years and see what was said t eye-strain at that period as a cause of head- e. Take the first edition of Wood's "Reference dbook of the Medical Sciences," and the only rence in the index to eye-strain is in its connec- with the causation of myopia. Let us glance an article on headache in that work, which was to date at that time, by a professor of a Chicago dical school. It is well written, and states many ths as forcibly as they could be stated to-day, and claim any attempt to disparage the brochure. to-day we should explain things differently, our genesis would be on different lines. We should not k so much about idiosyncrasy, and heredity, and peptic headache, and nervous headache in school ildren, etc. There is not one reference to hyper- tropia or the different forms of refractive error oducing asthenopia, or the use of glasses for the e of headache. It is true he mentions "astig- atism," but evidently does not fully understand s import and significance. Let me quote a para-

*Read by request before the Ulster County Medical Society.

graph, showing how near and yet how far he came from realizing eye-strain and its relief by glasses: "A variation from the forms of nervous headache already referred to is that which is observed in school children and students. Many of these are emotionally nervous, dyspeptic, and debilitated, and constantly anxious about their studies. A proportion of them study and live in the stuffy atmosphere of illy-ventilated rooms, which adds to the difficulty. Some have disorders of the eyes that provoke pain on close study. The headache usually occurs each day of study, and is absent or much reduced on the days of recreation. The pain rarely begins with the beginning of the day, but comes on gradually after some hours of work, to disappear after rest and sleep." Those children and students now receive glasses, and are enabled to prosecute their studies with pleasure and not with pain, being relieved of their "emotionally nervous state."

What do we understand by "eye-strain?" It is a complex affair, but briefly I might say that it is a reflex disturbance of the nerve centers due to malformation, either congenital or acquired, of the visual apparatus, associated frequently with an imbalance of ocular muscles, and also hyperæsthetic or paretic conditions of the ocular end bulbs and their accessories. This may manifest itself in multitudinous ways. Locally, symptoms of eye-strain are shown by the red eyes with scales on the lids of children and youth, blepharo-conjunctivitis we term it, by styes, chalazia and pterygium, twitching of the lids, swelling and drooping of the lids, etc. And in the aged, cataracts no doubt often owe their origin to ill-fitting glasses and the resulting strain. The



a. Posterior wall of far-sighted eye, too short in antero-posterior diameter. *b*, Dotted line shows wall when acted upon by muscles of accommodation, giving perfect vision, the rays of light from the arrow coming to a focus on the retina.

watering eyes and weak eyes, the eyes intolerant of light indicate often that glasses are needed. Particularly is eye-strain manifest in any lowered condition of the system—after an illness or an injury, or in anæmic, rheumatic, or other blood dyscrasia. Physicians, I think, often make a grave mistake in allowing convalescents to read too much, especially while in bed, which should be avoided always.

We say pain is the crying out in emphatic protest of a functionally disturbed nerve, and asthenopia may cause neuralgia in nearly every part of the body, over the heart, in the neck, the back, the face, etc. The headache from eye-strain may be in any part of the head, most frequently, I think, frontal or supraorbital, and it may be of any degree of severity. We may have dizziness, impaired mental power, an erratic and irritable disposition, skin eruptions, gastric disturbances producing toxins and thus establishing a vicious circle which tends to perpetuate itself. The neuroses of eye-strain are legion, more marked perhaps in children as we see in choreiform movements and other manifestations. The irritable hypochondriacs, the queer people, the neurasthenics, the Carlyles, and other miserable people are the victims of eye-strain. A smile of incredulity may be caused by claiming eye-strain as the parent of so many of the reflex neuroses, even epilepsy as claimed by some. But the person who, after taking the whole

list of drugs, has been restored from an agony of pain or an irritably nervous state to a condition of general well-being by proper glasses or restoration of muscle balance, is sufficient answer to the carping critic.

Does perfect vision, that is $\frac{20}{20}$, indicate there is no eye-strain, and no need of glasses? Not at all. I will explain by a diagram how the patient *makes himself see* $\frac{20}{20}$ by using the muscles of accommodation sufficiently to overcome the real defect. Take the far-sighted eye as an example, which is too short in its antero-posterior diameter. If you take a rubber ball in your hand and make pressure upon its equator, it elongates at the point of the least resistance; just so the patient with the far-sighted eye, exercising his muscles of accommodation, elongates the eye and enables the focus to come upon the retina. Some may carry this handicap and for a long time feel no ill effects, but let such a person call on the eyes for extra work, as in bookkeeping, stenography, studying at late hours or in a poor light—especially German, Greek, or music. Then the handicap begins to tell. The amount of refractive error or muscular insufficiency does not always indicate the degree of eye-strain. Occupation, age, general condition of the system, and the personal equation are large factors in the case. Some cases are apparently paradoxical. For instance, Mr. S., age twenty-five, a Harvard graduate, came to me for an annoying nictitation of the lids. He had gone through his college course with no eye-strain, and had supported himself by his own efforts—teaching, tutoring, etc., this involving of course extra work for the visual organs. But a year or two after graduation, when he applied for a position as principal of an academy, the committee told him frankly they could not accept him, despite his attainments, on account of the constant winking of his eyes. This meant a loss of $1,500 a year, and you can imagine that he felt badly about it. I was able to remove the disability by cylindrical lenses. Now, why did not his eyes give out when in college? Another case similar to the one just cited, a young lady, age twenty-four, who had taken a college course, complained of dizziness. I found that she accepted a plus 1.50 spherical, which entirely relieved the vertigo. Now, why did she not require glasses during the years she was constantly studying? One patient with a large amount of error will have no eye-strain, while another equally robust and strong with a very slight error will be relieved of headaches by the proper correction.

These seeming paradoxes and contradictions can be explained by the oculist. And just here let me say it is the province of the oculist not only to make out the refractive error and give the proper glasses, but at the same time, as a physician, to remedy by proper treatment those morbid conditions disclosed by his examination. It may be a toxæmic or lithæmic state, or an interference with tissue metabolism, or a change in the blood-pressure, or any morbific tendency. If the case is sent by the family physician, refer the patient back for treatment with such suggestions as the case indicates.

To whom should the physician send his patients with eye-strain, to the oculist or the optician? In other words, who should fit glasses? The oculist has spent many years of his life to fit himself to graduate as a physician and surgeon, and after a few years of general practice has devoted more years in study and service in eye and ear hospitals to fit himself as a specialist on the eye. The optician takes a three weeks' course in a wholesale optical house on Maiden Lane and calls himself an "eyesight specialist." Does the physician send his ca of fracture to the manufacturer of splints? Does send cases of curvature of the spine to the instrum maker to have a plaster-of-Paris jacket applied to the orthopedic surgeon? Does he send patient with lung trouble whom he desires help with the best skill attainable to an "expecto tion specialist," or one with heart disease to the "palpitation specialist"? Is this absurd? No m so than sending patients requiring glasses to optician, be he "R.O." or "eyesight specialis Valuable time is often lost in the detection treatment of disease, as every oculist well kn who has found his patients sent to him for eye amination suffering from what was not even pected, viz., Bright's disease, glaucoma, diabe cerebral disease, or one of the long list of le ailments.

In the textbooks used by the so-called "opt schools," I see much space is given to the diagn of glaucoma. They are laymen; is it expecte these "eyesight specialists" that they pra medicine? Many of them gravely give opinion as to the crystalline lens, the optic nerve, and I presume prescribe for their "patients," in grateful recognition call them "doctor." I this from the fact that while in the store of a w sale optician, he, not knowing me personally oculist, tried to sell me medicine put up for eye, supposing that I was an optician. The fi of glasses is a branch of the practice of medi and to perform it properly not only involv knowledge of lenses and optics, but of the disea the eye, and in fact of all the ills that flesh is he in this complex and intercorrelated human b where each organ sympathizes with and is depen on the other—a knowledge gained only by long y of study and experience in the science and pra of medicine.

DILATATION OF THE BLADDER IN SUP PUBIC CYSTOTOMY.

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THE modern tendency in surgery to perfect t nique under the guidance of asepsis has bro about remarkable changes in the surgery of bladder. It is only a few years since the method of Franco was revived, because of the which the opening of the peritoneum in suprap cystotomy had always inspired, and we see to surgeons of prominence in this country and ab giving up the only method which safeguards integrity of the peritoneum—the dilatation of bladder. Is this a simplification or the omi of an essential of the operation?

Let us consider, first, the reasons for this cha It has been claimed: (*a*) That the method of liga the penis on the catheter might endanger the pora cavernosa; (*b*) that an injection may cau congestive state of the bladder; (*c*) that the pres of the liquid in the bladder might cause the orga burst; (*d*) that the ascension of the peritoneal de-sac does not always occur in proportion to bladder inflation; (*e*) finally, that there are case which the distention cannot be practised, viz., operation on the female; fistulous bladder; fract of the urethra and bladder by trauma; stone i pacted in the prostatic urethra.

Laying aside the objection of the danger to penis, concerning which no cases are registered my knowledge, and the objection of possible co

estion of the bladder, for which I could find no irect cause with a proper injection, I will direct y attention to the bursting of the bladder, this nergency having occurred to such a skilful surgeon Guyon.

The capacity of the bladder has been the object the researches of a good many anatomists, who ve obtained the most discordant results, the ures ranging from 200 (Krause) to 3000 cc. aulet). Bouley states that the bladder bursts der an injection of from 850 to 1700 c.c. In actice, however, these anatomical researches have tle or no value, since the reflex contraction of the dder, and not the distention is the cause of the rsting. Therefore, Delbet, in his experiments, asured what Guyon calls the "physiological capay of the bladder," that is, the quantity of liquid be injected in order to produce an impelling desire pass urine. His results give an average of 350 c.c. es in which the bladder did burst under a smaller ount of liquid are very few, and in all of them, the one related by Guyon, an undue pressure applied. Concluding, we may say that an ction of from 200 to 250 c.c. of liquid, *under com- anæsthesia*, is harmless. If, however, we pre- sly measure the bladder capacity of a subject, may feel sure that the amount measured cannot e the bladder to burst under anæsthesia, pro- d muscular relaxation be complete.

ut what is, in practice, the quantity of liquid ired in order to have the peritoneal cul-de-sac iciently raised above the pubis to permit an easy neuver? The researches of the anatomists on point give also the most discordant results. ording to the opinion least favorable for the sur- n, the cul-de-sac rises 1 cm. above the pubis der an injection of 200 c.c., while with an empty dder it remains as far down as 2 cm. below the bis. These anatomical experiments evidence the vantages of the injection; the figures show that se advantages may still be obtained through an ection below the limit stated. It is obvious that, th an empty bladder, to get at the peritoneal fat dden behind the pubis and to detach at that depth e cul-de-sac and push it upward in order to lay e the anterior surface of the bladder, must be a y difficult task. Tissues in a state of distention be much more easily attacked than tissues in axation. Work under these conditions would n voluntarily increasing the difficulty of the ration, while in a spasmodically contracted bladd- an injection of only 50 c.c. would be of great help ing the operation. Finally, all anatomical ex- iments lack the one condition of greatest impor- nce, viz., the normal vital elasticity of the bladder. As is well known, this organ when empty, is flat d triangular in shape. This condition varies but tle, if at all, with a moderate injection on the daver, while the same amount of liquid injected a living subject causes the bladder to assume an oidal shape more or less, according to the sensi- eness of the bladder. After an injection of 150 c.c. liquid in a young subject with thin abdominal alls, we can feel the bladder plainly above the bis, while we cannot feel it as well on the cadaver. here is, then, a fact in the living subject not de- rminable on the dead body which favors the cension of the bladder, and it is this physiological ct, not the injection itself, that causes the peri- neal cul-de-sac to rise above the pubis. This fact annot be determined on the dead body. There- re, even in cases in which the injection meets with reat resistance through exaggerated reflex contrac- ion, I should still think it advisable to inject a small amount of liquid, since a higher elevation of the cul-de-sac would follow than in an ordinary bladder after the same injection.

We have now to consider those few cases in which the injection cannot be carried out, at least to the full extent; and finally those cases in which the catheter cannot be inserted for pathological causes inherent to the urethra itself, or because of stone—impacted in the prostatic urethra. In this last case median perineal lithotomy is the easiest and most appropriate operation. In cases of difficult catheterization, the bladder is generally in a state of distention, which favors the operation. In the other cases (operation on female, fistulous bladder, and bladder torn by trauma), I would emphatically recommend the ingenious instrument of Dr. Vetere of Naples, which was presented at the Eleventh International Medical Congress of Rome, 1900, and which seems to have given the most satisfactory results. It is a catheter carrying at its vesical extremity a collapsible balloon which can be hidden in the shaft and inflated after the catheter has been inserted. The maneuver is very simple, and it has also the advantage of preventing the effusion of liquid in the suprapubic wound when the bladder is opened.

In conclusion, I feel safe in asserting that (1) A careful injection is of no danger to the bladder. (2) A limited dilatation of the bladder is preferable to none. (3) Anatomical researches in regard to the ascent of the peritoneal fold are of little or no value for the surgeon, and in practice we find more working space than by these researches we should suppose. (4) There are practically no cases in which suprapubic cystotomy is indicated, in which dilatation of the bladder cannot be carried out.

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GASTROENTEROSTOMY FOR CARCINOMA OF THE STOMACH.

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James B., admitted August 1, 1902, aged forty-three years, nativity England. Family history: Father living, in good health; mother died at age of eighty; no hereditary tendency to disease.

Personal history: Has never had any venereal disease. Has had several attacks of malarial fever, was in this hospital for two and one-half months the first part of this year suffering from a grave form of anæmia, as indicated by the blood count and estimation of hæmoglobin. At present his skin has a sallow, dirty, yellowish color, and seems too large for his frame. He is much emaciated, and being a very tall man, one is at once impressed with this fact. The most urgent symptom of which the man complains is great weakness, he does not feel as if he could stand or walk. The mucous membranes are pale and flabby, and the hair and nails long. The bowels are constipated; he vomits his food occasionally, but has never vomited any blood. He says that he has no pain at all, only an intense weakness. The spleen and liver are slightly enlarged, the other organs appear to be normal. There is no tenderness over the stomach. He suffers greatly from ulceration of rectum and piles. There is no rise of temperature (37.2), the pulse is 80. The patient was given a calomel purge and put on a tonic of strychnine, arsenic, and iron.

August 5. The man vomits occasionally, but on the whole seems to be gaining ground and is able to be out. The stomach is somewhat dilated.

August 29. There is a sensation of fulness and pressure in the epigastrium, with at times a dull pain. The patient has been getting easily digested

and nutritious food, but, in spite of this, vomits about an hour after each meal. Bodily weight and strength are somewhat diminished. Test-breakfast shows very little hydrochloric acid. For several days the stomach has been washed out and this has seemed to give some relief. The symptoms point strongly to carcinoma of pylorus. There is no blood nor coffee-ground matter in the vomited matter. There is a lump or tumor just above and to the left of the umbilicus, pressure on this causes some pain, it is movable, irregular, and hard.

Operation: A straight incision was made directly over the tumor. Direct inspection and palpation of the tumor revealed a hard nodular mass occupying the whole of pyloric end of stomach. The intention was to do a pylorectomy, but the extent of the disease and the condition of the patient contra-indicated this procedure. Gastroenterostomy was decided upon as most feasible. A small opening was made in the posterior wall of the stomach; through this opening the index-finger was introduced, and an attempt was made to dilate the pyloric opening, but this was found to be impossible without the use of undue force. By starting at the pylorus and following along the intestine, there was no trouble in selecting the point in the jejunum at which it was desired to make the anastomosis. This saved time, and every minute of time saved in operating on the stomach gives the patient a better chance of recovery. A portion of the intestine (jejunum), about twenty inches below the pylorus, was selected, an incision about half an inch in length was made in it and one-half of a Murphy button was slipped in and held with forceps while a purse-string suture surrounded it; the other half of the button was then fixed in the gastric incision in a similar manner and the two halves of the button were snapped together. Lembert sutures were used to approximate the serous surfaces entirely around the button, and the operation was complete. Silk sutures used throughout. The idea of using as short a piece of gut as possible below the pylorus (having a due regard to getting far enough from the diseased area) was to prevent the formation of the "vicious circle." The patient reacted well.

The stitches in the abdominal wound were removed September 11. On the following day the patient sat up and walked across the room twice. On September 20 he ate solid food. Patient did not vomit at any time after the operation; his appetite was good, and he slept well. No appearance of Murphy button.

October 1. No button yet. *X*-ray shows dark spot in stomach—probably button. Eats steak, etc.

October 11. Patient has attack of acute intestinal indigestion, abdomen swollen and tympanitic, some pain. The scrotum was swollen and discolored and slightly painful. A high injection of asafœtida was given, and the bowels moved twice.

October 12. Somewhat improved this morning, tympanites is disappearing. No reason is apparent why the scrotum should have become very much swollen, tender and discolored, unless the patient injured himself, but he says not.

October 13. Tympanites is still present, but a rectal injection of quinine and aromatic sulphuric acid restored tone to the bowel and relieved the tympanites.

The patient lived for three months in comparative comfort from time of operation, and never vomited once after operation, although he had vomited after each meal before. The vicious circle was not established, much to our gratification.

The man died November 30. The Murphy button was found in the stomach. The pyloric opening was almost completely closed. The mesenteric glands were enlarged. There were no metastases.

PRIMARY PYELITIS IN INFANTS.

By MARCELL HARTWIG, M.D.,
BUFFALO, N. Y.

THOUGH there may be possibly some mention of this disease in the literature, I am not cognizant of such fact. Post-mortem, two cases were found to my knowledge (Wendt and Northrup). Primary nephritis has been described by Holt and Jacobi but of this I do not speak. I cannot devote the time for extensive searching of the literature, but having been a pretty steady reader for thirty years it strikes me very peculiarly that I have never come across a statement regarding the occurrence of this affection, although my impression is that it is not so very rare. It is possible, however, that I have overlooked cases in bygone years. Since I recognized the first case two years ago I have seen two more.

Evidently the failure to recognize the disease (which was not known to Ewald when he honored us in Buffalo with a lecture some six months ago) depends on the fact that nothing but a careful urinary examination reveals it, while its general impression is that of typhoid fever. Nothing seems indicative of urinary trouble, and so the urine, difficult to obtain in babies anyway, is not demanded for examination. A superficial examination may even fail, as the amount of albumin is very small (in girls it might be considered of vaginal origin) and the turbidity is insignificant. Only the failure to come to a diagnosis after a negative Widal test prompted me to examine the urine more carefully in the first case. This patient was a boy, the next two were girls. The first and the third children were practically breast-fed, the second patient, who was somewhat older, was only partially breast-fed. The urine in each case had microscopically all the characteristics of pyelitis, swarming with bacteria when entirely fresh. I regret that I cannot state what kind are the real offenders; but Dr. T. J. Carpenter, who started the task of identification in the last case, had to give it up, and new material has not been available since. The colon bacillus and the fluorescens liquefaciens seemed to be present.

Not until Rovsing had shown that a kidney could be infected by an injection into an ear vein, could we understand the appearance of such a pyelitis. Now it remains to determine the point of invasion, and this is certainly a desideratum which will not be readily fulfilled, as all my cases but certainly cases one and three, were in especially healthy children of excellent stock, without anything extraordinary occurring at the onset in each. In each case I thought for the first few days that I was dealing with typhoid fever. The duration was about one month in each, until the recovery could be called perfect microscopically; while two weeks in two cases, and ten days in one, comprised the feverish periods. The fever was quite high in each case (up to 105° F.), and required antipyretic remedies. The recoveries I attribute to the use of antiseptics, turpentine, and urotropin, though nature might have possibly succeeded alone. Case two had, about six weeks after recovery, an abscess under the ear, whether as a sequel or not I cannot say. The others remained well without sequelæ. The temperature was generally highest in the evening.

In conclusion I would urge the profession in all doubtful cases of typhoid fever in infants to examine the urine for primary pyelitis, and they will probably frequently solve the conundrum of a "continued fever" in infants.

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LOOD CULTURES IN THE DIAGNOSIS OF TYPHOID FEVER.

HE isolation of typhoid bacilli from the blood of ose suffering from typhoid fever marked a new era the history of this disease. Attempts in this ection have yielded such a high percentage of itive results as to leave no doubt that this bacil- is present in the general blood circulation of all hoid-fever patients. Typhoid fever must there- be regarded as a septicæmia. This conception clusively negatives the value of attempts at intes- l antisepsis as a primary factor in the treatment he disease. We now know that if we are ever possess a specific typhoid treatment an agent t be forthcoming whose action shall be exerted nd through the general blood circulation. Shortly owing the first successful endeavors to isolate the illus from the blood great interest was manifest cerning the value of such a procedure from the ndpoint of diagnosis. Observations have now n sufficiently multiplied to warrant a definite ion with respect to this important matter. The s show that the bacillus can be isolated from the od much more frequently in the first and second ks of the disease than at a later period. In the t week the number of positive results has been h (from 70 to 90 per cent.). From this it is seen t the diagnostic value of this method applies fly to the first two weeks of the disease and is ely concentrated within the first week. In order btain a correct opinion of the practical value of od cultures in the early diagnosis of typhoid fever mber of circumstances must be given careful con- ration. Experienced clinicians will agree that ability to diagnose typhoid fever within the first k of the disease, leaving blood cultures out of sideration, stands at the present day approxi- tely as follows: At least 50 per cent. of all cases be diagnosed on or prior to the seventh day by aid of clinical history and symptoms alone. Of remaining 50 per cent. at least 45 per cent. can diagnosed within this period if in addition to the ical history and symptoms the Widal test, the l and differential leucocyte count, the isolation the typhoid bacillus from the fæces, and the diazo- ction are brought into play. This means that thout the aid of blood cultures and by utilizing all her known means at least 95 per cent. of all cases n be correctly diagnosed within the first week. om a consideration of the records of those cases ich have been carefully followed from the begin- ing it is certain that these figures are conservative ther than otherwise. An investigation of those not so diagnosed will show that in the vast majority one or another of the means mentioned were not employed. Granted that there are 5 per cent. of cases which could not be diagnosed within the first week without the aid of blood cultures, it is certain that practically all of this 5 per cent. could be positively diagnosed without such cultures before the end of the second week. For it must be remembered that in the second week the value of the Widal test, the leucocyte counts, and the isolation of typhoid bacilli from the fæces is tremendously increased. The case of typhoid fever should be very rare which cannot be diagnosed by other means than blood cultures prior to the end of the second week. This statement does not apply to the isolated use of any one test, but it applies in the careful use of all laboratory tests, excepting blood cultures, when the results of such tests are considered in connection with the clinical picture and history. So far then as the value of blood cultures in the early diagnosis of typhoid fever is concerned, it is limited to 5 per cent. of cases which could not be otherwise diagnosed in the first week, but in practically all of which the diagnosis could be reached without blood cultures before the end of the second week. Now the circumstances which surround the proper carrying out of blood cultures is such that in private practice at least they ought not to be resorted to except under dire distress and when all other means have failed. At least 5, and preferably 15 c.c. of blood must be taken from the patient. From his standpoint this is a procedure of considerable moment and ought not to be performed unless absolutely necessary. There is in reality only one class of cases in which such a necessity exists—those cases which are first seen in the first or second week and in which the diagnosis rests between typhoid fever and a condition which requires immediate operation and in which all other means have failed to give a positive diagnosis. Such cases are extremely rare, but in them blood cultures are not only justifiable but demanded and ought always to be resorted to. For the late diagnosis of typhoid fever blood cultures possess but little value both because the bacilli at that time can not nearly so frequently be obtained from the blood as at an earlier period and because in practically all cases the diagnosis can be made by other means.

It is thus seen that blood cultures as a means in the diagnosis of typhoid fever ought not to come into general use, especially in private practice, and that their actual utility is limited to a very small number of cases.

CONTAMINATED VACCINE VIRUS.

THE purity of vaccine virus is a matter of vital concern to every practitioner of medicine. The laity are inclined to hold the physician responsible for any untoward consequences which may follow a given vaccination. While this is not strictly just, it is, nevertheless, a condition which must be faced and intelligently met. Recognizing the necessity for care, most physicians are painstaking in the selection of the brand of virus which they use, and perform vaccination with as great aseptic precaution as pos sible. They are justified in demanding that the virus which they purchase be free from contamination. In this connection the observations of W. T. Howard, Jr. (*Journal of Medical Research*, January, 1904),

deserve careful thought at the hands of every practitioner. Howard examined, bacteriologically, from October, 1902, to May, 1903, the vaccine from five establishments in the United States. Some of this virus was bought upon the open market in sealed packages. Other specimens were submitted by the Health Department of Cleveland, Ohio. They were likewise samples of commercial vaccine. The samples consisted of both ivory points glycerinated tubes. The virus of all these establishments was contaminated with actinomyces, although every sample did not show such contamination. In all there were examined ninety-five specimens, twenty-four of which were thus infected. Those specimens which showed the greatest bacterial contamination also showed the largest number of actinomyces. The latter organisms which were isolated are to be separated into nine different species, six of which have apparently not been hitherto described. Their pathogenesis for man has not as yet been definitely determined. The source of this contamination is probably multiple. As actinomycosis of calves is uncommon, it is improbable that actinomyces reach the virus from actinomycotic processes in the calf. Calves from actinomycosis infected herds may, however, possess upon their hides these microorganisms, which, in this way, are brought to the vaccine establishments. Thus actinomyces may be transmitted in such an establishment from the vaccinal lesions of one calf to those of another. In this way all of the virus would become contaminated. The water, utensils, and instruments used in the preparation and storage of the virus are also possible sources of contamination. The most probable sources, however, are to be found in the air, water, soil, hay, and straw with which the calves come into contact.

The importance from the viewpoint of the practitioner which attaches to Dr. Howard's results lies not so much in the pathogenic or non-pathogenic properties for man possessed by the actinomyces isolated, as in the conditions which make such a contamination possible. It is obvious that conditions in a vaccine establishment which allow contamination with actinomyces and permit such an infected virus to be sold, also permit of contamination and sale of virus containing microorganisms highly pathogenic for the human being. It is to be regretted that the names of the establishments offering the contaminated virus are not made known in Dr. Howard's article, for the medical profession have a right to protect themselves against the use of such products. In this day and age no excuses can be forthcoming which can justify in any way the production and sale of contaminated vaccine virus.

SANITARY CONDITIONS AND THE DISEASES COMMON TO THE ISTHMUS OF PANAMA.

INCLUDED in the report of the Surgeon-General United States Navy for 1903 is a paper by Dr. Herbert O. Shiffert, Assistant-Surgeon U. S. N., dealing with the Isthmus of Panama from a hygienic standpoint. That the Isthmus of Panama and the country abutting thereon is unhealthy, is a fact too notorious to need further emphasis, but seeing that ere long Americans will most probably be working in this same country, all information procurable concerning its sanitary conditions and diseases must be regarded as most valuable. To be forewarned is, with the wise, to be forearmed, and when it is definitely known what diseases will have to be fought, and the nature of the sanitary conditions which must be met in and around the Isthmus of Panama, proper and effective steps can be taken to preserve the health of those engaged in the construction of the proposed canal. Dr. Shiffert states that the isthmus, or rather the country along the railroad, is in a fearful condition. For the first twelve miles along the railroad and proposed canal route the country is low and marshy, and affords an admirable breeding place for mosquitos, which are present in swarms, and among their number are a great many of the genus anopheles. The result is that malaria is endemic, particularly the pernicious type. The diseases common to Colon and the Isthmus are as follows, and occur with frequency in the order named: malaria; remittent, intermittent, and pernicious fevers; smallpox, yellow fever, catarrhal dysentery, leprosy, and elephantiasis.

Edwin Emerson, Jr., writing in the *Criterion*, December, 1903, draws this picture of the Isthmus and vicinity: "On the whole face of the globe there are few more wretched places than the narrow slip of marsh land and jungle known as the Isthmus of Panama. Unhealthy enough in itself from topographical causes, the Isthmus has long been a breeding ground for all the worst diseases that afflict mankind. Yellow fever, smallpox, malignant malaria, tuberculosis, with other loathsome diseases, are common, while every now and then there are sporadic outbursts of Asiatic cholera, leprosy, and the bubonic plague. This is due, in part, to the constant transit of passengers from the infected regions of South America and Asia, partly to the unhealthy conditions wrought by the excavations and draining along the line of the projected canal, and again to the physical degeneration of the mongrel population that has in years past been drawn to the Isthmus."

From interviews with Colon physicians Dr. Shiffert obtained the following facts with regard to the occurrence of yellow fever: It occurs in epidemic about once every three years, the epidemics varying in intensity. It never originates in Colon, but has been repeatedly traced to Panama, thence to Guayaquil, the principal port of Ecuador. It is regarded as particularly fatal, and the Colon physicians state they never saw a patient recover. Information however, with regard to yellow fever in and around Panama was very unsatisfactory, and the writer thinks that it is less frequent than is generally supposed, and further believes that the disease is often confounded with pernicious malaria.

Intestinal disorders seemed to be limited to what is known as epidemic diarrhœa, probably simple catarrhal dysentery. Leprosy seems to have gained quite a foothold in the country, and the American minister at Bogota told the writer that about 30,000 people are lepers and that no effort is made to isolate them.

The preventive measures suggested by Dr. Shiffert are, among others, these: The purchase of five miles of territory on either side of the proposed route, in order to have a sufficient area under the laws of the United States. The numerous small towns that now line the railroad would then have to abide by adequate sanitary laws, and the many ways by which the disease is now propagated would then cease to

exist. The author is of the opinion that such a scheme would not only protect the laborer who will dig the canal, but after its completion would afford protection to those in transit and so to the whole world.

The next great object would be to rid the country of mosquitos, either by draining the swamps and other infested places, or, if this could not be done, by killing their larvæ by the best means which experience in our own country and Cuba has taught us. The writer does not believe that the swamps can be satisfactorily drained until the canal is complete, for the reason that there is an enormous rainfall during the entire year, the only difference between the wet and dry seasons being, that in the latter it rains most of the time, while in the former it rains all the time. If it is found impossible to destroy the mosquitos, then measures of protection against their bites must be taken.

It would seem then that all who are acquainted with Panama are agreed that it is one of the worst pestspots on the face of the earth, and that unless energetic steps are taken by the United States Government to put into force measures to render the locality less deadly to human life, the holocaust during the making of the future canal will approach in magnitude that which marked and disgraced the partial carrying out of de Lesseps' project. As soon as the Panama route is decided upon—if ever—advice should be taken of sanitarians, engineers, and physicians as to the most efficient means of protecting the canal laborers from disease. Such advice should be acted upon before work is begun.

Smallpox Hospitals and Aërial Convection.

In a lawsuit recently brought in England against the city of Nottingham, for allowing a smallpox hospital to be situated within fifty feet of a public road, thereby constituting a menace to passers-by, numerous medical authorities gave evidence. The testimony was somewhat conflicting, although the weight of the evidence was in support of the contention that the existence of a smallpox hospital in proximity to a road is a source of danger.

Dr. J. C. Thresh, in the course of his examination as witness, said that in his opinion the zone of danger, with forty persons in a hospital, would on occasions extend beyond the radius of a quarter of a mile if the cases were acute, and if the weather and wind were favorable; if the wind were favorable a person working within a distance of half a mile might be infected.

Dr. A. K. Chalmers, Medical Officer of Health for Glasgow, said he considered that the infective influence was felt for a mile or a mile and a quarter.

Dr. Joseph Priestley, Medical Officer of Health for Lambeth, gave similar testimony.

Dr. J. C. McVail, one of the best known British authorities upon smallpox, declared himself to hold the view that smallpox hospitals were very dangerous in disseminating the infection of smallpox to the surrounding population; the degree of danger depending upon the number of acute cases, not on the convalescents. Smallpox hospitals should be separated from populous parts by wide intervals of open ground, and it was equally important that they should not be close to traffic routes. Assuming a hospital of forty beds, Dr. McVail considered that there was really serious danger to persons within a quarter of a mile and some danger beyond that distance. In his view the danger from a hospital was due partly to aërial connection and partly to personal intercourse. With regard to risk of persons passing upon the high road, he thought that the infection might be derived from material that had been related to the hospital at one time, and in the form of dust found its way on to the high road. The evidence against the view that the infection of smallpox can be conveyed a considerable distance by means of the air was not nearly so convincing as the testimony recorded above. However, the judge found that the case in support of the theory of the aërial convection of smallpox had not been proved.

That smallpox may be conveyed by the air, according to competent authorities, has been demonstrated upon many occasions. Of course the testimony as to this mode of conveyance is by no means unanimous, but sufficient has been adduced to render the question worthy of further careful investigation. Indeed the whole subject of aërial convection of disease requires far more attentive consideration than has at present been given to it.

Cancer and Malarial Fever.

Major G. H. Fink of the British Indian Medical Service (retired) has recently issued a monograph treating of the above subject. The writer considers the various theories of cancer; the histology of the normal connective tissues, their growth, development, vascular, nervous and lymphatic supplies and the statistics relating to the malady. With regard to most of the theories of cancer, these are so well known as to need no recapitulation, besides, space is too limited to discuss but a small portion of Mr. Fink's writings. One of the most interesting features in connection with cancer dealt with by him is that which traces a resemblance between cancer and malarial fever.

The stage of malarial fever in which the "plasmodium malaria" appears in persons residing in the Tropics predisposed to the disease, thinks Mr. Fink, might be said to be analogous to the "still" condition in unicellular plant life ("Palmaglœa macrococca"), and from this "still" condition that remarkable "motile" condition arises which is seen in the life history of another humble plant, the "protococcus pluvialis," which might be said to begin in the "still" form of cell which was supposed to betoken animal life. . . . As there is conjugation in the "still" forms of plant life, and binary subdivision in the "motile" forms, so we might presumably infer, that the same occurs in the development of parasitic diseases of a fungoid, protophytic, or the protozoal and mixed forms, which invade the blood, tissues and organs, under suitable conditions; it is these stages which are not yet recognizable accurately under the microscope, since so little is yet known of the sub-kingdom "protozoa" and the class "infusoria" as well as the "mycetozoa" or protomyxomycetes" of Cunningham, and the "hæmatozoa" of Lewis.

Arguing from the fact of the changes or stages in humble plant and animal life, and that there exists a strong analogy between the disease malaria and cancer, as well as the conditions of life in tropical and temperate climates, respectively, Mr. Fink is of the opinion the conclusion must be reached that age, sex, climate and season of year, exercise and sedentary habits, as well as alcohol and food, with other habits which predispose to chronic infectious diseases, clothing, temperature, air, water, woods, locality, race, geographical, and other conditions, all enter into the question of cancerous formations and development.

The writer believes that in considering the life-history of cancer, circumstances point strongly to an analogy with malaria—the one, a disease or growth, which is creating a high mortality in temperate regions of the globe among a people living under western standards of civilization, which defer acute changes, or rather chronic infectious diseases, which set up growths. These conditions are brought about largely by climate and habits, such as the omnivorous or carnivorous indulge in; and also through flaws and defects in sanitation and hygiene which favor slow parasitic changes in the presence of alcohol, or the alcoholic habit.

The connection between malarial fever and cancer, believed in by Mr. Fink, is by no means obvious. Indeed, far more potent arguments in support of his theory must be brought forward in order to convince investigators that such is the case. With regard to the consumption of meat and of alcohol as a means of developing cancer in those predisposed to the disease, there are some grounds for the view. Several well-known medical men have propounded this theory, and a certain amount of evidence has been adduced in its support. Nevertheless, proof to this effect is lacking, the evidence having been of a negative character.

The Diminishing Birth Rate of Great Britain and What Is Involved by It.

A most pessimistic article upon this subject appeared in the *British Medical Journal*, February 20, written by Mr. J. W. Taylor, F.R.C.S., Professor of Gynecology, Birmingham University. The relatively small increase of the birth rate in Great Britain within the past few years has excited some apprehension among the thinking men of that country. A decided fall in the number of children born has ever been regarded as a sign of a country's decadence. Past history has taught this lesson with unmistakable clearness.

Mr. Taylor's address was divided into four parts. In the first part the subject for the preceding twenty-five years was considered, and it was shown that during this period the United Kingdom had sustained more loss from diminished birth rate than any other country in a corresponding lapse of time. The marriage rate was found to be rising, so that the birth loss must be due to causes operating in the married life of the population. The value of the population was found to be less than twenty years ago, and juvenile criminality, mental disease, and alcoholism were found to have greatly increased. The writer thinks that all these facts point to the following conclusions: (1) That the children born of the lower-class marriages were weak, neurotic, specially liable to alcoholism, criminality and insanity, and generally unfit for the battle of life, or (2) That marriages of the middle and better classes were now so sterile that quite an undue and dangerous proportion of the rising generation was recruited from the lower, the more ignorant, the more vicious, and semi-criminal population.

The second part of the address treats of the cause and life history of these relatively sterile marriages. Abortion was found to be the main cause. Neurasthenia was increased by the practice, and the child of the relatively sterile marriage was in every way ill-fitted to fight the battle of life, and was generally pushed to the wall by the child born of poorer but more hardy stock.

The third part of the paper is termed the prognosis of "prevention," and points to the present condition of France as exemplifying the evils of a falling birth rate.

The fourth part deals with the treatment of this national evil. The birth loss in the United Kingdom, in the opinion of Mr. Taylor, is due to causes operating in the married life of its inhabitants, and there was every reason to fear that debased ideal of married life, which was secretly and insidiously working for the ruin of the nation's power and the destruction of its hope, national decay was by no means the inevitable consequence of age—witness the history of Japan. Mr. Taylor, in conclusion, asks his countrymen to heed these warnings, and while it is yet time to mend their ways. The duty of the physician, and especially of the gynecologist, to educate the people with respect to the injurious effects of the too prevalent custom of avoiding the bearing of children, is pointed out by the writer, and an earnest plea is made to the members of the professions to do their utmost to bring about a change in the existing situation.

The Proposed Exemption of the Property of Certain Pharmaceutical Societies.

A bill to this effect has been introduced into the Senate of the State of New York. The amendment runs as follows: Property, real, from which no rent is derived, and personal property, situated within any city of the first class, and belonging to any incorporated pharmaceutical society of any county which is either wholly or partly within such city, which society has heretofore been or may hereafter be authorized and empowered by act of the Legislature to establish, and which has established or may hereafter establish, a college of pharmacy in such city, provided that such property is used for the purposes of such college and not otherwise, and provided also that the exemption of such property for any society in the counties of Kings and New York shall not exceed one hundred thousand dollars, and in any other county affected thereby, shall not exceed fifty thousand dollars.

It is difficult to say, if such an amendment as referred to above is really required or not. On the face of it, there would seem to be no adequate reason why pharmaceutical societies of the kind mentioned in the amendment should be exempt from taxation. Of course educational bodies are a necessity, and they should be dealt with as lightly as possible with regard to taxation. On the other hand the enactment of a measure freeing certain pharmaceutical societies from taxation might act as a loop-hole for the abuse of the privilege. On the whole, it may be stated that it will be better to leave matters as they are and to continue to tax pharmaceutical societies as in the past.

A Priestley Celebration.—On February 6 there was celebrated in Northumberland, Pa., the one hundredth anniversary of the death of Dr. Joseph Priestley, known for his discoveries regarding oxygen and one of the early exponents of Unitarianism in America. In 1794 Dr. Priestley was banished from England, after he had been mobbed on account of his radical religious beliefs and his house was destroyed. He came to America and settled in Northumberland. The house which Dr. Priestley built is still standing. It is a large frame structure, and adjoining it is a small building which Dr. Priestley used as his laboratory. From early manhood Dr. Priestley engaged in scientific researches, which resulted in the publishing in 1774 of a book containing the announcement of his discovery of oxygen, which he said was the result of experiments he had made with gases in a brewery near his home. He referred to the new element he had discovered as "dephlogisticated air." When he came to America he continued his experiments, but achieved no other notable results.

News of the Week.

e New Mt. Sinai Hospital was opened for in-ection on Friday and Saturday of last week, and the dication took place on Tuesday last, Governor Odell livering the address. The buildings occupy the block tending from Madison to Fifth Avenue, and from ne Hundredth to One Hundred and First Street, ten ildings in all, connected, with the exception of the lation pavilion, by corridors on the ground floor. the basement of the administration building are the itors' waiting room, dining rooms, pantries for the ident, lay, and medical staffs, and store-rooms. On first floor are the reception and examining rooms, ether with quarters for the various resident cials. On the second floor are the rooms of the ard of Directors, the committee, and the ladies' xiliary. On the third floor there is a synagogue, th a seating capacity of 200. The fifth floor is most exclusively devoted to operating rooms, the ntral one being dedicated by Benjamin Stern to e memory of his brother, Bernard Stern. It is ilt entirely of Italian marble, with the exception the floor of vitreous tile. There are two tiers seats, reached by galleries from the floor ve. On either side of the operating room rooms fitted with blanket warmers and dust-of instrument cases. In addition there is a n for sterilization. There are four additional smaller operating rooms on this floor. There is a photographic dark room and an *x*-ray room h cabinets for filing radiographs.

pidemics of Scarlet Fever and Measles.—Since middle of February there have been about forty s of scarlet fever among the children and nurses the Roman Catholic Orphan Asylum in The onx, and in other parts of the borough there are es enough reported to bring the total up to over e hundred. Over six hundred cases of measles ve also been reported within the last two weeks om the same part of the city.

The Red Cross in the East.—A branch of the Red oss Society has been established at Shanghai to st both the Japanese and Russian wounded, and relieve refugees. The Chinese have subscribed erally to the funds of the society, being much rcised over the condition of their compatriots in nchuria. It has been decided to establish a hos-al at. Newchwang. A pleasing incident is re-rted by the Tokio correspondent of the London *ndard*, who says that the kind treatment of the ssian wounded at Chemulpho is so appreciated the Russian Government that it has contributed ,000 yen to the Japanese Red Cross through the rench Minister at Seoul.

Open-air Treatment of Tuberculosis in Chicago.—n an address to a University Extension Class, Dr. illiam A. Evans of Chicago declared that if the nicipality undertakes to wage a war against this sease it can conquer it by building open shacks vacant lots in the outlying sections of the city. hese should be occupied all the year round. This ethod of treatment has been tried and has proved ccessful. Scores of Chicagoans have lived out of oors in shacks or in tents in their back yards all inter. Some of them are now in a normal condi-ion. He declared that one-sixtieth of the total pop-lation of Chicago was afflicted with tuberculosis; hat 9.4 per cent. of the deaths were caused by this isease. He said, "We hear of the lung block in New York, where, during the last nine years, in the four sides of the block, there have been 269 cases of tuberculosis. A block in Chicago beats this terrible record. In the one block in Clark Street, between Harrison and Van Buren, on the two sides of the street alone, there have been 138 cases in four years." Dr. Evans urged the importance of a daily medical inspection of lodging-houses. He quoted figures to show the appalling number of cases of tuberculosis registered at Dunning from the lodging-house districts. One hundred and fifty-nine cases at Dunning have registered from 150 numbers in Madison Street. Sixty-three cases have registered from one block in South State Street; 25 cases have registered from 449 Clark Street alone; 15 cases from 90 Van Buren Street, and 17 cases from 103 Desplaines Street.

Cincinnati Academy of Medicine.—At a business meeting of the Academy, held March 7, the following officers were elected for the coming year: *President*, Dr. S. P. Kramer; *First Vice-President*, Dr. J. M. Withrow; *Second Vice-President*, Dr. Julia Carpenter; *Secretary*, Dr. Stephen E. Cone; *Treasurer*, Dr. Magnus Tate; *Librarian*, Dr. Arch J. Carson; *Trustees for terms of three years*, Drs. James F. Heady and David I. Wolfstein. Dr. Byron Stanton, the retiring president, gave a valedictory address. A resolution of approval was passed for the appointment of a commission to build a State sanatorium for incipient phthisis.

Jewish Doctors Sent to the Front.—Some curious particulars are given in a dispatch to the *New York Times* regarding the workings of official anti-Semitism in Russia. M. de Plehve, who insisted upon revising the lists of reservists called out, has sent an enormous percentage of Jews to the front, including most of the doctors of that race in St. Petersburg. Out of 180 medical men who left at the beginning of the month 110 were Jews. Two reasons were given for this action. One reason was that the Hebrew savants are all supposed to be Liberals, whose presence in Russia at critical times is considered undesirable. The other alleged reason was that influences were brought to bear on behalf of certain non-Jewish practitioners, who were only too glad to get their rivals out of the way. The Jewish doctors sent to the East are deprived of part of their emoluments, and receive only 900 rubles ($450) for traveling expenses, whereas Christians get 1,250 rubles.

Failure of Schmidt's Cancer Serum.—Nine patients suffering from cancer have been treated at the Middlesex Hospital, London, by Dr. H. Jossé Johnson since November 26, 1903. Concerning these cases, the members of the committee on cancer investigation report in *The Lancet* of March 5 that they have failed to observe any trace of a specific local or general reaction to the injections, and are therefore convinced that the material is entirely without diagnostic value. They have equally failed to see any local or general improvement in the condition of a patient. The injections in no wise altered the course of the disease. In the case of those patients who died microscopical examination of the tissues failed to reveal any differences in appearance from those usually met with in cases that have not undergone the special treatment. The material used was sent direct from Dr. Schmidt's laboratory to Dr. Johnson and Dr. Johnson, made all the injections himself, except on two occasions. The material used was Dr. Schmidt's "killed culture."

Dr. William S. Halsted of Johns Hopkins University will be the orator at the annual commencement exercises of the Yale Medical School, to be held on Monday, June 27. His subject is not announced, but will be some topic connected with modern surgery. Dr. Halsted was graduated from the Yale Academic department in the class of '74, from the Columbia Medical School in '77.

New Professors at Columbia.—Dr. Gorham Bacon has been appointed clinical professor of otology at the College of Physicians and Surgeons to succeed *Prof.* Albert H. Buck, and Dr. William Kelly Simpson, clinical professor of laryngology, to succeed *Prof.* George M. Lefferts. Dr. Edwin B. Cragin has been made professor of gynecology, and Dr. H. M. Painter clinical professor of obstetrics.

Successful Treatment of Tetanus.—The newspapers of this city have noted recently the recovery from tetanus of a Brooklyn boy after the injection of antitoxin into the spinal sheath. This method was first practised, we believe, by von Leyden in 1901, and five cases with three recoveries were reported in the *Journal of the American Medical Association*, in 1902. In another column of this issue is a report from *The Lancet* of March 5, of four cases with three recoveries. This is a much more simple method than trephining the skull in order to make intracerebral injections and appears to be equally efficacious.

Exclusion of Mentally Defective Immigrants.—A State board of expert sanity inspectors, to be stationed at Ellis Island, to inspect immigrants as they land, with a view of detecting those in such stages of mental decline as would lead to their becoming a public charge, is provided for in a bill introduced last week at Albany in behalf of the State Commission in Lunacy. Although there is a question as to the jurisdiction of the State of New York over the matter of immigration, it is said that the United States Commissioner of Immigration is in favor of the proposition, and that the necessary permission would be instantly granted by the Government.

A New Ordinance for Hospitals.—At a recent meeting of representatives of the various hospitals of Chicago, there was a discussion on suggested changes in the city hospital ordinance, which is said to be so defective that, were it enforced, no hospital could operate under its provisions. A sub-committee was appointed to draft a new ordinance. This committee consists of Drs. D. A. K. Steele of the Chicago Hospital, L. Blake Baldwin of the Samaritan Hospital, A. J. Ochsner of Augustana Hospital, J. H. Hoelscher of Alexian Brothers' Hospital, and M. L. Harris of the Passavant Memorial Hospital.

The Henry Phipps Institute Lectures.—The fifth lecture in the International Course given under the auspices of the Phipps Institute will be delivered by Professor C. Maragliano of Genoa, Italy, on Monday evening, March 28, at the Witherspoon Building, Philadelphia. The subject of the lecture will be "The Specific Therapy of Tuberculosis and Vaccination against the Disease."

Christ's Hospital Reopened.—A formal reopening of Christ's Hospital, Cincinnati, took place on March 10. The hospital has been closed for some months while additions and improvements to the extent of $100,000 were made. The opening was attended by a large number of visitors.

A Toy Pistol Ordinance.—The Cincinnati council passed an ordinance March 7 prohibiting the sale of toy-pistols, caps, and blank cartridges to minors, fixing the penalty at $100. This measure was urged by the Academy of Medicine some time ago as a means to the prevention of tetanus.

Hospitals in Financial Difficulties.—As a result of lack of funds, the female surgical ward of Roosevelt Hospital has been closed. This makes the third ward to be closed in large hospitals in this city within a short time. The New York Hospital was compelled to close a ward, and recently the Manhattan Eye and Ear Infirmary closed a pavilion on account of lack of funds. The female surgical ward co tained twenty-eight beds. In place of this wa hereafter twelve beds in a small ward, which h been the convalescent male surgical ward, will used. The convalescent male surgical ward has be abolished.

Free Antitoxin in Chicago.—The Chicago He Department has announced that physicians m obtain antitoxin free from the antitoxin stations the Department for the gratuitous treatment their charity cases. Physicians may also have th prescriptions for antitoxin to be used in their p practice filled by any antitoxin station at fi prices. The physician obtaining free antito receipts for it, and the receipt contains the follow certificate: "I hereby certify that the family of patient is unable to pay for the antitoxin; that case is urgent; that I am attending without fee, that I will report the termination of the case on postal card form of the Health Department furnis by the druggist."

Victims of the Chicago Theater Fire.—Accord to the Coroner's records in Chicago, the numbe persons who perished in the fire in the Iroq Theater and those who have died from the effe of injuries then received is 576.

Fee for Report of Contagious Diseases.—The Bo of Health of Passaic, N. J., announces that in fut physicians of that place will be paid a fee of cents for each case of contagious disease reported them. The board also wishes to keep track of cases of consumption in the city, and has as the health physicians to aid in this work. This started some years ago, but the physicians gave reporting the cases because inspectors visited houses of those ill and made their presence noxious.

The College of Pharmacy has just been mad school of Columbia University, the management the college being under the direction of the univer council.

A Hospital Burned.—The City Hospital at Melr Mass., burned early last Saturday morning. patients were all saved, though with the grea difficulty, by the nurses.

Obituary Notes.—Dr. HENRY ALBERT RUNDL of this city died on March 9 of pneumonia at the of forty-eight years. He was a graduate of the H vard Medical School in the class of 1887.

Dr. VERRANUS MORSE died at his home in Bro lyn on March 9, aged eighty-five years. The caus death was shock following fracture of the hip. was born in Springfield, N. H., in 1818, graduat from Dartmouth College in 1845, and from the me cal department of the New York University in 18 when he took up the practice of medicine in city. Dr. Morse was one of the founders of Young Men's Christian Association in New York Ci and was for some years treasurer and a director the association.

Dr. WILLIAM J. MCDERMOTT of this city died March 12 after a long illness, at the age of seven three years. He was born in Portland, Me., a received his early education in St. John, N. B. 1854 he was graduated in medicine, and after t years of study in Europe he began practice in We chester. Dr. McDermott was elected to the A sembly in 1860, but when the first call for troo was issued he resigned from the Assembly and e listed as surgeon and went to the front with th Sixth New York Volunteers. He saw much activ service. He was with Colonel Ellsworth when that officer was shot at Alexandria, and ran to his assist

e. He assisted in the amputation of General ward's arm at the battle of Fair Oaks, and participated in the battle of the Wilderness, being left harge of the wounded. He was captured and to Libby Prison, where, after a short term, was paroled. He was mustered out of the rice in October, 1865, and then resumed his practin Westchester.

r. STANLEY G. CLARKE of Brooklyn died on ch 5 at his home in that city from disease he heart. He was born in Camden, Ont., in and was graduated from the New York Uniity Medical School in the class of 1868. He n the practice of medicine in Brooklyn about n years ago. He was one of the organizers e Central Throat Hospital, and had been presit of its board of managers. He was a member he Medical Society of the County of Kings of the Brooklyn Medical Society, and had been nspector of the Board of Health in Brooklyn everal years.

r. MIDDLETON STUART HANCKEL, a retired ician, died on March 12 at his home in this city. was born in Charleston, S. C., on April 17, 1828. was graduated from the Charleston Medical Col-. He had been in this city for the last nine s, but had never practised here.

r. CHARLES H. RICHMOND, one of the best-known titioners of Western New York, died at his e in Livonia, Livingston Co., on March 2, sixty-three years. Dr. Richmond went to the War as a surgeon soon after graduating from Buffalo Medical College in 1860. He was at the of death connected with his alma mater as tor. He was also a member of the Livingston nty Medical Society and of the New York State iety.

Dr. JOHN P. EDGE died at Downingtown, Pa., on rch 7 at the age of eighty-one years. He was duated from Jefferson Medical College in the class 1846 and was a representative in the Pennsylia Legislatures during the sessions of 1875, 1876, 7, 1878. He was the originator of the bill blishing the Board of Agriculture, and he was a number of years a member of the board.

Dr. ROBERT MCKINLEY, a native of Scotland and ident of Santa Barbara since 1894, died on Febru- 28, at the age of forty-three years.

Dr. L. D. SCHERER died at Los Angeles on March his fifty-seventh year. After having apparently ained his health, Dr. Scherer had in a few years ilt up a large local practice, and his death is atbuted chiefly to overwork.

Dr. PHILIP D. CARPER died at Los Angeles on rch 4, aged forty-one years. He was a native Colfax, Iowa, and, after graduation from the a State University, practised for a time at icago. Later he went to the Klondike and enged in practice at Dawson, with enough spare e to discover some valuable mines.

Puerperal Septic Infection.—In Caruso's alcoholic irrigation method, two rubber tubes are introduced into the uterus with loose gauze packing. Every four hours eight ounces of alcohol are injected through one tube and allowed to escape through the other—40 to 80 per cent. alcohol is employed. Results not superior to those of semi-expectant treatment. Fochier injects early in the attack 1 c.c. of sterilized essence of turpentine into the cellular tissue of the deltoid region or the flank. The resulting abscesses are opened and drained. Cheron and others report subsidence of the febrile symptoms. Webster packs the uterus with a pint of sterile water containing four ounces of glycerin, and 30 m. of formalin.—CHARLES JEWETT, in *Brooklyn Medical Journal*.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

INSTITUTE OF MEDICAL SCIENCES—HOSPITAL MEETINGS—AMALGAMATION—FINANCE—CANCER—ARTERIAL SCLEROSIS—PRESCRIBING AND DIGNITY—DRS. JAMESON AND SMARTT—SIR S. WILKS—DEATH OF SIR E. SIEVEKING.

LONDON, February 26, 1904.

THE Institute of the Medical Sciences, under the direction of The University of London, promises to become an accomplished fact. The King has subscribed 100 guineas toward the fund being raised, and expressed great interest in the scheme. The presidents of the two colleges subscribe similar sums. Mr. Alfred Beit has given £5,000 and Messrs. Rothschild £500.

Quite a number of hospitals are holding their annual meetings, and at all the plea is for more money. Many of these appeals will meet with a good reception; but the pressure on the public has of late been so extreme that others may well regard the future with forebodings. Amalgamation is still talked about, but the progress it makes is slow, so many interests having to be considered.

In a former letter I explained the position of the Royal Ophthalmic Hospital and its financial prospects. These have not yet improved, and the chairman of the meeting this week gave some further details, but the chief event was the desire of the M. P. for the district, who said he had several millionaires in his constituency, but none had come to the rescue of this great charity.

The Central Ophthalmic had its annual meeting yesterday. The suggestion made by the King's Fund Committee to amalgamate with the Royal Free Hospital did not commend itself to the chairman, who held that there are various reasons why special hospitals should be separate from the general hospitals. In this case, though, the saving would only be £50 per annum in expenses.

King's also had its annual meeting yesterday, when Lord Methuen presided. The approaching removal was necessarily referred to in the report and speeches, but I have given you full particulars respecting it.

Charing Cross had its meeting on Wednesday, and the financial state is not satisfactory. A loan of £85,000 is being negotiated. Nearly $50,000 is required to complete the new buildings and furnish. It really looks as if the extravagance of hospital managers ought to be in some way checked. They are all for building and extending.

The Middlesex Hospital meeting was also yesterday, and its report contained interesting details of the research work on cancer at that institution. During the year 100 cases were treated with *x*-rays, and the results are reported to be encouraging. Pain has been relieved and in a number of cases the disease has been retarded, and in some undergone retrogressive changes. Dr. Otto Schmidt's treatment was tried with negative results. The work at the Middlesex, both bacteriological and clinical, is of the highest order.

At the Cancer Hospital's meeting on Wednesday the senior surgeon (Dr. H. Snow) addressed the governors on the work of the institution, and claimed that "nowhere else in the world" had the disease been studied as it had been at this hospital. He wanted the schemes of cancer research to be all coördinated and correlated. To this end he proposed a world's congress on the disease. Until this proposal is adopted, he thinks cancer will remain "the darkest Africa on the map of medicine."

The newspapers continue to show their interest in cancer—sometimes in a manner to be deprecated. One of them publishes a telegram to the effect that Dr. Doyen of Paris claims that cancer is no longer to be called an incurable disease, as out of 126 cases treated by him, twenty-one now show no sign of the disease, and forty-seven are improved. He admits, strange to say, that fifty-eight gave no favorable result from his treatment, consisting in injections prepared from "the microbe known as *Micrococcus neoformans*, peculiar to cancerous tumors."

Another newspaper has accepted an advertisement offering to sell a cancer cure for 1,000 guineas. Alas for the gullibility of the public and the infamy of quacks!

A discussion on arterial sclerosis was opened at the Pathological Society on the 16th inst., by Dr. Savill readreading a paper on hypermyotrophy and other morbid changes in the muscular tunic of the arteries. He defined arterial sclerosis as a chronic, generalized, thickening, condensation or degeneration of the arterial walls, which were found hard, or less elastic than normal, the lumen remaining unduly patent after death. He gave details of thirty cases which had presented circulatory symptoms during life and characteristic appearances after death. The muscular coat he regarded as the proper tissue of the arterial system, and on its performing its function the healthy action of the cardiovascular and other systems

depended. To show the pathological importance of the muscular coat, Dr. Savill described the case of a woman who died at the age of one hundred and exhibited sections of her organs. He concludes that extensive patchy atheroma is consistent with great longevity and absence of symptoms or vascular complications, and the same may be said of generalized sclerosis, so long as the tunica media is relatively free from disease. He grouped the morbid changes in the muscular coat as follows: (1) Atrophy, not common. (2) Hypertrophy, not uncommon after middle life. (3) Cloudy swelling not always revealed by ordinary stains, but easily demonstrated by acid orcein. (4) Granular degeneration, often associated with cloudy swelling. All these four changes have a generalized distribution in the arterial system, though often more marked in one area than another, *e.g.* in the lower extremities. (5) Necrosis. (6) Calcification. "Arterial hypermyotrophy" is a term applied by Dr. Savill as long ago as 1891, and he regards the condition as primarily a true hypertrophy, just as the term is used of thickening of the cardiac walls. That degeneration may have set in before the case reaches the post-mortem room does not disprove the existence of hypertrophy. Clinically, he says the disease constitutes a distinct pathological condition of prolonged course, capable of recognition during life by careful investigation, sometimes, but not always, associated with renal disease, and being, in fact, one of the chief conditions on which cerebral and other hemorrhages depend. Of his thirty cases seventeen were relatively uncomplicated by other arterial disease and represented the earlier stages. In only nine was there renal disease, the other twenty-one presenting no renal change during life, and no evidence of kidney disease after death. Cardiac hypertrophy was present in twenty-eight of the thirty cases. High blood-pressure was observed in all cases seen before the final stage, and among the consequences of the disease, which resemble those of high tension, the most serious is cerebral hemorrhage. Moreover, hemorrhages occurred in other situations in spite of the thickened arteries.

Professor Clifford Allbutt recognized three forms of arteriosclerosis : (1) Toxic, as from lead, syphilis, diabetes; (2) Involutionary, as senile decay, which may appear before seventy; (3) Secondary, when the muscular coat of the artery is hypertrophied. The discussion mainly turned on this, and Dr. Allbutt held the first factor to be rise of arterial pressure, the disease being a mechanical consequence of the hyperpiesis instead of the converse. In turn, this factor depending on some alteration of the blood, and this, in its turn, on perverted metabolism; the cause, he thought, sedentary life and high feeding. It occurred in the strictly temperate, but he believed most cases were due to repletion, relative or positive.

Dr. J. Broadbent said atheroma must be included under arteriosclerosis, it being scarcely possible to consider them separately. In sixteen cases of cerebral hemorrhage, one of the most common accidents in arteriosclerosis, there was senile degeneration in two (both over eighty); the other fourteen were connected with the kidney. In all the fourteen, the heart and middle coat of the radial were greatly hypertrophied without signs of degeneration. In four cases there was advanced atheroma of the aorta, and in the others, slight changes.

Dr. Parkes Weber thought that mostly arterial hypermyotrophy was compensatory, though there were apparent exceptions in cases of nervous origin, such as the cardiac hypertrophy sometimes met with in tachycardia without valvular disease, some cases of Graves' disease and the arterial cases in limbs affected by conditions allied to erythromelalgia or Raynaud's symptom-complex. Extreme increase of corpuscles might also render the circulation through the arterioles more difficult.

Dr. Pavy said the two chief factors were a toxic agent and renal disease. Cases occurred with the characteristics of Bright's disease, but in which neither albumin nor casts were found. In one mentioned these appeared some years later. The cardiovascular symptoms preceded the renal affection. Probably defective metabolism gave rise to a toxin which produced the vascular change. It was, he thought, important to diminish the quantity of nitrogenous food in such cases.

Those who hold that to forbid doctors to dispense their prescriptions, on the pretense that the dignity of the profession would be increased, and that it is at a higher level where such law exists, may take this as an object lesson. In the Department of the Gard the authorities fixed the fee for public vaccinators at five centimes a case, to include the visit for inspection on the eighth day. The doctors are declining to work for this munificent fee, but the proposal shows that the public estimate of professional services is not raised when dispensing is forbidden.

Now that a doctor has become Premier of the Cape, and has associated another doctor in his cabinet, you may like to hear what we are saying about them.

Dr. Jameson's name has so long been known in connection with the raid that many people forget his other claims to notice. He proved himself a level-headed administrator in Rhodesia. He organized the Matabele War in a manner which our War Office might well have imitated. He took his M.D., Lond., in 1877, and went to South Africa on account of threatened phthisis, and practised at Kimberley until his appointment in Rhodesia by Mr. Rhodes, who had unbounded faith in his abilities. He was in Ladysmith during the siege, and suffered from typhoid fever. Yet this man of weak body but strong mind survives and is as active as ever. He is a man of few words, of great coolness, and under fire will quietly smoke a cigarette as if in contempt of bullets.

Dr. Smartt, who also abandoned the profession for Colonial politics, is an Irishman by birth, and like many of his countrymen who take to public life, a fluent speaker. He is not new to office, having been a secretary in Sir Gordon Sprigg's cabinet in 1898. He is the owner of much land in the colony, and has a great experience of irrigation.

I regret to report that Sir Samuel Wilks is worse, and the anxiety of his friends very great.

Another of our leaders—one of the most esteemed—passed from among us on Wednesday in his eighty-eighth year. Full of days and full of honors, Sir Edward Sieveking is gathered, like a shock of corn in its season, fully ripe. He took his M.D., Edin., as long ago as 1841. In 1852 he became a Fellow of the Royal College of Physicians, in which he has filled, during his long career, nearly every office. He had previously edited Rokitansky's Pathological Anatomy, and in 1853 he brought out Romberg's Nervous Diseases. The next year he published jointly with the late Dr. Handfield Jones a "Manual of Pathological Anatomy," which you must remember, for it held the first place as a textbook of the subject for many years. He was for the full period physician to St. Mary's Hospital and then consulting physician. This office he also held at the Lock Hospital. For a long time he was physician to the Hospital for the Paralyzed and Epileptic. This reminds me of his book "On Epilepsy and Epileptiform Seizures," which reached a second edition in 1861, and his Croonian Lectures on "Localization in Disease," 1866. He had been president of the Medical and Chirurgical, Harveian and Balnological Societies, and held many other distinctions showing the esteem of his brethren. For some years he edited the *British and Foreign Medico-Chirurgical Review*, now discontinued, as the quarterly issue seems unable to satisfy readers with early information, and the erudite articles of the race of quarterly reviewers have to be divided into instalments.

Sir Edward Sieveking was, I believe, the Aesthesiometer. Other claims to distinction might be named, but none, perhaps, greater than the way in which in all his career he maintained the honor of his profession. He was physician to the late Queen (until her decease), by whom he was knighted, and to the Prince of Wales, from 1863 until he became King, when he was made Physician Extraordinary to His Majesty. He also had the jubilee medal of 1887, and the clasp of Queen Victoria's diamond jubilee.

OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

CASUALTIES FROM EXPLOSIONS—DEADLY GAS GIVEN OFF BY COPRA—CARE OF THE INSANE—BERIBERI AND SCURVY IN A JAIL—PROTECTION FROM MALARIA—SANITATION IN THE MORO PROVINCES—ANIMAL DISEASES.

MANILA, January 25, 1904.

A SERIES of casualties from noxious and explosive gases has lately occurred in the islands, several of which were of much interest from a medicolegal aspect. All occurred in the space of about a month. The first accident occurred following a blast in the quarries at Mariveles, where large quantities of rock are being procured for the improvement of the port of Manila. In this blast some forty-three tons of explosives were used, including dynamite, black blasting powder, Hudson powder and some thirty-two tons of condemned Spanish ordnance powder, captured at the fall of the city. This powder was all exploded in one blast at Mariveles. After the smoke had cleared away, some twenty minutes after the explosion, the experienced American quarrymen, followed by natives, picked their way over the fallen rocks, which extended down to the water's edge of Mariveles Bay. After passing practically over the scene of the explosion, the American in the lead was seen to fall unconscious. Others, Americans and natives, hastened to his assistance, when they, too, were overcome, without warning, and fell. The remaining Filipinos then made their way to safety, while the Ameri-

ans, some of whom were in boats about to land, made very effort to remove the unconscious victims of the gas om the dangerous zone, though fully aware that they ere going to probable death themselves. These bodies ere finally removed. In all, about a score of persons ere seriously affected, and of these eight died, four being mericans. The effect of the gas was immediate, unnsciousness occurring instantaneously, and the victims lling with such suddenness and force as, in two cases, to sh in their skulls against the jagged rocks. Those mediately removed, rapidly recovered, but those exed to the gas more than a few minutes remained uncons for from two to thirty-six hours. The gas, or xture of gases, producing the above effects, was probly carbon monoxide, which is known to be a prominent composition product of the powders used. An impornt feature of this accident was that it occurred on an en shore of a promontory, on a sloping level well above waters edge and wind-swept at the time by a stormy eeze twenty minutes to half an hour after the blast had curred, and when the dissipation of noxious gases ght fairly have been anticipated.

Several days after the above accident an ammonia plosion occurred on an army transport at Zambranga, which a number of persons were killed or wounded.

Shortly after the second accident, a vessel put into nila Bay with a cargo of copra, held under battened tches for three days. After some delay, following moval of these hatches, three Filipinos went down to in removal of the cargo. All at once fell unconscious. American started below to save them, when he, too, ame unconscious, and was pulled to the deck with fficulty. A few breaths of fresh air revived him, and he rted to go below again, but the Filipinos held him back stood idly by for an hour without making any effort sist their friends. Finally, at the end of an hour, the dies of the latter were removed dead. It is stated that ra gives off carbon dioxide in its decomposition, which uld have been facilitated by the heat and moisture of the ed hold. However, vessels are constantly carrying ra under the same conditions, and no accident of this has been previously reported. At the time the dead dies were removed, a strong odor, similar to that of trite of amyl, is said to have been noticeable below tks.

The fourth accident occurred several days later on the rd of health steam scavenger barge, which carries out sea and dumps the excretal refuse of the city. This sel has sixteen compartments for excreta, each ventted by a flue passing from the top of the compartnt into the smoke stack, the heat in the latter aspirating the air of the excreta compartments and burning the ses. After dumping a compartment by elevating a plug the bottom, the compartment is washed down with hose d then workmen descend therein to remove a small ount of solid remainder, like sticks and stones, which not escape through the opening in the bottom. One lor had thus descended and another was passing a ntern down to him when the gas in the compartment ploded, burning both severely. This gas was probably rsh gas. It was thought that the accident was due to lure on the part of the aspirating apparatus to work operly, but three days later a lantern was held three or ur feet above the open manhole of a compartment hich had been dumped some time before, when a second plosion occurred, which shook the ship and seriously rned the native holding the lantern. To prevent rther accident, electric lights were at once installed on e vessel.

The Board of Health has lately given much attention to roviding accommodations for the insane, the proposition solving itself into the provision of temporary accommotions to meet immediate pressing necessities in the icinity of Manila, and the erection of modern permanent stitutions to care ultimately for all the insane throughout e islands. At present the only asylum in Manila is uch overcrowded, and it has been necessary to send a ertain number of insane to Bilibid for temporary safe keeping. It was hoped that in the recent sale of friar lands the convent and ground at San Felipe Neri, near Manila, would be available for immediate temporary needs and provide accommodation for some three hundred insane, perhaps serving also as a nucleus for a permanent institution, but at the last moment the sale of this property fell through. Now it is proposed to establish a hospital for about one hundred insane in the hacienda of Lolomboy, on the friar rice lands, about fourteen miles up the railroad north of Manila. In the meantime a census of the insane throughout the islands is being taken, and the returns so far received indicate that there are about 3,500 insane in the islands who will require to be provided for in institutions to be maintained by the Government.

A very interesting condition has been found to exist in the provincial jail of Albay province, in the simultaneous occurrence of both beriberi and scurvy. A certain amount of beriberi is practically to be expected where a large number of Asiatics are closely confined, and in the Albay jail a considerable mortality occurred from this disease. A certain number of cases presented, however, indefinite symptoms, which did not yield to treatment. The native physician was ordered away and replaced by an American doctor, who found, on arrival, a number of well-marked cases of scurvy, some of which were resulting fatally. With the isolation of the beriberi cases and the placing of the remainder of the prisoners on an antiscorbutic treatment, prompt improvement of the situation resulted. Scurvy being practically unknown, among the ordinary native class, which largely subsist on fresh fruits and vegetables, it was not strange that this disease was unrecognized by the Filipino doctor formerly in charge. The outbreak of scurvy in the Albay jail indicates that hereafter this disease must be recorded as among the possibilities in public institutions in the Philippine Islands as elsewhere.

The military authorities have lately given special attention to bringing about reduction in the sick report from malarial disease. General orders have been issued on this matter covering the matter of mosquito destruction and prevention, the protection of troops against the mosquito and the treatment of malarial cases under conditions preventing the conveyance of their infection to others. A number of the more malarial posts have been abandoned, and a systematic study of the mosquito life in the vicinity of the army posts is being carried out. Sick reports are scrutinized for malarial cases, and any undue proportion is a cause for explanation. Blood examinations are required in respect to all cases presenting temperature. All this is having an excellent effect, but unfortunately all precautionary measures are not easily carried out in certain posts, particularly those on low-lying sites which are not readily drained, or the surface pools of which it is difficult to keep properly oiled. Destruction of mature mosquitos in the open type of barrack or building most comfortable in the islands is also far from easy, as they are so open that it is difficult to get a sufficient concentration of sulphur fumes or pyrethrum smudge seriously to affect the insects. However, every effort has a certain effect in the desired direction, and the imperfections of a system are no reason for its condemnation as a whole. The results, so far, are very encouraging.

The sanitary organization of the newly conquered Moro provinces is being perfected by General Wood, who is much interested in such matters. These provinces are under military control, though certain military officials have civil functions, and there are also a few civil officials among the governing authorities. The present plan of sanitary organization is based on that in existence in other parts of the islands, with slight modifications necessarily dependent upon local conditions. There being no local physicians, the health work will naturally fall to the army surgeons. There will be an army surgeon detailed as provincial health officer, and other army surgeons, in addition to their other duties, will act as municipal and district health officers. Hospital sergeants and privates will act as sanitary agents, inspectors, police, and vaccinators. Vaccination work will be pushed as rapidly as possible, as smallpox is very rife among the Moros, few of whom have been vaccinated. As the Moro towns are not large, only a few elementary sanitary rules need be enforced at the outset. The military sanitary organization, while given a free hand, will practically coöperate with the Board of Health for the archipelago, using the same methods and report forms, so that the statistics created may be available for consolidation with those from the provinces under civil rule to form returns for the entire islands. It is proposed to establish and operate several hospitals, since medical treatment, aside from motives of humanity, has been found to be a potent agent in winning the confidence of the Moros.

Animal diseases are giving much concern at the present time. Hemorrhagic septicæmia was several times lately imported in animals brought from China, but was fortunately early detected and stamped out in each instance. Rinderpest has killed many bovines, but the few remaining animals appear to be largely immune, and where the disease develops it is readily controlled by prompt inoculation. Localized outbreaks of anthrax and foot-and-mouth disease have lately occurred in various provinces, but these have been prevented from spreading and assuming a seriously epidemic character. Glanders is widespread and destroys a large number of animals. As with other epidemic diseases, the infection is often kept up by the unwillingness of the native to destroy his diseased animal, and except in a few districts there is no law compelling such destruction. Surra is committing

ravages, appears to be rapidly spreading, and has already established itself in many widely separated districts of the islands. It is now proven to be a potent cause of death among carabao, which animal was until recently supposed to be immune to the disease. The government has imported some thousands of carabao from China for the purpose of restocking the islands in the promotion of agriculture, and these China carabao appear to be especially susceptible to this disease, whether from a natural lack of resistance or due to their enfeebled condition resulting from the vicissitudes of a sea voyage and the protective inoculation against rinderpest, to which they have been subjected on arrival. Several of the various herds imported have become infected with surra and have been utterly destroyed by this disease, in spite of every effort. Experience has shown that with such an imported herd once infected, it is a saving of time and money to at once destroy the whole herd, even though but one or two animals may show the infection. With one herd in particular, a veterinarian was constantly in attendance, blood examination of stained specimens from each animal was made almost daily, and any animal presenting evidence of the disease was forthwith removed and destroyed. Nevertheless, the disease continued to develop in the remainder of the herd, although this was moved to several localities, until the last animal had been, in the course of a couple of months, destroyed. So far, no remedy has been found which has the least effect upon the progress of the disease, and the only apparent available measures for coping with it appear to lie in splitting up the herds into small groups and destroying diseased animals without delay. Surra in carabao is far less acute in its course than in horses, which usually die in a few weeks. Carabao, however, may harbor the parasite for months without presenting clinical symptoms, and be a constant source of infection to others. Carabao may live six or eight months with the disease, the microscope revealing the parasite from time to time only at certain cyclic stages of its development. On examination the animal may thus appear to be healthy, and the blood reveal no parasite, at a time when it is itself doomed and an almost certain source of infection to others.

Progress of Medical Science.

The Boston Medical and Surgical Journal, Feb. 25, 1904.

A Comparison between the Medical Uses of the X-rays and the Rays from the Salts of Radium.—Francis H. Willikins presents this brief summary of his paper: (1) The rays from radium salts, unlike the *x*-rays, are not serviceable in diagnosis, either by means of radiographs or of fluoroscopic examinations. (2) The Beta rays are useful as a therapeutic agent in certain skin diseases and new growths, if the diseased tissues are superficial or are not more than about 1.25 cm. (one-half an inch) below the surface of the skin or accessible mucous membranes. (3) The Beta rays from radium salts will heal some cases of new growths that are not healed by the *x*-rays, and they act more promptly, but not over so large a surface at one time as the *x*-rays. (4) Radium salts of an activity of 8,000, or considerably more, are not sufficiently strong to be efficient. Pure radium salts which have a radioactivity of about 1,500,000 are not too strong for the work to be done. (5) The radiation from radium salts, unlike that from the *x*-ray tube, is uniform. (6) Great care should be exercised to avoid burns.

The Prognosis of Idiopathic Pleurisy.—George G. Sears has made a study of 439 cases of pleurisy which were treated between the years 1880 and 1895. These cases include those only in which no suspicion arose that the acute attack was a secondary manifestation of some process already existing. The possibility of a previous tuberculosis excluded a case from this series. Neither were any cases included which appeared in the course of pneumonia, typhoid fever, or other acute disease. These cases are grouped together as instances of acute, idiopathic pleurisy, without regard to their possible etiology. They have been studied with the purpose of determining whether they throw any light on the question of prognosis. The only conclusions which the study of this series justifies are: That about 10 per cent. of these cases are known to have developed tuberculosis; that over 55 per cent. of all cases which were followed to their death had died from some form of tuberculosis; that tuberculosis when it occurred developed within five years in over 50 per cent., and within ten years in over 70 per cent.; that this danger is much increased by a tuberculous family history or a personal history of some form of tuberculosis previous to the attack.

Journal of the American Medical Association, March 12, 1904.

The Value of an Injury.—L. Sexton summarizes the recent legal decisions rendered in cases, of persons who had sued railroad and other corporations for injuries received in the line of duty. He notes that the highest verdict which is reported to have been set aside was that in favor of an English physician against a railroad. The plaintiff was awarded £7,000, but the Court decided this sum inadequate, as the physician was in the prime of life, having a practice worth, perhaps, the sum named annually, and was reduced to a condition of helplessness, with every enjoyment of life destroyed, and with the prospect of a speedy death.

Abdominal Pain and Pneumonia.—G. H. Scott reports the case of a girl of twenty years whose first symptom was severe umbilical pain, radiating from this point downward and laterally. At first, it was sharp, but later, merely a dull ache. There was a moderate febrile movement and a few râles heard in the chest. The next day the symptoms present were those of an acute bronchitis. The condition gradually became aggravated, and on the fourth day of the illness, though the abdominal symptoms had subsided, it was possible to make out an acute lobar pneumonia of the right upper lobe. At this point the patient complained for the first time of pain and constriction in the chest, but, curiously enough, on the left side, which was normal. The patient then ran a typical course of pneumonia, the temperature falling by crisis on the twelfth day after the original onset of illness. On the second day of the pneumonic process the abdominal pain returned, and continued in a slight degree during the entire course of the disease, subsiding entirely at the crisis, never to recur. There were no other abdominal symptoms nor any abdominal signs. Convalescence was rapid and perfect. Four weeks later an acute beriberi developed (the woman lived in the Philippines), and death occurred eighteen days later.

The Condition of the Blood in Patients Suffering from Pulmonary Tuberculosis.—The paper of J. M. Swan is the result of a study of twenty-five cases of the disease, and discusses the question in great detail. The author's conclusions may be summarized as follows: (1) The blood picture in pulmonary tuberculosis is by no means constant. (2) The average case in the first stage of the disease presents a slightly reduced number of erythrocytes, a moderate reduction of the hæmoglobin, and about a normal number of leucocytes. The average case in the second stage presents a varying degree of leucocytosis, due to an increase in the number of polymorphonuclear, neutrophile cells. The erythrocytes are present in about normal numbers and the hæmoglobin is often normal in percentage. The average cases in the third stage will show a reduction in the number of erythrocytes, a moderate leucocytosis composed of the polymorphonuclear, neutrophile sells and a high hæmoglobin percentage. (3) Hemorrhage is usually followed by a marked reduction in hæmoglobin, a slight reduction in the number of erythrocytes. Leucocytosis is not an invariable feature of a post-hemorrhagic blood. (4) Albuminuria of itself appears to cause no constant change in the blood picture. (5) Tuberculous diarrhœa is apparently attended by a reduction of the number of the erythrocytes and of the percentage of hæmoglobin, and by an increase of the leucocytes. The latter increase is due to the polymorphonuclear, neutrophile cells. (6) Pleurisy is usually accompanied by a polymorphonuclear, neutrophile leucocytosis. (7) There is no distinctive blood picture that will serve to differentiate between extensive cavity formation due to tuberculous degeneration and that due to other causes. Further, leucocytosis is not a constant feature of cavity formation. (8) The leucocytosis occurring in the course of pulmonary tuberculosis is due to an increase of the polymorphonuclear elements, and not to an increase of the lymphocytes or of the transitional cells. (9) The absence of the eosinophile sell from the blood may be looked on as an unfavorable prognostic sign. The increase of these cells while the patient is under treatment may be taken as an indication that the progress of the disease has a tendency to become arrested.

Medical News, March 12, 1904.

A Factor in the Etiology of Distorted Nasal Septa.—Chas. E. Quimby believes that children with irregular teeth, high palatine, or narrow alveolar arch and distorted nasal septum should be treated by the dentist and rhinologist together. The work cannot be done after ossification at the line of maxillary union is well advanced; or after puberty. Still, before this time the teeth are seldom sufficiently developed to make a satisfactory final regulation if they are of the triangular variety. So the earlier work should be directed specially to the correction of the nasal defect and the final regulation of the teeth left for some years later. The writer reports a case in point in which the sequence of events was as follows: Development of mouth-breathing coincident with an exceedingly irregular second dentition following perfect respiration in early life; the discovery of a deflected septum nearly closing the right nostril; almost complete disappearance of the septa

xion, a subjective appreciation of freer respiration, d entire cessation of mouth-breathing following directly on separation of the maxillary bones.

A Clinical Study of Sixty-two Cases of Intestinal Infection by the Bacillus Dysenteriæ (Shiga) in Infants.—nnæus Edford La Fetra and John Howland emphasize e following points: (1) The unexpectedly great prevaence of the dysentery organism in cases of diarrhœa in fants, at least during the summer months. Out of sixty-ir consecutive cases, sixty-two were positive. These re all ambulant patients, and were seen very early. All types of diarrhœal disease, as characterized by ir clinical symptoms, were found among these cases. me were severe, some were mild. The course of the ease was usually short. (3) As compared with cases of mmer diarrhœa" of other years those in this series re in general much milder. Possibly this was due to: The cool summer. (*b*) The increasing knowledge ong the tenement population of the care of infants and ir food. (4) The striking number of breast-fed infants, rteen in sixty-two cases, more than 20 per cent. of all. The serum treatment was not given in a sufficient mber of cases to warrant any conclusions. It may be t larger dosage is necessary; if so, the serum must be re concentrated than at present.

New York Medical Journal, March 12, 1904.

A Simple Method of Intestinal Anastomosis.—H. M. pperlen advocates the use of a gelatin cylinder, which ves as a firm support, is quickly introduced, and later omes absorbed. When it is in position he inserts a interrupted sutures through all the coats of the bowel insure coaptation. He then uses a fine intestinal silk, nty-four inches long, doubled, with a needle at each , having its knot where the ends of the silk are tied in center. He starts his first suture under the mesentery achment, inserting a needle with each hand at the same e through the two outside coats of the bowel, an eighth n inch from the cut margins. He then picks up a loop ut one-twelfth of an inch in length, according to the thod of Lambord, draws the parts together and ties m at each stitch, and continuing thus until he has mpletely encircled the bowel and closed the mesentery ning with the same suture, being careful to pass the dles under the small vessels in the peritoneal coat, so as to constrict the blood supply more than necessary. The vantages claimed for the method are: First, its simplicity; ond, it can be introduced, practically without handling parts, in about one-fourth to one-eighth the time uired for any other stitch, and third, when the bowels approximated by this method, they are held more ly than by any other stitch with which the author is quainted. Diagrams illustrate the different steps of procedure.

Senile Pneumonia; Value of Persistence in Treatment; Correct Method of Using Oxygen.—Solis-Cohen gives clinical history of a case of senile bronchopneumonia, dwells upon the necessity of persistent treatment. medies used in this special instance were nitroerin, digitalis, strychnine, atropine and alcohol, the ter in the form of champagne, which is better al whiskey for old people. Saline infusion under skin was given once. Hot flaxseed poultices were d for awhile, but later were replaced by a lamb's wool ket. The author makes a most emphatic plea for the ly and persistent use of oxygen where it is indicated. must be given over long periods, unless the patient is tressed by it. As a rule it promotes sleep. Nitrous ide may be combined with it as a sedative to cough and leep producer—about eight parts of oxygen to two of monoxide in cases in which opium (usually a dangerous g in pneumonia) would be needed. Low temperatures the disease the author regards as a bad omen, for they ow a want of reaction, while a high temperature inates a good vital reaction, perhaps the production of an titoxin. The coal-tar derivatives as antipyretics are itively dangerous, and the author believes that many sons die of pneumonia because their hearts have been akened by such remedies given in previous sicknesses or lf-administered for headaches.

American Medicine, March 12, 1904.

Pure Olive Oil and Its Use in the Treatment of Chronic ysentery and Allied Conditions.—Henry H. Rutherford scribes the process of obtaining the pure oil. Olives st short of full ripeness are selected for their soundness d healthfulness, and moderately rapid and complete pression made of them. The oily fluid thus obtained exposed to an even, dry air until all moisture is evapoted. From the treatment by olive oil of gallstone sease was suggested to the writer a trial of olive oil cases of chronic dysentery, sprue, and chronic enterolitis of tropical origin. The internal administration of olive oil largely increases the flow of watery bile The normal liquid bile in the intestine favors the absorption of fats; it stimulates intestinal peristalsis, it acts as an intestinal antiseptic. After the administration of olive oil in cases of chronic dysentery, there has been positive evidence of increased quantities of bile in the fæces. The number of bowel movements has been decreased, with marked improvement in their character. There has been a gradual cessation of signs of fermentation and putrefaction along the gastrointestinal tract and consequent subsidence of pain and tenderness; also general systemic improvement—gain in appetite, repair of digestive facilities, symptoms of improved nervous system, and rapid gain in weight and strength have been noted. There has been an apparent positive cure after an average time of two months and upward, with few recurrences up to date. The patient is given 30 c.c. of oil three times a day for the first three days, and the quantity is gradually increased. At first the oil is best taken with about equal quantities of hot milk, with which it practically forms an emulsion.

The Diagnosis of Metapneumonic Empyema in Infancy and Early Childhood.—John Lovett Morse concludes that: metapneumonic empyema usually develops during the last days of the pneumonia, or during the first days after the crisis, but in rare instances may develop in the early days of the pneumonia, or later during the convalescence. Persistence of the fever and other symptoms after the time of the expected crisis or their recurrence after the crisis should always suggest the possibility of an empyema. There is nothing characteristic about the symptoms of empyema, which are those common to all severe pulmonary affections. Rapid emaciation and progressive pallor are the most constant symptoms in neglected cases, while chills and sweating are unusual. Enlargement of the affected side as a whole is more common than flattening or bulging of the intercostal spaces. Flatness in Traube's space is less constant in left-sided effusions in infants and children than in adults. The most constant and characteristic sign of effusion is a marked sense of resistanc on the affected side. Displacement of the heart almost always occurs, and next to the sense of resistance is the most important sign. These two signs justify the diagnosis of effusion even if all the other physical signs are inconsistent. Dulness or flatness is almost always present, but may be replaced by tympany. The respiratory sound is almost invariably bronchial or bronchovesicular in character, and as a rule, diminished in intensity. Loud bronchial respiration is not uncommon, however, even with large effusions, and counts very little, if at all, against the presence of fluid. The vocal resonance is very variable both in character and in intensity, and is of little value in diagnosis. It is very difficult to determine the vocal fremitus satisfactorily. Its absence is an important diagnostic sign. Râles may be transmitted through large amounts of fluid. Their presence does not rule out an effusion.

The Etiology and Pathology of Arteriosclerosis.—H. B. Anderson gives as the sequence of events in the development of arteriosclerosis, a weakening of the media; dilation of the vessels and slowing of the blood stream; and a compensatory sclerosis of the intima. These stages do not occur consecutively in the different parts of the vascular system, but the weakening and compensation proceed hand in hand, especially in the early stages of the disease. The stress of the causative factors in different cases falls upon different parts, producing much diversity as to the frequency and degree with which particular vessels are affected. For this reason arteriosclerosis is of far more frequent occurrence, and shows far more advanced lesions than phlebosclerosis. Rokitansky enumerates the following parts of the arterial system in the order in which he thinks the relative frequency of their involvement occurs: The ascending arch, then the abdominal and thoracic parts of the aorta. Next follow the splenic, the femoral, the internal iliac, the coronaries, the cerebral, the uterine, the brachial, and the subclavian. Such, from the microscopical examination of the arteries in one hundred autopsies, found sclerosis most common in the arteries of the limbs, and the anterior tibial most often affected of all. Continuous high tension, increased by mechanical stress, explains the involvement of the aorta and its branches as the coronaries; strain and variations in pressure from muscular action account for the tendency to the disease in the upper extremities of manual laborers; the vessels of the lower extremities also support not only the hydrodynamic, but also the hydrostatic pressure of the blood. On account of variations in pressure associated with digestion, the splenic artery is likewise exposed to the disease. The frequency of the disease in the cerebral vessels is related to the functional requirements of a well-maintained blood supply, increased by occupations

attended by long-continued mental effort and worry. The kidney vessels are especially exposed to the causes of the disease from the fact that they are brought into contact with toxic substances in process of excretion. The forms in which arteriosclerosis manifests itself have been divided into the nodular, the diffuse, and the senile. Osler says that longevity is a vascular question. The nutrition and function of every organ is absolutely dependent upon a proper blood supply. Many conditions commonly recognized clinically as distinct maladies are really manifestations of this protean disease. The writer concludes by calling attention to the importance of general nutritional disturbances, the symptoms varying with the seat, extent, and distribution of the vascular lesions, so that an endless variety of clinical phenomena is possible, according as the blood supply to this or that part is chiefly affected.

The Lancet, March 5, 1904.

Four Cases of Tetanus Treated by Injections of Antitoxin into the Spinal Theca.—The cases are reported by C. S. Wallace and P. W. B. Sargent. The injections of the serum were made under strict asepsis between the third and fourth lumbar vertebræ. No untoward local effects were observed, either immediate or remote. The incubation periods of the cases here described were respectively six—six, nine, and eleven days. Three recovered and one died. Ten c.c. was the amount of the serum injected at one time. Chloral and bromide were also given.

A Case of Paroxysmal Labyrinthine Vertigo Associated with Special Ocular Symptoms and Alleviated by Seton.—T. W. Parry reports the case, his patient being a man of forty-three years. The two special points of interest in the case were: (1) the very unusual ocular symptoms occurring in a clearly defined case of Ménière's disease. These consisted of a sort of ocular vertigo. At first both pupils were equal, reacting normally to light and distance; he seemed to use the right eye more than the left, no myopia or hypertrophia could be made out, there was no paralysis of the eye muscles and the disks were normal. Later photophobia came on and seemed to stand in a causative relation to his attacks. (2) His most distressing symptoms were relieved by the seton at the nape of the neck after all drugs had seemed to lose their power. The use of the seton may be deserving, the author thinks, of greater frequency in vertigo of the nature described, and he is also inclined to believe that venesection, by unloading the intracranial sinuses would tend to relieve any hyperæmia there might be in the labyrinth, and possibly might procure excellent though temporary results.

The After-effects of Head Injuries.—This topic is considered by T. C. English in the third Hunterian lecture for the current year. His general conclusions are as follows: (1) Whilst some degree of mental impairment is comparatively common after injuries to the head, the changes are seldom sufficiently marked to be included under the heading of insanity. (2) Insanity may result from injury to any part of the head. (3) Traumatism leads to insanity in two ways: (1) direct insanity due to the actual injury to the brain or its membranes apart from hereditary or other predisposing causes; and (2) indirect insanity—that is to say, any form of insanity occurring as the result of lowered resistance of the brain due to injury in patients with a predisposition to insanity, hereditary or otherwise. (4) Every variety of mental change may be produced by traumatism, although some forms are commoner than others. (5) It is at present undetermined whether injury to the prefrontal region is more likely to be followed by mental disturbances than injury to other parts of the brain. (6) Only a small proportion of the cases of traumatic insanity are open to relief by operation, for a localizing indication in an accessible region must be present. (7) The results so far have been encouraging, and although the operation must necessarily be exploratory it is fully justified in suitable cases, especially in face of the otherwise hopeless condition of these patients.

Motor Symptoms in Mania and Melancholia.—W. H. B. Stoddart notes the occurrence in melancholia of paralysis and rigidity of the muscles of the spinal column and of the large proximal joints, the movements of the smaller and distal joints being comparatively unimpaired. The symptoms referred to are not always easily appreciable, as in mild cases they are scarcely noticeable. The movements of mania, on the other hand, take place during motor excitement, mostly at the large proximal joints. The trunk sways as the patient walks, and during running there is exaggerated movement at the hips. In the waving of arms, so frequent in mania, the greatest movement takes place at the shoulders and there is little at the wrist and fingers. The author concludes (1) that in mania an irritating product is formed within the cortical neurons; (2) that in melancholia a paralyzing product is then formed; (3) that in agitated melancholia there is a combination of deleterious substances, viz., a paralyzing product within the cortical neurons and also an irritating body in the plasma which bathes the nerve cell, and (4) that in a few cases of mania there is in addition to the irritating body within the nerve cell an irritating body in the plasma which bathes the nerve cell. Most of the delusions of the melancholiac arise from his feeling of inactivity, while the delusions of exaltation of the maniac arise from the feeling of activity due to the stimulation of his cortical centers. Hence arises the general idea of power, grandeur, etc., but the development of this kind of delusions is often disturbed by the occurrence of hallucinations, so that the feeling of activity is thrown into the background by the perversion of the senses.

British Medical Journal, March 5, 1904.

Treatment of Ankylostomiasis.—C. W. Branch states that his own routine is to give 30 gr. of thymol in powder at 4, 6, 8, and 10 A.M. on an empty stomach, followed by 1 oz. of castor oil at 6 P.M. This dose of 120 gr. of thymol is given regardless of age. The writer calls attention to Stockman's report on a case of ankylostomiasis which came under his care. Branch states that it is by no means the experience of those who deal largely with ankylostomes that they "are readily killed by large doses of thymol."

The Treatment of Hæmoglobinuric Fever.—H. Hearsey has treated eighteen consecutive cases of hæmoglobinuric fever without a single death. Sodium bicarbonate and liquor hydrargyri perchloridi are the drugs employed, in doses of 10 gr of the former and thirty minims of the latter. The combined action of these two drugs is antacid, diuretic, and disinfectant. Vomiting is allayed if not checked. The mixture is given every two hours for the first twenty-four hours, and afterward every three hours till the urine is free of hæmoglobin. Liquid nourishment is given, consisting of milk and barley water. Essence of chicken and meat juice are of value. As a stimulant brandy is given to the exclusion of champagne. All acid drinks are prohibited. Ferruginous tonics are given during convalescence.

On the Use of Oxygen Gas in Distending the Bladder for Cystoscopy.—A. Galbraith Faulds explains that in order to use the cystoscope one must distend the bladder in order to separate its walls. His method is as follows. He first drains the bladder through a soft worm catheter. A small rubber gas-bag is used for the oxygen, and is supplied with a vulcanite cock which fits into the mouth of the catheter. The oxygen is slowly and carefully pressed from the gas-bag, the catheter is withdrawn, and the cystoscope introduced. The use of oxygen must be practised with great caution. The patient must be warm and comfortable. The gas must be pure and be caused to enter the bladder slowly and with great care. If cystitis exists, it will be necessary to use a local anæsthetic. The gas can be left in the bladder.

Recurrent Fever Associated with Spirilla in the Blood in a Patient from Gibraltar.—Patrick Manson reports this case. The patient, a woman of thirty years, came under his care in December. Since October 20 the patient had from time to time suffered from fever ushered in by rigor and terminated by profuse sweating. Quinine had been given to the patient, on the supposition that she was suffering from malaria. The writer had blood films examined. These were prepared during the height of the attack. Four films out of six showed spirilla but no malarial parasites. The blood was examined for Malta fever and for pyogenic organisms with negative results. The writer believes that this was a case of spirillum infection, but whether the spirillum was that of ordinary relapsing fever, he is not prepared to say, although he is inclined to think it was different. The spirillum is not easily found. The writer urges careful microscopical examination of the blood in all cases in which the Widal test is negative or doubtful.

Observations on the Inception of the Rhythm of the Heart by the Ventricle as the Cause of Continuous Irregularity of the Heart.—James Mackenzie thinks that it may be considered demonstrated that the ventricle can take on the inception of the rhythm, and that when it does so the heart beats irregularly. It may further be presumed that whenever there is a continuous irregularity as distinct from occasional or rhythmic irregularity, the ventricle is giving the rhythm. Exceptions to this are rare. The writer believes that in paroxysmal tachycardia the ventricle also takes on the inception of the rhythm. The cause of the continuous irregularity is to be sought for in the exalted irritability of the heart muscle and not in the stimulation of the heart through the nervous system. The writer believes that the dilatation and ineffective action of the heart is secondary to the irregularity. Certain symptoms, such as uneasiness in the chest, weakness, shortness of breath, cyanosis and so on, which follow the beginning of an attack of continuous irregularity, are

hose we meet with in advanced cases, and for that reason he writer suggests that it is the irregularity that is the ause of the inefficient heart action, and not the dilatation that causes the irregularity. Treatment should be irected to lessen the irritability of the heart muscle and o protect the heart from being exposed to causes that xcite it to increased activity. The writer believes that rolonged rest in bed is the best remedy.

eutsche medizinische Wochenschrift, February 25, 1904.

Diphtheria Toxin and Antitoxin.—V. Dungern describes he animal experiments which lead him to believe that the iphtheria poison is made up of several components having different degrees of virulence and of affinity for the ntibodies. One of the less active of these is the toxon hich is still capable of producing lesions in the guinea-g, and a still weaker non-toxic component to which he ves the name of epitoxonoid. This assumption offers explanation of the fact that after the complete detoxication of diphtheria toxin, unsaturated bodies capable of ntralizing further quantities of antitoxin are still esent

The Volar Sound.—Hompeln describes a sound similar that heard over the carotid and subclavian arteries and curring in the palmar arch in certain cases. In common h the other auscultable vessels, the palmar arch is the t of a murmur in exophthalmic goiter and aortic inficiency. In many cases of arteriosclerosis the same nomenon is present in this region, and the author reds it as corroborative of the diagnosis of this disease. e author says that repeatedly his attention has been led by this sign to a beginning arteriosclerosis or conected kidney before arterial tension had risen to an appreble degree. Diminution in intensity of a previously l-marked volar sound points to progressive cardiac kness.

Choked Disk in Cranial Contusions.—Bachauer says that amount of disability produced after injuries to the ad is often very difficult to estimate, especially from the ndpoint of accident insurance. Usually the patient's ms of vertigo, persistent headache, etc., present no ysical evidence of their existence and malingering is en suspected. He describes two cases in which a mple concussion of the brain was accompanied by choked k and persistent headache. The first case apparently s complicated by an intradural hemorrhage and the oked disk began to appear on the fifth day and traces were l visible six years later. Though able to work, the tient was not altogether free from symptoms. The er case exhibited haziness of the optic disk five years er a cerebral concussion which had produced a pronced choked disk. Attacks of vertigo and headache o remained. The author calls attention to the fact that useful differential sign between choked disk and optic uritis is the fact that in the former visual acuity suffers t slightly, or not at all, while the reverse is the case in ic neuritis

Berliner klinische Wochenschrift, February 22, 1904.

The Hæmolytic Power of the Blood in Uræmia.—ator cites the observation of Neisser and Döring, who nd that blood serum from a uræmic patient, inactivated heating for one-half hour at a temperature of 56°, atly diminished the hæmolytic power of active serum m the same patient. That is, the addition of one c.c. the former to one-tenth c.c. of the latter prevented all molytic action. Two cases of the author's gave results inciding with this observation, but a third failed mpletely to show the expected phenomenon. The thor takes up the few other communications devoted this subject and discusses them at some length, but mes to the conclusion that the evidence is still too conicting to permit of generalization, and in view of the practical applicability of such a test urges that further work be one on a large number of cases.

Ultramicroscopical Observations on Glycogen, Albumins, and Bacteria.—Raehlmann publishes further observations with the apparatus of Siedentopf and Zsigmondy. This is a microscope equipped for the investigation of ultramicroscopic bodies by the addition of a means for intense lateral illumination. Under favorable conditions this instrument makes visible particles having a diameter of one to five-thousandths of a micron. In what appear to be chemically perfect solutions of glycogen—for example, minute particles of characteristic form are seen in active motion. With increasing dilution of the solution they become less crowded and more active, while finally a stage is reached in which they become scanty and are motionless. The author considers them as molecular complexes of definite structure, and believes that their motion is the result of the gravitational forces they exert upon each other. By the addition of diastase to such a solution the glycogen is changed to dextrin and the molecular change can be watched under the microscope, the particles becoming smaller and smaller and finally vanishing completely. By extending his researches to various animal fluids, the author has formulated a new theory for cataract formation depending on a change of the arrangement of the albumin particles composing the crystalline lens whereby its transparency is impaired. Very interesting observations on bacteria are also given, and the author believes that by this means the most accurate determinations of the comparative strengths of antiseptics can be made.

Münchener medizinische Wochenschrift, February 23, 1904.

The Precipitin Reaction Transmitted by Inheritance.—Merkel immunized three rabbits, one male and two females, to human serum. The females became pregnant during the course of the injections and one of them gave birth to five young. Two of these were immediately killed and their serum obtained. This was found to exhibit the same specific properties as that of the mother, though to a less degree of intensity. The author's intention to study the persistence of these characteristics in the others of the litter, as well as the effect of the mother's milk was frustrated by the early death of the newly born animals.

Poisoning with Male Fern.—Hackl reports the case of a robust man who, a short time after taking three drachms of extract of male fern, prescribed as anthelmintic, fell into collapse with cold extremities, perspiration, sunken features, dilated pupils reacting sluggishly to light, small slow pulse, labored shallow breathing, copious diarrhœa and repeated vomiting, convulsive movements of the extremities persisted for a day, and for two days the urine was rich in albumin and red blood cells. The treatment consisted in cardiac stimulants and counter-irritation. On the fourth day the patient had recovered except for general weakness.

Asthma.—Saenger describes a simple method he has found of great use in treating nine cases of asthma, of which the histories are given. His theory is that the deep inspirations the dyspnoic patient endeavors to make only serve to aggravate the existing over-distention of the lung and increase the distress. The patients should therefore be encouraged to inhale as gently and scantily as possible, and to make the expirations equally gentle but more prolonged. In order to effect this more easily, he has them count aloud, one count a second, up to four or five during the expiration, take a short inspiration, and so on, the diversion of the attention required also assisting to make the dyspnœa less urgent. Between the attacks similar exercises are systematically practised, extending the counting up to thirty or forty in the course of time. In this way the patients are inured to dyspnœa, as it were, and bear the attacks much better. The frequency of the attacks is also greatly diminished.

The Effect of Introducing Hydrochloric Acid Solutions in Achylia.—Heichelheim and Kramer describe the results obtained by testing the pepsin content of the gastric juice expressed after from 200–500 c.c. of decinormal hydrochloric acid solution had been poured into the stomach through a tube and allowed to remain for from one-half to three-quarters of an hour before being syphoned off again. A test-meal was then given and examined as usual. In some cases the test-meal was given immediately before introducing the hydrochloric acid solution. The authors point out the fact that the absence of free HCl without carcinoma is much less rare than is generally supposed. Out of sixty cases of achylia examined, only about one-third had positive signs of carcinoma. Achylia can also exist with but slight detriment to the health, as is shown by one case kept under observation for eleven years in which complete achylia has persisted all this time and yet the patient's nutrition has not suffered. For routine work in determining the pepsin content of the juice, the authors prefer the capillary tube method of Mett, although Volhard's method is somewhat more accurate and gives better results where close determinations are necessary. The dilution which Nirenstein and Schiff recommend in order to eliminate inhibiting substances, while theoretically correct, is not advisable, since the large multiplying factor (16) so introduced leads to inaccuracies in reading the digestion that has taken place in the capillary tubes. It was found that no formal rules could be established for the behavior of the pepsin content after the ingestion of hydrochloric acid solution in achylia, and the hope of elaborating a differential sign between simple achylia and that dependent upon carcinoma was not realized. The amount of pepsin was decreased in all forms of achylia, less in carcinoma than in the simple form. The fact that in carcinomatous achylia a relatively high pepsin content usually exists, which is still further increased by the hydrochloric acid treatment, may be found of some diagnostic use. A brownish discoloration of the returned HCl solution, due to blood, is evidence of carcinoma.

French and Italian Journals.

The Normal Salivary Microbic Flora.—A. Gilbert and A. Lippmann have reached the following conclusions: In the normal state, the canal of Sténon is invaded by an extremely abundant microbic flora; this microbic invasion is very marked even in the middle part of the canal, but grows progressively less as the parotid gland is approached. The tiny intraglandular canaliculi and the glandular parenchyma are sterile. The salivary flora is composed especially of anaërobic microorganisms. These far exceed the aërobic microbes in their constant presence, their number and their variety. These microorganisms are susceptible to certain variations according to the state of activity or repose of the parotid. During mastication, due no doubt to the mechanical action of the saliva, one can determine a notable diminution in the number of microorganisms. Prolonged fasting appears to have just the opposite effect.—*La Presse Médicale*, February 27, 1904.

Parasitic Hepatic Fever.—Pasquale Scarano says that a suppurative hepatic fever exists which has an intermittent type and that it commences in the bile ducts. This fever presents the same characteristics in the beginning as the intermittent hepatic fever, due to inflammatory processes of the liver. At first the diagnosis is uncertain between suppurative and true intermittent fever. But as the disease runs its course the differential diagnosis is much facilitated by the rapid increase of the grave symptoms and by the serious general condition of the patient. Another important diagnostic point is given by the character of the pain, which is not severe and much lighter than in hepatic suppurative inflammation. The fever under study has most of the characteristics of intermittent malarial fever which it closely resembles, but the symptoms follow no definite periodicity. As a general rule the disease is transmitted by contiguity of tissues rather than through the blood. The disease also resembles very closely typical septic fever. This form of fever should really be called bilioseptic, because this nomenclature indicates the starting point of the invasion of the germs, which is in the biliary tubes.—*Giornale Internazionale delle Scienze Mediche*, January 31, 1904.

The Dosage in Radiotherapy.—A. Béclère says that it is a general therapeutic law that all agents should be measured, and since Röntgen rays are a therapeutic agent they fall under this rule. By means of the r diochromometer of Benoiet the intensity of the *x*-ray can be measured. The instrument is made of a very thin silver disk, surrounded by twelve plates of aluminum, having thicknesses ranging from one to twelve millimeters. The principle of this mechanism depends on the variability of the proportion which exists between the absorptive power of the silver and that of the aluminum, which varies directly in proportion to the power of the rays. With weak rays the silver absorbs as much as the thinnest disk of aluminum, while the thickest aluminum disk does not absorb more light than the silver, thus allowing all the intermediate degrees to be noted. When the radiochromometer is exposed over a sensitive plate to a luminous tube the photograph gives twelve shades corresponding to the twelve aluminum plates, and in the center of them is the shadow of the silver disk. The aluminum disk shadow that corresponds in tint to the shadow of the silver disk indicates the intensity of the rays given off by the tube.—*La Presse Médicale*, February 3, 1904.

The Treatment of Cancer.—Th. Tuffier states that the *x*-ray has without doubt a selective action on certain cancers, and that this fact has aroused great hopes. Unfortunately the results that can be obtained in serious cases, such as epithelioma of the tongue and floor of the mouth, do not make a good showing. The *x*-ray has an undeniable action on the diseased tissues, which become softened and do not compress the nerves as much as before. This is shown by the frequent disappearance of pain, but so far this is the only change which has been proven in these cases. In the grave cases local applications do not seem to fulfil the requirements as well as some constitutional therapeutic measure might do. Serum therapy is what is needed in spite of the fact that all attempts to get one have so far been fruitless. Perhaps a definite chemical substance might be found which when injected would favorably modify the blood serum. Most of the anticancer serums from the very beginning can favorably modify the gravest neoplasms. The improvement is noted in the lessened extent of the diseased tissue which may shrink considerably as well as in the functional disturbances which may disappear after the first application. The later treatments are less effective and are finally powerless, allowing the diseased tissue to increase in extent more rapidly than ever before.—*La Presse Médicale*, February 3, 1904.

Influence of Traumatism on the Recurrence of Malaria.—Duret states that it may be questioned if fever which comes on after an operation in a malarial patient is due to infection or to malaria. The course of the temperature ordinarily suffices to clear up the diagnosis. In every case it is certain that the malarial symptoms may be renewed by traumatism. Verneuil has noted a recurrence of fever in malarial patients in cases in which it was impossible to admit infection, after simple contusions, for example.—*Journal des Sciences Médicales de Lille*, February 27, 1904.

A Pelvic-abdominal Syndrome in Women.—De Ran has often observed in women several symptoms (pain, neuralgia, hyperæsthesia, spasm, vasomotor trouble, congestion, ptosis, functional disorders, etc.) relating in various degrees to three systems which occupy the pelvic cavity: the genital apparatus, the digestive apparatus and the urinary apparatus. The pathological relation of these symptoms is accounted for by the richness of the vascular and nervous network of this region. This syndrome is noted especially in arthritics, neuroarthritics, hysterical patients and in neurasthenics. In certain cases it might be called pelvic-abdominal neuropathy.—*Bulletin Médical*, March 2, 1904.

The Prognostic Value of the Sphygmograph.—Giovanni Quadri attaches great value to the changes in the sphygmographic tracing in cases of heart failure and kidney disease. He cites a case of Reynaud's, of typhoid, in which there were no vascular changes until the twenty-third day of the illness, when the sphygmographic curve became markedly smaller, with marked changes in the circulation and purpuric patches on the neck and body, preceding death. To this he adds a case of his own of pernicious malaria with uræmia from acute Bright's disease, in which the sphygmograph enabled him to foresee the uræmic attack. The case was under the quinine treatment without any apparent effect on the malarial parasites. There was much albumin in the urine and hyaline and granular casts and renal cells. On the twenty-seventh and twenty-eighth days the patient had convulsions preceding death. Before the uræmic attacks there was a marked increase of arterial pressure, with an increase in the height of the sphygmographic curve.—*Gazetta Medica Lombarda*, February 15, 1904.

The Nature and Action of the Diphtheritic Toxin.—Giovanni Castronuovo has made some researches and experiments in reference to the theories of Ehrlich and Fraenkel. According to Ehrlich, a diphtheria culture in broth produces two substances, a toxin and a toxon. Both of these substances contain groups of atoms which can produce both toxic and antitoxic actions. Castronuovo concludes as follows: (1) The diphtheritic toxin contains substances whose composition is not at present known, and which in solutions of broth are not stable. (2) The toxin of Ehrlich cannot be absolutely demonstrated by experiment; the supposed specific manifestations of the toxon can also be explained by the action of the ordinary toxin. (3) The haptophore and toxophore groups of Ehrlich cannot be separated by heat, but remain quite hypothetical. (4) Attenuated diphtheritic toxin has a marked affinity for antitoxin, contrary to the theory of Ehrlich. (5) In a broth culture of diphtheria deprived of bacilli, after boiling, no immunizing substance can be demonstrated, thereby differing from the toxin of Fraenkel.—*La Riforma Medica*, February 17, 1904.

Lesion of the Larynx in a Case of Typhoid Fever.—P observed this interesting case. The patient was a young man of thirty-five years suffering from an attack of typhoid fever. His family as well as his personal history was bad. He was an alcoholic, and an inveterate smoker. About a month after he was first taken ill, and when the period of convalescence seemed near, he was seized with an affection of the larynx. The patient began to complain of difficulty in swallowing, and his voice became much hoarser than it had been before. The mouth and pharynx were carefully examined with almost negative results. By the next day the pain on swallowing was greater, the voice was weaker and there was aphonia from time to time. The respirations increased and dyspnœa developed. A laryngoscopical examination was not possible in the enfeebled condition of the patient. The symptoms increased in severity and tracheotomy was decided upon. The patient improved for a few hours after this operation, but soon began to lose ground and finally died. Autopsy showed necrosis of the cartilages of the larynx. The perilaryngeal cellular tissue was infiltrated by a small quantity of liquid of fetid odor. The writer thinks that whatever the microorganism that caused the lesion, the localization was produced because the patient was a heavy drinker and smoker, and because his larynx was not normal even on his entrance to the hospital, for at this time his voice was rough.—*Gazette Hebdomadaire des Sciences Médicales*, February 28, 1904.

Book Reviews.

s BLUES (Splanchnic Neurasthenia): Causes and Cure. y ALBERT ABRAMS, A.M., M.D. (Heidelberg); F.R.M.S. Consulting Physician, Denver National Hospital for Consumptives; the Mount Zion and the French Hospitals, San Francisco; President of the Emanual Sisterhood Polyclinic; Formerly Professor of Pathology and Director of the Medical Clinic, Cooper Medical College, an Francisco. Illustrated. New York: E. B. Treat Company, 1904.

s a long time since we have read a medical book with interest and real enjoyment as we have this work. Abrams writes entertainingly on a novel subject, and ther his theory is fundamentally sound or not his book ggestive, and will at least do good in directing attento the neglected set of muscles which constitute the minal wall. He believes that the state of mental ression, popularly called "the blues," has a physical s in venous congestion within the abdomen, and as an ression of this belief he has adopted the term "splanchneurasthenia." This condition, he says, is characterl by attacks of depression, which come on spontaneously out apparent cause and depart as mysteriously as they . This form of neurasthenia is dependent essentially, lieves, on a stagnation of blood in the splanchnic or minal veins, which is either primary or secondary to us exhaustion. The treatment must therefore be ted against the local condition of abdominal plethora ll as against the neurasthenic state. The former is y of a physical nature, consisting in abdominal ge, abdominal and respiratory exercises, electricity, otherapy, and, when necessary, the wearing of an minal supporter. However, it is not merely in the ity of the theory and the seeming ease of cure that the n of the book lies, but rather in the author's evident ity and the easy, pleasant way in which he has oped his theme. The pleasure of the reader is ed a little by evidences of hurried proofreading, his is a defect which will, we hope, be remedied in e editions, for that there will be future editions can y be doubted.

ANGEBORENE KEHLKOPFDIAPHRAGMA. Von Dr. JOHAN N, Regimentartzt in Wien, mit 2 Tafeln and 2 ichnungen. Berlin: Oscar Coblentz, 1904.

author has collected from literature the records of en cases of this rare malformation, and gives a full ography thereof, adding two cases coming under its nal observation. The subject is given a careful and minating analysis.

SCRIPTION OF THE BRAINS AND SPINAL CORDS OF TWO OTHERS DEAD OF HEREDITARY ATAXIA, OF THE RIES IN THE FAMILY DESCRIBED BY DR. SANGER OWN. By LEWELLYS F. BARKER. Decennial Publations of the University of Chicago, 1903.

publication consists of a clinical report of two cases reditary ataxia by Dr. Sanger Brown of Chicago and tailed description of the gross and microscopic findings e brains and spinal cords, by Dr. Lewellys Barker. e are numerous illustrations of the cerebrum and bellum. The lesions in the spinal cord are beautifully trated in colored plates. Altogether it is an elaborate well executed essay.

ANUAL OF OPERATIVE SURGERY. By Sir FREDERICK REVES, Bart., K.C.V.O., C.B., LL.D., F.R.C.S. Sergeant rgery in Ordinary to His Majesty the King. New dition revised by the Author and JONATHAN HUTCHINON, Junior F.R.C.S. Vol II. 8vo, pp. Philadelphia d New York: Lea Brothers & Co., 1904.

second volume of this work shows, as did the first, y evidences of revision and elaboration. The necesfor this is apparent enough considering the advances le in the technique of operative procedure even since first edition appeared. The object lessons presented the illustrations are numerous and are leading features the work. The descriptions are models of their kind, leave nothing to be desired as to detail or lucidity. in these days when excellent surgical works are ndant, this one will commend itself to the practical geon as thoroughly covering the ground and meeting up-to-date conditions of the many vexed questions of cussion. This is particularly apparent in the section abdominal operations in general and particularly on pendectomy, in which the author has had an exceptionally large experience. The chapter on gall-bladder erations is also distinctive in this regard, as is also that ferring to the various operations on the kidneys. Nothing more than a mere allusion is made to the benefits of psulotomy for nephritis, as the author considers that its al value is still undecided. He is of the latter opinion garding Bottini's operation for enlarged prostate, as also ligature of the iliac vessels, castration, and vasectomy, and advocates direct and radical encapsulation when possible. The operation for the removal of breast cancer is described in much desirable detail, and the indications for the use of the knife are presented with such clearness that the merest novice cannot hesitate in appreciating their full force. The author believes in most radical extirpation of gland and clearing of axillary space, and while he admits that statistics have very much improved of late years, the present time limit of three years of non-recurrence of the disease is not an entirely reliable test of cure.

DR. JOSEPH LEIDY: A Portrait, etched by JAMES S. KING of Newark, N. J. Engraved surface 13½x16 inches. Limited edition of 150 copies printed on Imperial Japan Vellum paper and signed by the artist. Price, $15. Philadelphia: Published by William J. Campbell.

THIS is an admirable etching made by a capable artist from a portrait of the late Dr. Leidy. Leidy was a born naturalist, his interest in the natural sciences being manifested early in life and being actively maintained to the end. He was born in Philadelphia, was graduated from the medical department of the University of Pennsylvania at the age of twenty-one, and at thirty was elected professor of anatomy in his alma mater, continuing in the occupancy of his chair until his death. He was the first to point out, in 1847, the presence of trichinæ in pork.

The picture before us is a desirable one for its artistic merit alone; it is further worth having as the likeness of one of America's most distinguished scientists, and to graduates of the medical department of the University of Pennsylvania, and particularly Leidy's own pupils, it should possess especial attractiveness for the associations with which it is surrounded.

THE AMERICAN YEAR BOOK OF MEDICINE AND SURGERY, Being a Yearly Digest of Scientific Progress and Authoritative Opinion on All Branches of Medicine and Surgery, under the general editorial charge of GEORGE M. GOULD, M.D. I. Medicine; II. Surgery. Philadelphia: W. B. Saunders & Co., 1904.

THIS yearly digest fully maintains the reputation of its predecessors, and will be duly appreciated by the busy man who desires to keep abreast with the latest advances in medicine and surgery. The arrangement of subjects is everything that may be desired, and covers the field of progress in different lines very satisfactorily. The selection and treatment of topics is judicious and reflects great credit on the various experts in charge of the different departments of the work. In the present edition effort has been made to give a preliminary abstract or general introductory survey of the recent advances at the head of each division, which is a decided improvement on former plans. Although much partiality is shown in the liberal quotation of the editorial comments from the journal of which the editor of the work is connected, such a disposition may be pardonable on the score of inordinate zeal in a tempting direction.

THE PATHOGENIC MICROBES. By M. le Dr. P. JOUSSET, Physician to the Hospital St. Jacques, Paris. Authorized translation by HORACE P. HOLMES, M.D. Philadelphia: Boericke & Tafel, 1903.

MARK TWAIN long ago, in his translation back into English of the French version of his own classical Jumping Frog story, pointed out the pitfalls besetting the path of the literal translator.

Unfortunately the subtleties of the Gallic idiom lose their pungency when transferred *verbatim* into our own language, and while the original of this work is no doubt an instructive and gracefully expressed essay, in its present form it is calculated to arouse only amusement at its unconscious humor. *Traduttori, traditori!*

A TEXTBOOK OF THE PRACTICE OF MEDICINE. By JAMES M. ANDERS, M.D., Ph.D., LL.D., Professor of Medicine and Clinical Medicine at the Medico-chirurgical College; Physician to the Medico-chirurgical Hospital; Formerly Physician to the Philadelphia and to the Protestant Episcopal Hospitals, Philadelphia; Fellow of the College of Physicians; Member of the Academy of Natural Sciences, Philadelphia. Sixth edition. Thoroughly Revised. Philadelphia, New York, London: W. B Saunders & Company, 1903.

DR. ANDERS' work is too well known to call for any special comments. In the present edition various subjects in the knowledge of which rapid advances have been made, such as yellow fever, bacillary dysentery, radiopraxis, etc., have undergone the necessary revision, and a number of new titles, among which are paratyphoid fevers, orthostatic albuminuria, trypanosomiasis, and transcortical aphasia, have been introduced. The author says that he has made free use of recent works and of the modern periodical literature in order to bring his book fully up to date in all essential points, and after a close examination of the chapters dealing with many of the subjects in which progress has been most rapid, we must admit that his claim is substantiated.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held March 3, 1904.

VIRGIL P. GIBNEY, M.D., VICE-PRESIDENT, IN THE CHAIR.

A Consideration of the Ultimate Results of the Bloodless Replacements of Congenitally Dislocated Hips.—Dr. JOHN RIDLON of Chicago read this paper, and said that in selecting his subject he had been actuated by divers motives, but chiefly with the hope that a straightforward presentation of the facts, in so far as he had been able to obtain them, might correct certain delusions and false impressions that had crept into the minds of medical men and others, mainly through uninformed writers of sensational articles in the newspapers. He said that for the past five years no subject had been so persistently misrepresented by the lay press and, he regretted to say, by the writers of the medical press, and nothing had been more misunderstood in that time than the results of these bloodless operations. He believed that enough hips had been operated upon and sufficient time had elapsed to gain an accurate knowledge of the facts which he wished to present. In bilateral congenital dislocations of the hip he believed this operation to be the only one to be used in every case, and he did not think that the bloodless replacement of these hips should be condemned if the anatomical replacements did not meet with more than 10 per cent. or 20 per cent. of successes. It was regrettable that people expected to get perfect results from this operation, but he thought the operators would be encouraged by the results thus far obtained in selected cases. The development of the operation was so well known to the profession that he did not think it necessary to go into its consideration. He divided his cases into four groups as follows:

FIRST GROUP.—From February 28, 1894, to July, 1897, these cases being observed by him in Chicago. In this group there were 12 patients, all girls, whose ages varied from 15 months to 11 years. Five dislocations were on the right and seven on the left side, and the shortening varied from one-half to two and a half inches. Only two of these could be traced.

SECOND GROUP.—From July, 1897, to the advent of Professor Lorenz. In this group there were 40 patients with 51 dislocated hips. At this point the speaker took up the consideration of what constituted a good result. Professor Lorenz, he said, considered shortening of the hamstring muscles as indicative of replacement, but Dr. Wilson of Philadelphia had demonstrated that this was not always true. The accidents which happened in the efforts at replacement were paralysis, fracture of the neck of the femur, fracture of the shaft of the femur, tear of the perineum, rupture of femoral artery, gangrene, etc. Of these 51 dislocated hips in this second group, 20 were on the right and 31 on the left side. Thirty-six were girls and 4 were boys. The ages varied from 18 months to 13 years, and the shortening varied from one-half to four and a half inches. Of the 51 hips, 24 were operated upon, and among these 5 were failures and 5 relapsed. All were cases of dorsal dislocation, except one, which was upward and forward. He then detailed some cases which presented points of interest.

THIRD GROUP.—Those that were examined and operated on by Professor Lorenz. Among this group there were 22 patients with 26 dislocated hips. Three were boys and 19 were girls. The ages varied from 2 to 12 years, and the shortening was from three-quarters to two inches. The results of operations on these 26 hips were, 12 anterior transpositions, 4 supracondyloid, 7 failures, 1 apparent, and 2 true replacement. In one there was a torn perineum, in another paralysis, one fracture of the neck, and one fracture of the shaft of the femur. He said that allowances should be made for Professor Lorenz' failures, because, after the operations, these little patients were no o nger under his care.

FOURTH GROUP.—This group comprised those that had been cared for by him since October 12, 1892. There were 42 patients, of whom 24 were girls and 18 boys. In 24 the dislocation was on the right side. The ages varied from 17 months to 13 years. The shortening was from one-half to three and a half inches. Of the 52 dislocated hips there were the following results: 7 anterior transpositions, 4 supracondyloid, 5 failures, 4 apparent replacements, 6 perfect replacements, 2 rejected, 4 refused operation, 6 still waiting for operation, 14 apparently in place at time of operation, but still in plaster splints. Fracture of the neck of the femur occurred in two cases.

Much interest was taken in the report of Case No. 33, which was given as follows: "On December 30, 1900, the right hip relapsed during the second month, while in the plaster splint, and the treatment of this hip was abandoned until a good result should be had on the left side. The plaster splint was removed from the left hip at the end of seven months, and the replacement was almost perfect. During the following three months the femoral head was forward, but not enough to be felt in the groin. Dr. Fenger was of the opinion that there was an anterior transposition, and as such I have reported it. The child walked on the limb for eighteen months without any striking result, and when Professor Lorenz operated on the right hip on October 13, 1902, he examined the left hip and said: 'That hip is good enough for anyone.' He did not say whether he considered it a perfect replacement or an anterior transposition. When Lorenz removed the splint from the hip he had operated on, the limb was found to be much shorter than the one I had operated on, but the head appeared to be in place. After three weeks of daily massage and manipulation, an anæsthetic was administered and the leg again stretched and manipulated and again placed in a plaster splint." Dr. Ridlon believed that this patient could now walk, but that a decade would elapse before it would be known whether or not there was a perfect result.

In speaking of the attitude of medical men toward bloodless surgery, he divided their interest into four phases: First, indifference; second, interest; third, delirium; fourth, the morning-after when things look different.

Notes had been taken of 129 patients with 158 dislocated hips. Of these 158, 93 were operated on and only 10 could be called perfect anatomical replacements. How many of 14 that are apparently in place, but which have not been *x*-rayed, that will prove to be permanent six months later was a matter of opinion. Some would likely show improvement. None of the dislocations originally dorsal had been demonstrated to have relapsed where the adductor muscles had been freely torn. Of the 93 there were 61 anterior replacements, 10 perfect replacements, 11 failures to replace, and 5 relapses. Of the 5 relapses, Dr. Lorenz operated on 2 and Dr. Ridlon on 3. When anterior transposition occurred, he believed it was due to freely tearing the tissues in front of the joint. When the supracondyloid occurred, he believed it was due to the saucer-shaped acetabulum. When the adductor muscles were not freely torn and the tissues were not overstretched relapses into dorsal positions might occur. It was his experience that if the femoral head was not buried in the acetabulum it was doubtful if one would get a permanent replacement; one was pretty sure to get an anterior transposition. Anterior transpositions frequently followed too violent operative measures. Retraction of the posterior muscles of the hip during the period of retention would cause an outward rotation of the limb which often would be found impossible to correct.

From his study of this bloodless operation it was his belief that in 100 cases 10 per cent. would become permanently cured, 60 per cent. would be only partially successful, and 30 per cent. would be failures. He reported a great many interesting cases showing skiagraphs and commented freely upon all.

Dr. WILSON of Philadelphia said that before the period

of delirium referred to by Dr. Ridlon, he dreaded those cases of congenital dislocations of the hip because nothing but disaster resulted, such as death, suppuration, ankylosis, etc., and he was not encouraged to pursue the subject, but all this was before the advent of Lorenz. Since his visit he saw the advantage of the operation and his own errors had been pointed out to him. In the Philadelphia clinic 20 cases were selected and presented to Lorenz for operation, and he selected a sufficient number to demonstrate his method. Among the 9 cases he operated upon he had the following results: In 3 there was a perfect anatomical replacement with good functional results; in 3 there were fairly good functional results; in 1 was not reduced, and in 2 it slipped after reduction. He was surprised at the expressed opinions regarding the value of the radiograph in these cases of congenitally dislocated hips, for he believed they were of great value when considered in connection with the clinical phenomena. He recalled the case of a boy, 4 years old, whom Lorenz had failed to cure. The operating was an absolute failure, that the Professor had exhausted his immense strength in the vain effort to start the muscles and set the hip. He said that Lorenz had been of great assistance in promoting bloodless surgery. but he personally knew of but 3 perfect results.

Dr. BRADFORD of Boston said that congenitally dislocations of the hip that had been observed in Boston had been carefully considered, and 130 cases had been reported and submitted to the public, and soon he hoped to have a statement prepared to present to the profession which would be entirely free from bias. This question he believed should be looked at without any so-called delirium. From a surgical standpoint there were certain facts that were not thoroughly understood. Now that we understood more regarding the pathological anatomy, an effort should be made to cure these patients, since the possibility of obtaining perfect results had been demonstrated. He believed that perfect anatomical cures should be strived for and could be obtained in a certain percentage of the cases. Taking the statistics as presented in Boston during the past twenty years, he said it would be found that the number of anatomical cures were steadily increasing, and by cure he did not mean functional cure or transposition, but a replacement of the head of the femur in the acetabulum with perfect restoration of the gait. In the future he believed this would be the result the surgeons should hope to obtain. He asked why relapses occurred, and thought that, in the majority of the cases, certain obstructions were present in the soft parts which might be overcome either by manipulation or by the knife, a question to be decided by the surgeon. At present it seemed to him that the manipulative method was the better one. In Boston mechanical force had been tried, and he thought the bone could be better guided in this way. In certain of the older cases he did not think reduction was practical, but in a large percentage of the cases occurring in children cure was not only practical, but possible, and was to be expected. He believed the future would show fewer relapses. He did not think it was any more impossible to cure congenitally dislocated hips than to cure congenitally clubbed feet. Of the 130 cases reported from Boston there were practically 40 per cent. cured, a very good showing.

Dr. SHAFFER thanked Dr. Ridlon for his careful and comprehensive analysis of the histories presented and said that, while not agreeing with all his conclusions, he thought the paper presented many valuable facts, and the statistics presented formed a valuable and intelligent basis, the only one thus far for judging the operation and its results. He was not prepared to give a satisfactory analysis of the results obtained in all the patients that had come under his observation, and he wished only to mention those which had been, for a longer or shorter period, under observation in the State Hospital. These were only four in number, and all were operated on by Lorenz at the Cornell Clinic.

The lessons conveyed by these cases, their behavior under treatment, their progress after the gypsum splint was removed, and the results thus far obtained, were very interesting. Even at this date he said it was impossible to state definitely the ultimate results, and it might be months or years before this could be definitely determined. In all these patients the tendency to the condition known as "anterior transposition" was very evident. He believed the statement made by Dr. Ridlon that this was due to the muscular condition produced by the tearing, especially of the adductors, was correct. In the after-treatment of this condition he believed that one should study the "adaptive muscular conditions" (as he had termed it) more closely. He said that muscles shortened or lengthened when opportunities were given, as in an acquired talipes equinus, associated with hip disease, or even more markedly in infantile paralysis or in lateral curvatures. A muscle torn and extensively lacerated by the force necessary to reduce a congenitally dislocated hip might be many months before it could regain anything like normal contractility. It might even be years. Studying the results which had come under his observation, he said he would in the future give those lacerated muscles a much longer time to recuperate—say a year or eighteen months—before discarding mechanical protection. In other words, after the plaster splint had been removed, a steel splint should be applied, as in infantile paralysis, embracing the pelvis, with a pelvic band, and embracing the entire limb to and involving the foot with antero-posterior motion at the hip, knee, and ankle, with or without perineal pads. This would place the femur under the control of the surgeon as regarded in- or out-ward rotation, and the "weight-bearing" principle could be applied while the patient walked about and in the line sought for, *i.e.* in the line which would maintain the head of the femur in the acetabulum. He believed that if this treatment had been followed in the patients he had watched, as well as some of Dr. Ridlon's, the percentage of perfect "anatomical repositions" would have been greatly increased.

Dr. WHITMAN did not consider the statistics of particular value, because, if Dr. Lorenz' method was properly carried out in younger cases, there were better prospects of cure. He believed that 40 per cent. of these little patients with congenitally dislocated hips could be perfectly cured by this method. If the bloodless operation failed he believed the open method should be tried.

Dr. A. JACOBI asked the earliest age at which babies should be operated on when they had congenital dislocations of the hip.

Dr. V. P. GIBNEY said that the cases at the Hospital for the Ruptured and Crippled were not yet ready to be reported, but he believed that their statistics would compare favorably with those given by Dr. Ridlon.

Dr. RIDLON, answering Dr. Jacobi's question, said the youngest child operated on was seventeen months old. There could be no question but that the earlier the operation the easier would it be; but, on the other hand, the younger the patient the more difficulty would be encountered in retaining the head of the femur in the acetabulum. He said it should be remembered that these little ones had very delicate skins and, being placed so long in splints, wet themselves and the splints, requiring frequent changes, possibly once a week for eight months. The period of choice was from two to four years.

Report of St. Elizabeth's Hospital, Chicago.—A report of the work of this hospital for the last year has recently been issued, which shows that 2,240 patients were treated. No remuneration was received for treatment in 411 cases.

THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENERAL MEDICINE.

Stated Meeting, Held February 16, 1904.

L. A. CONNER, M.D., IN THE CHAIR.

New Instrument for the Determination of Blood-pressure.—Dr. THEODORE C. JANEWAY showed this instrument (see p. 358).

Demonstration of a New Aspirator.—Dr. CONNELL presented an instrument that had been in use at the New York Hospital during the past fourteen months. A large bottle was rinsed out with about three drachms of alcohol and the excess poured off; the alcohol was ignited, and as the flame was about to go out a stopper was introduced into the neck. Through the stopper ran a tube, which was connected by means of a rubber tubing to the needle. The air contained within the bottle was displaced by the flaming alcohol, so producing a vacuum. He said that from 70 to 80 per cent. of the air could be so displaced. It had been used to aspirate pus, for suprapubic aspiration of the bladder, for the relief of œdema of the leg, etc.

Notes on the Cytodiagnosis of Some of the Pleural Fluids with Particular Reference to the Tuberculous Form.—Dr. HERBERT C. CARTER read this paper and said that cystodiagnosis was a subject that until very recently had been entirely ignored. The importance of any additional aid in the diagnosis of obscure cases could not be overestimated. If a patient had a pleural effusion a positive diagnosis offered the best chance for his proper care. In fifteen cases out of 152 of pleurisy with effusion it was demonstrated to be tuberculous. In 3 per cent. of these the disease manifested itself within two years from the day of effusion. It was noted that when the specific gravity of the fluid was 1012 or above, it was an exudate, but if below that figure it was a transudate, and therefore this at once differentiated between the inflammatory and non-inflammatory fluids, and was a means of great value. So many of these pleurisies with effusion he said began the same way, and by means of this method of differentiating one could tell at once whether it was a pneumonic or an acute tuberculous pleurisy from the start. He doubted whether a true attack of rheumatism could give rise to a true pleural effusion. He then referred briefly to the morphological methods employed, and said that the fluids should be examined promptly after aspiration. Notes had been taken of the turbidity, reaction, the fibrin, albumin, and nucleoalbumin content, etc. The fluid was then centrifuged and examinations of cells made. The cases were divided into four classes as follows:

I. Cases of Pleural Effusion Proven to Be of Tuberculous Origin.—All cases gave a leucocytosis and the diagnosis was backed by autopsies on guinea-pigs, on the patient, or on both. The specific gravity was always over 1012. There was a large fibrin clot, a large amount of albumin, and a leucocytosis from 90 to 100 per cent. The relative number of cells contained in the fluid was of no importance, some showed endothelial cells in small numbers and others in large numbers. It was interesting to note that in these tuberculous cases there was a tendency to high temperatures. He believed that an almost certain diagnosis of tuberculous pleurisy could be made by this morphological examination of the fluid alone.

II. Cases of Pleural Effusion Probably of Tuberculous Origin.—Twenty cases were examined, and they gave practically the same characteristics as the fluid from those of proven tuberculous origin. The average specific gravity was 1019. The amount of fluid was from 6 to 159 ounces. The temperature ranged from 105 to normal. There were not enough cases to enable one to make any fair deductions.

III. Cases of Pleural Effusion Following Lobar Pneumonia.—Here there was a polymorphonuclear lymphocytosis with a large amount of fibrin, a large amount of albumin, and there was shown an exudative inflammatory character, with a specific gravity over 1012. This series of cases he said illustrated certain points in the differential diagnosis from tuberculous cases by a differential cell count. One might find polymorphonuclear leucocytosis before the third or fourth day in tuberculous pleurisy. The temperature curve when there developed a true course of pneumonia was that of the original disease and therefore high. There was a lower average temperature than that encountered in the tuberculous cases. The amount of fluid was from 5 to ounces, and, therefore, less than that of tuberculous origin.

IV. Transudates, from Cases of Chronic Nephritis, Endocarditis, Cardiac Dilatation, Acute Pericarditis, Etc.—The specific gravity in these cases was below 1012. The fibrin content was slight or none at all. The albumin simply appeared when nitric acid was added as a very faint or slight clowdy precipitate. There was a positive lymphocytosis present in all cases. The temperature curve was of no value. The differential diagnosis between transudates and tuberculous pleurisy he said could not rest on the differential cell count.

The Diagnostic Value of the Chemical Examination of Serous Effusions: Results at the New York Hospital.—Dr. JOSEPH C. ROPER said that the results examination at the New York Hospital were based twenty-six cases of fluid from the pleura, two from pericardium, twelve from peritoneum, two from ovarian cysts, and one from a mesenteric cyst. The points noted were color and general appearance, presence of coagulum, specific gravity, reaction, estimation of albumin and nucleoalbumin. The color varied from a light yellow in hydræmia to a dark red in fluid from tumor of the pleura. A fibrin coagulum seemed to be a constant feature in most of the fluids examined. The specific gravity varied from 1005 to 1030 and was roughly proportionate to the amount of albumin. The reaction with litmus paper was alkaline or neutral. For a rough estimate of nucleoalbumin an acetic acid solution was used, and, with inflammatory fluids, gave a fairly well-marked white cloud. Some reaction was obtained in all fluids and it was generally admitted that other substances would be precipitated by this agent, but there was no doubt but that it was more marked in the inflammatory fluids. Several cases of tuberculous pleurisy showed very rapid accumulation of fluid with the albumin percentage well maintained. He concluded by saying that considerable importance was attached to the routine examination of these fluids as an aid to diagnosis.

Results at the Hudson Street Hospital.—Dr. HERMAN S. PATTERSON said that the examination of fluids collecting in the serous cavities and in the subcutaneous tissues during the course of inflammatory processes, renal and cardiac disease, was started as a routine in the Hudson Street Hospital by Dr. L. A. Conner in 19[illegible] and the purpose of this series of investigations was to determine whether certain fluids possessed characteristic features which would serve as aids to diagnosis which other clinical methods failed to furnish.

In an analysis of fifty-four specimens of fluid it seemed to him possible to distinguish the following:

1. Fluids which were the result of acute inflammatory processes, so-called exudates. He concluded that inflammatory fluids, or exudates in general, had an alkaline or slightly alkaline reaction, had an average specific gravity of 1023, an average amount of albumin (in terms of Esbach) of 29.26 gm. per liter. On the addition of a drop of concentrated nitric acid they yield heavy massive clots of coagulated albumin, which sink quickly to the bottom of the tube and often adhere to the sides; they give fairly strong nucleoalbumin reactions.

2. Fluids, the collection of which was part of an acute nephritis. He concluded that nephritic transudates were of comparatively low specific gravity, had a comparatively small amount of albumin which precipitated

with concentrated nitric acid as a cloud of variable density and in general without clots or flakes. The nucleoalbumin reaction was present in a little over half the cases but to a less marked degree than in exudates.

3. Fluids resulting from cardiac insufficiency, whether primary or secondary to chronic nephritis. He concluded that in fluids which collected as the result of cardiac insufficiency there was a higher specific gravity than that of nephritic transudates and lower than that of exudates. The amount of albumin was more than that of nephritic transudates and was considerably less than that of exudates. The nucleoalbumin reaction was faint but more constant than in nephritic transudates. In conclusion he then cited a case to illustrate the practical value of this method of clinical investigation.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON ORTHOPEDIC SURGERY.

Stated Meeting, Held November 20, 1903.

T. HALSTED MYERS, CHAIRMAN.

Dislocation of the Humerus Complicating Obstetrical Paralysis.—Dr. W. WHITMAN presented two cases illustrating the treatment of dislocation of the humerus complicating obstetrical paralysis. The method which he had employed was similar to that of the Lorenz reduction of the hip-joint. This was preliminary forcible manipulation to rtretch the contracted parts and reduction by hyperextension of the elevated arm which was then slowly carried downward to the side of the body and fixed by means of a plaster bandage. This was retained for several weeks or months, and on its removal manipulation and muscle training were, if possible, begun. In some instances it might not be possible to reduce the displacement at the first attempt. Cases of this character were sometimes classed as true congenital displacement or misplacement of the humerus, but they were, in most instances, secondary subluxations, induced by the habitual attitude of abduction and pronation characteristic of obstetrical paralysis. In certain cases, repair of the injury to the nerve trunks had taken place, and yet the function was disabled, because of the subluxation of the head of the humerus backward, which made supination of the forearm impossible. In such instances, the correction of deformity might accomplish a practical cure. In the majority of cases of this character, the paralysis was irremediable, but even in this class the reduction of the displacement improved the attitude and function of the arm.

The first case was that of a girl eight years of age, operated upon three months before. The reduction was successful, the attitude was normal, there was a fair range of motion in the joint, and apparently no paralysis of the muscles. In this case functional cure was probable.

The second case was that of a boy eleven years of age. The extent of the original injury to the nerves was indicated by the atrophy and loss of growth of the extremity. In this case reduction was difficult, requiring several sittings. Now, about one year after the operation, the head of the humerus appeared to be firmly fixed in the proper position. Although there was but little power of voluntary motion in the joint, the appearance and the function of the limb had been considerably improved by the reduction of the displacement.

Coxa Vara.—Dr. WHITMAN presented also a case illustrating the operative treatment of coxa vara. The patient was a girl, ten years of age, who had limped for two years, and had recently complained of much pain and discomfort. The treatment consisted in the removal of a sufficient wedge of bone from the base of the trochanter, to permit the restoration of the normal angle of the femoral neck. A thin layer of bone at the extremity of the wedge, formed a hinge, the two opposing surfaces being brought into contact by abducting the limb. In this maneuver the trochanter being fixed by contact with the upper border of the acetabulum, further abduction of the shaft closed the wedge-shaped opening. In this attitude the limb was fixed by means of a plaster bandage, until repair was complete. In the patient presented but slight trace of the former disability was evident, although the operation had been performed in September, the bandage having been removed about three weeks before this meeting.

Dr. V. P. GIBNEY said that he remembered seeing the operation. He thought at the time, that the stretching had not been done sufficiently well to get the arm far enough back to make the reposition, and reduction of the arm where it belonged, absolutely sure. The boy had been kept at the hospital for a long time. After the removal of the plaster it seemed to the speaker, he had had a little better range of motion than at present. He said all were familiar with the cases presented by the late Dr. Phelps. The open method had been adopted, but he could not quite see how a perfect result could be obtained until the parts could be held in better position, and for a longer time than by the present treatment. He thought Dr. Whitman was working in the right direction, and that by and by a perfect method of treatment for this deformity would be evolved.

Dr. H. L. TAYLOR said he judged that these affections were secondary to obstetrical palsy, and should be reduced by a system analogous to that employed in congenital hip dislocation. In this case the shoulder seemed to be in good position. There was subluxation of the end of the clavicle, which was not important, though quite prominent. There is limited use, but, as Dr. Whitman had said, it must be remembered that the arms were more or less palsied, and the getting of the head of the humerus into its socket and keeping it there was certainly an improvement in the child's condition, and an improvement over the cutting operation for getting the arm into position.

Dr. LAZINSKI said that he had been very much interested in the case several years ago when he had seen a number of these children. The condition was then ascribed to injury to the brachial plexus, fifth and sixth roots, paralysis terminating in luxation of the shoulder-joint. If the muscles did not undergo regeneration under treatment or spontaneously, there was permanent disability. The speaker was glad to see such good results obtained by manipulation without any other operative interference.

Dr. L. PIERCE CLARK said that he was very sorry that he could not know more definitely about the cause of this condition, particularly in regard to birth. He thought that these conditions figured as obstetrical palsy due to lesion by stretching the fifth and sixth cervical roots, although there often was injury to other roots. He had palpated the plexus in both cases. He could detect the site of lesion in both. He thought the range of paralysis in the boy was greater in the brachial plexus. He thought other roots could be found damaged far down in the plexus behind the clavicle. In obstetrical palsies the deltoid suffered most because it was most completely supplied by the fifth and sixth cervical roots; then the biceps and supinator brevis. Subluxation of the shoulder was secondary to the paralysis; the atrophy in the deltoid corresponding to the atrophy in the shoulder-joint. It is a painful condition, and while operation may enable the muscle to work at much better leverage, nerve section and suture must be done. Kennedy had done the most successful operations of this character recently. The speaker had, during the past year, looked up a series of cases on which Dr. Alfred Taylor had been doing nerve section and suture. The cases had been doing all that could be expected, but much time was required for reparative processes, and they were not ready for presentation, but would be in four or five months. In such operative work as that presented by Dr. Whitman, this operation would not influence the pronation of the hand, because that was dode by the supinator brevis. This attitude of marked internal rotation was present, not because the pro-

nators were weak, but because the external rotators had been paralyzed. As the condition gradually improved, the elbow came down to the side and contractions took place. Last in the process was pronation of the hand. He had never seen cases of obstetrical paralysis in which this lesion had been marked, in which there had been entire recovery of supination of the hand under any form of treatment. He said that massage and passive movements were disregarded by neurologists, as the patients never carried out the movements under their own volition. After operation, a series of educational principles had to be carried out, and afterward cerebral training was given. Representations of movements must take their position in the brain. The brain, and not the muscles, must be educated. The speaker thought Kennedy's brachial plexus operations more successful than others, because he applied the cerebral education principle.

The Chairman, Dr. MYERS, wished to know in how severe cases of these paralyses, Dr. Whitman applied reduction. Was it not possible, in some cases, to produce immobilization in this way at the shoulder-joint, and so secure more motion of the arm through the less paralyzed muscles acting on the scapula?

Dr. WHITMAN said he had studied the hospital reports carefully in thirty or more cases of obstetrical palsy, and had seen the patients come in, all having the well-known attitude belonging to this condition. There was at first no subluxation present at all; it was the effect of the continued pronation and abduction. For that reason Dr. Whitman thought passive motions of great importance in order to prevent such conditions as he had shown. Whether there was paralysis or not, he thought it better to have the head of the bone in the normal position. Then there was power to supinate the arm. In the case of the little girl, Dr. Whitman thought there would be recovery of function, because the injury to the brachial plexus had been slight, but in the other case there would never be recovery, as the injury had been great, as shown by the atrophy of the muscles. There was complete ankylosis of the shoulder-joint. It was better with complete ankylosis to have the head of the bone in its proper place, which was all he had attempted to show. In former times this bad attitude had been allowed to persist, now it was remedied. It was better to do this forcible operation in one, two, or three sittings, thoroughly stretching the parts, than to make a section posteriorly without stretching. Whether or not they could be successfully replaced, and whether they would stay in place, he did not know. He did not present them as favorable cases. Thus far, the bone had remained in position, and function was very decidedly improved.

Dr. Gibney asked Dr. Whitman whether he did not think it would be better to do an excision of the head of the bone in the boy's case, in view of the importance of having it in its proper place, thus giving the patient a more flexible joint.

Dr. Whitman replied that it seemed to him that the atrophy of the scapula and shoulder muscles was very great. The arm was considerably shorter than the other side. He thought excision would be of little use if there were not sufficient muscle to move the arm about. It was a difficult case at the time of operation, and he was obliged to attempt to replace the bone in two sittings. Had been perfectly contented to have complete ankylosis because the attitude was much better. The boy now had partial supination; he had none before. The boy had had no treatment after the operation, whatever, except what the mother had been able to give him, in the way of massage, etc. He thought in the reduction of all deformity of long standing, the operator should not attempt to do what was required in less than two or three sittings.

Dr. Taylor said he understood the presenter of the case to say the legs had been made equal in length. He was quite sure that the affected limb was half an inch shorter than the other. It was in excellent position.

Subluxation of the Tibia.—Dr. V. P. GIBNEY reported the case of a boy ten years of age, with marked flexion deformity and subluxation of the head of the tibia, presenting a long cicatrix below the patella. He thought on first sight, a case of exsection of the joint in early life and the usual recurrence of deformity that takes place in those cases. He wished it, however, placed on record, a malarial synovitis of the knee, or rather, synovitis occurring during malarial attacks, and wanted to bring up the question as to whether it was osteitis or pure malarial synovitis. Dr. Whitman had operated on the boy, doing osteotomy above the condyles. The leg was now quite straight. Dr. Gibney showed a radiograph of the limb and wished to call attention to the curving of the lower end of the femur which takes place in tuberculous lesions of the bone, and have it compared with the sound limb. The history of the case, in brief was as follows: Boy eight years of age. Entered Bellevue November 22, 1900. Family history negative, save for malaria, which attacked all members of the family just before the boy's admission to the hospital. Plasmodia had been found in the blood. At the end of November, 1900, the boy began to have chills followed by fever and sweating. This occurred every other day. He would have twenty chills, accompanied by nausea, vomiting, and diarrhœa. Also severe frontal headache. No epistaxis. Looked well nourished but slightly anæmic. Heart normal, slightly irregular. Temperature 102.2–105. On December 1 there was tenderness in right knee and elbow. The joints were swollen and stiff. The tenderness was most marked at the inner aspect of the tibia. The inguinal glands were swollen. On January 8 the joint was very painful. Marked contraction of the leg. Massage and passive motion given daily. Stools fewer, and more normal in character. On January 20 the joint was opened, and the cartilage was found diseased. This was scraped away completely, the bones being found intact. The quadriceps extensor was cut out to get the patella out of the way. Suture by chromacized gut. Skin sutured with silk. A plaster-of-Paris splint was applied from the hip to the toes. The boy was admitted to Hospital for Ruptured and Crippled November 5, 1903, with the deformity described by Dr. Gibney.

Adult Knock-knee.—Dr. GIBNEY also described a case of adult knock-knee. The patient was a large Swedish woman, thirty-two years of age. The knock-knee was very marked. Very little history could be obtained. On the inner side of the knee what seemed to be a very large mass appeared, not distinctly outlined. It was suggested of osteosarcoma, but the diagnosis was not positive and an *x*-ray was taken. This showed a much elongated internal condyle, and cuneiform osteotomy was done and the limb was brought around in perfect position without difficulty.

Dr. WHITMAN said that he thought the bending of the lower extremity at the knee not uncommon in flexion deformity so often seen.

Dr. TAYLOR related the case of an Italian with obliquity of the pelvis. The man complained of backache, and on examination marked pelvic obliquity was found. Short legs were not uncommon, but the trouble with this man was that one leg was longer than the other, which was normal. The condition was due to an old osteitis of the tibia. One leg was one-half inch longer than the other.

Dr. NAPIER said that unfortunately the patient of whom he would speak was beyond presentation. The case was one he presented at the April meeting of the section. A boy of fourteen who had lateral curvature with some rotation, beginning Pott's paraplegia. After the above meeting, the boy was ordered to bed. At that time the paralysis had somewhat increased. On Tuesday, April 21, a plaster jacket was applied in suspension. The paralysis had then extended along the legs, and was almost complete. There was nearly complete loss of sensation, loss of bladder control and no movement of the bowels. Ten

ature normal. The boy was kept in bed. April 22, he morning, nearly complete paralysis, loss of all power the arms, very little sensation. Involuntary evacuas, temperature normal. During the afternoon the thing became difficult. At five o'clock, on the 22d, died of paralysis, apparently of respiration. Dr. ier reached the house a short time after the boy died. presumed this case was one of ascending myelitis. He dered whether the contents of the abscess might not e entered the spinal cord, causing the rapid paralysis.

mpairment of Growth due to Cerebral Lesion.—Dr. MER presented this case. Young woman, seventeen rs of age, paralyzed since birth. No instruments were l, but the birth was tedious. Injured arm three es shorter and forearm one and three-quarter inches in greatest girth than the other. Face and chest on red side much smaller than the other side. Possibly arked case of so-called birth palsy. If so, involvet came from fifth and sixth cervical, because the e arm was affected; the extensors more so than the rs. Electrical reactions normal. Sensation normal. speaker thought, because of extreme failure of growth the fact that reactions to electricity were normal. paralysis was of the cerebellar or spastic type, rather of the spinal type. Legs normal. He agreed with Clark that it was the education of the muscles that of benefit in these cases.

ecimen from a Case of Marie's Disease.—Dr. ELLIOTT nted a spinal column from a patient who had had disease described by Marie. The patient was first by Dr. Elliott in 1897; was then examined under sthesia for diagnosis. He was suffering from acute in the coxofemoral joint, with great hyperalgesia d not bear the weight of the bedclothes. The hipt was found to be ankylosed. He was a Russian, ty-six years old, admitted to Presbyterian Hospital pain in knee. Came to this country to avoid army ice. Had been examined fifteen years previously, and nd qualified, as to size, for a soldier. On admission to hospital support and extension were applied to the e, and the symptoms subsided. In one and a half rs he returned with pain in left coxofemoral joint, ch was ankylosed, gradually extending to the lower t of the spinal column, extending to dorsal and vical regions, involving right hip, and subsequently the ulders to a much less degree. He developed pulnary tuberculosis. The bacilli were found, and that ase progressed hand in hand with the other. He d from tuberculosis about two months ago. The cimen was almost typical of that first described by rie in the *Revue de Médecine*, 1897 He described two es almost simultaneously with Bernhardt, almost ntical in involvement of the larger joints and the hip, the small joints remaining intact. The curvature was dual, the symptoms of pain and hyperalgesia subsided, d the man then suffered only from his ankylosed sition.

Dr. TAYLOR said that he had seen many specimens of f spines of this general character, but in those he had n, the ossification was usually more marked on the terior ligament, and in the lateral bands rather than median and often on one side more than the other. ses of spinal stiffness due to ossification of ligaments or to teoarthritis were exceedingly common, but it was only ently that they had begun to be recognized. In rie's cases the large joints were involved, but there ght be osteoarthritis of the spine not involving the ge joints and there might be osteoarthritis of the large nts without involving the spine. Sometimes the spine d large joints were affected in succession. Sometimes ere was deformity, sometimes not. The result depended gely on the rapidity of the process. If ossification ook place rapidly, deformity was not so likely to occur; f slowly, there was equal round-back on both sides, or lateral spinal curvatures also.

Dr. ELLIOTT said in reply to Dr. Taylor's remarks, that in all cases he had seen described under this type the anterior ligaments had escaped, as in this case. There seemed to be two or three different types of stiff spines, and he thought the variety in which the anterior ligaments were involved, was the stiff spine of ordinary arthritis deformans, where not only the large but small joints were involved, and there was throwing out of deposit. Here there was no such tendency.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

At a stated meeting, held February 24, Dr. James Tyson read a paper entitled "A Note on the Treatment of Puerperal Eclampsia," in which he explained that the utility of morphine in the treatment of some cases of puerperal eclampsia and its failure in others is due to the fact that under the one set of conditions the nephritis present is of the parenchymatous variety, and under the other set of conditions the nephritis is of the interstitial type. There is evidence to show that in the presence of the former the kidneys are capable of a considerable measure of elimination, while in the presence of the latter the eliminative power of the kidneys is greatly diminished. Dr. Tyson also pointed out the danger from hypodermoclysis or the like without adequate provision for the release of the increased amount of fluid—for example, by sweating or bleeding or catharsis—and he advised that this provision precede rather than follow the dilution of the blood and the attenuation of the contained toxic matters. Dr. Francis M. Perkins delivered the "Address of the Retiring President," in which he considered the aims and objects of the society, its obligations to the profession, and its relations to the State Medical Society, and to the American Medical Association. Dr. Alfred Gordon presented a communication entitled "A Note of Cerebrospinal Symptoms in Infectious Disease, Apropos of a Case of Typhoid Fever." He reported the case of a man in whom in the course of what appeared to be a mild attack of typhoid fever there developed right hemiplegia, aphasia, loss of control of the sphincters, and increased reflexes in the lower extremities with hyperæsthesia. The complication was only transitory in duration, and the patient ultimately made a complete recovery. The particularly noteworthy features were the development of grave cerebrospinal symptoms in the course of an apparently mild attack of typhoid fever, and the transitory character of the manifestations. The most plausible explanation is that they were due to the influence of the toxic process on the cerebral cortex.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

At a stated meeting, held February 25, Dr. W. M. L. Coplin presented a communication entitled "The Early Changes in Arteriosclerosis of the Heart and Vascular System," supplementing his remarks with an exhibition of sections showing changes in the blood-vessels in various tissues at different stages of the disorder. The lesions result either from changes in the constitution of the blood, or from alterations in vascular pressure, however superinduced, and it is probable that the nutrient vessels of the vessels themselves suffer earliest. Dr. C. Y. White read a paper entitled "The Early Changes in Arteriosclerosis of the Kidney." He pointed out the difficulty in separating the sclerotic change in the renal vessels from that in the kidneys themselves. He considered in detail the etiology, pathology, and symptomatology. Dr. W. T. Longcope read a paper on "The Early Changes in Arteriosclerosis of the Gastrointestinal Tract," including also a consideration of the alterations of a similar character occurring in the pancreas, the liver, and the spleen. Dr. W. G. Spiller read a paper entitled "The Early Changes in Arteriosclerosis of the Nervous System." He pointed out the frequency with which sclerosis of the cerebral vessels is associated with hemorrhage in

the brain, and contended that miliary aneurysms are not so common as they have in the past been considered to be. Dr. Farr exhibited two specimens of mitral stenosis. Dr. D. Riesman exhibited a large sarcoma of the mediastinum obtained from a man twenty-five years old who had presented symptoms only for three or four weeks, death taking place suddenly as a result of exertion attendant upon excitement. The principal symptom of which the patient complained was shortness of breath, particularly on exertion, and interfering with the recumbent posture. The face was cyanotic, the veins of the chest were enlarged, a tumor was evident above the right clavicle, and a large area of dulness was present over the sternum, and the adjacent portion of the right chest. In addition to a metastatic nodule in the lung, there was apparently an anæmic infarct in the spleen.

Pittsburg Academy of Medicine.

At a meeting of the Pittsburg Academy of Medicine, on March 1, 1904, the president, Dr. Ewing W. Day, in the chair, Dr. J. M. Douthett read a paper on the "Development of the Mastoid Operation." He reviewed the history of the mastoid operation from 1557, when Vesalius first discovered and described the communication between the mastoid cells, down to the present day. He described the typical mastoid operation as introduced by Schwartze in 1873, modified later by Küster; these in turn modified and improved by Bergmann, Korner, Jansen, Stacke, and Taufal. Dr. Mills of Philadelphia said the subject, in its intracranial complication, had interested him greatly. He recalled two cases in which Dr. Deaver operated. One, a mastoid abscess, with purulent extension, disease in other parts, Dr. Deaver decided to open the mastoid, then, unfortunately, concluded to abandon the operation, in spite of finding pus. At post mortem, the case showed, in addition to mastoid empyema on one side, a purulent leptomeningitis on the other side. The case had paretic symptoms on the left side, with general cerebral symptoms, and the propriety of operating on the side indicated by general symptoms was considered, but it was finally decided to operate only on the side with aural symptoms. Dr. Mills thinks that in every case of this kind it is necessary to follow symptomatic indications, even though it is necessary to open both mastoids. He cited another case seen with Dr. Agnew, which had a history of injury to the frontal lobe, with an umbrella rib. In operating, Dr. Agnew failed to reach by only one-quarter inch the purulent focus at the end of the traumatic track. Dr. Mills also stated that every otologist should, alone or with others, study the evidences of intracranial disease to direct him in his operative work. Dr. Gant reported a case operated on by Professor Kocher in Berlin, at which time the value of lumbar puncture in diagnosis and prognosis was suggested. He asked the opinion of fellows on its value. Dr. Moyer asked Dr. Douthett for his opinion as to diagnosis. Dr. Diller wished to emphasize the necessity of operating in cases of doubt as to lesion or location, and exploration of successive locations, if not found in the first. He recalled a case seen in coma with a history of otitis and few antecedent symptoms. Operation was advised, but refused, and the patient died. At post mortem the case showed a purulent meningitis.

Dr. Jackson referred to some recent observations with the sphygmo-anemometer on the production of shock by the use of the chisel and mallet in operations for intracranial otitic diseases. Dr. Mills thought the use of the chisel depended largely on the skill of the operator. In the case of a skilful operator, such as Keen, the shock is probably not great. He mentioned a case of Dr. Keen's in which the osteoplastic opening was 3 inches in diameter in the frontal region, opened in twenty minutes. The shock was slight and the patient doing well. Dr. Mills thought it inconvenient to use the trephine or dental engine in cerebellar cases, but preferred not to have chisel and mallet used in any case except by the most skilful operators. Dr. Day regarded operation in more or less diffuse purulent meningitis, not localized, of no use; as he had had ten cases in the last two years, of which none recovered. But when it is a case of abscess with a localized focus, he considers the results comparatively good. In one case which he saw with Dr. Lippincott, he refused to operate, because of a meningitis, at first. Two days later the operation was done, and a cavity containing three ounces of pus was found. The patient died.

Dr. Elterich asked for the opinion of the otologists present as to certain cases in which, after a few days of discharge from the ear, followed by forward displacement of the auricle from swelling back of the ear. In many of these cases Wilde's incision results in a cure in a few days. He referred to a double purulent otitis complicating scarlatina. Dr. Day thought many of these cases are periostitis from burrowing of pus between the fibrous and bony external auditory canal. He said it was a common fallacy to think there were no mastoid cells in infants. He had had one patient twelve months old in whom the abscess cavity in the mastoid was large enough to insert a man's thumb. He said that a number of New York operators had tried lumbar puncture and abandoned it as useless.

Dr. R. Milligan referred to a case in a child simulating furuncle of the canal. On incision through the skin and aseptic dressing, it was cured in a few days. Said that Politzer's experiments with lumbar puncture were negative with one exception, and that was a case of general meningitis. Dr. Johnston asked if burrowing of pus along the canal did not occur in adults. Dr. Douthett in closing said that the Schwartze operation was adapted to early operation before extensive necrosis had occurred. As to Dr. Elterich's case with carious bone, he thought it would have to be treated radically, even though it were a case of burrowing of pus along the canal.

Dr. Johnston asked what was the shortest "Incubation Period for Scarlatina." He reported a case occurring in a few hours after exposure, but thought some previous exposure had occurred. He thought that more care should be exercised by physicians against conveyance of contagion. Dr. Elterich said the incubation period might be anywhere from six hours to five days.

Dr. Johnston also reported a case of "Chickenpox in a Man," aged twenty-eight years, in which the exclusion of variola was difficult, as he was afflicted also with acne. The same patient had measles a year previous. Dr. Day reported having been called in consultation in a case of otitis with scarlatina. He had worn overalls and jacket, with bath and bichloride ablutions later; yet one of his own children had developed scarlatina fourteen hours later, with no other known source of infection than himself. Dr. S. C. Milligan reported a case of scarlatina occurring in a man thirty-five years of age—twelve hours after exposure. Dr. Simonton called attention to danger from the physician's shoes as conveyors of infection.

Orleans Parish Medical Society.

At the regular semimonthly meeting of this society, held February 27, 1904, Dr. Gordon King read a paper on "The Treatment of Hay Fever by Dunbar's Antitoxin," in which he reported very favorable results in a series of cases treated late in the autumnal hay-fever season of last year. Of six cases, five were of the autumnal type, and one of the hyperæsthetic rhinitis or irregular type. The latter case was the only one indifferently influenced by the antitoxin, the rest being either quickly relieved or markedly improved by a few applications. In one, in which asthma was associated with the hay-fever symptoms, complete relief was obtained after one application. While still somewhat skeptical of the true value of the antitoxin as a curative agent in all types of cases, the author is most

vorably impressed with the antitoxin in as far as his perience justifies an opinion and bespeaks great advance the near future in the elucidation of that very vexing estion, the etiology and successful treatment of hay ver.

Dr. Homer Dupuy read a paper on the same subject, marking that at least one of the causes of this disease d been isolated, and was now attacked by the potent rgies of an antitoxin. Dunbar's experiments marked stinct advance, and from further clinical verification, re promise of a specific treatment when pollen proved be the external exciting cause. We are now in pos-ion of a list of the toxic and non-toxic varieties of n. The pollen theory is not exclusive. Dunbar's overy does not disturb the triad of etiological factors, ely: (1) A neurotic predisposition; (2) A local an-ly in the upper air passages; (3) An external exciting e. Appropriate local and general treatment would have to be addressed to such conditions. It is proved t the toxins of pollen are not identical. Here was desideratum to get a special antagonist for each par-lar pollen toxin. Only then can we give the specific toxin serum for the vernal, summer, and autumnal eties of hay fever. He reported cases which, on the le, confirmed the theory of Dunbar.

r. Otto Joachim read a paper entitled "Personal Ob-ations in Dr. Dunbar's Laboratory." While there he t over the entire work done by Dunbar in his hay-fever stigations, and as far as possible repeated the experi-ts upon which Dunbar built up his conclusions. In ition to the typical reactions of rye toxin on the con-tivæ of the persons subject to hay fever, observations made of reactions of solidago or goldenrod toxin. In e persons on whom rye toxin acted, goldenrod toxin inert, while on others on whom goldenrod toxin pro-d reaction, rye toxin proved non-irritating. Some -fever subjects react to both toxins. These reactions ld be controlled with antitoxin made from either in, but more certainly and with less antitoxin if the responding antitoxin was used. Emphasis was laid on prophylactic use of the antitoxin. The excellent lts achieved by the previous speakers would probably be equalled in every future case, but the results so far ieved by the use of antitoxin in cases responding to the of one of the other toxins, were far ahead of any other thod in giving relief to hay-fever sufferers. One had right as yet to speak of a cure until an active immun-g agent was found. In this field, as well as in the ntific investigation of hay fever, Dr. Dunbar has done foremost work, which takes a high place in scientific dicine.

Dr. Gustav Keitz reported "A Rare Case of Poisoning Copper," caused by the wearing of an alleged "electrical t," consisting of a number of copper and zinc disks, hich had been in contact with his skin. The chief points interest in this case were: (1) The facial paralysis oc-ring on the same side of the limbs, explained on the atomical distribution (decussation) of nerve fibers; (2) e complete paralysis of left thumb; (3) That, while the ison operated constitutionally, there was such a marked ference in effect between the right and left sides. lthough the absorption occurred almost entirely on the ft side, it appears that the left side was affected out of oportion to the right side, inasmuch as the poison acted nstitutionally.

Cincinnati Academy of Medicine.

At a regular meeting of the Academy of Medicine, held February 29, Dr. J. Henry Schroeder presented a brief paper on the "Administration of Potassium Iodide," in which he called attention to the fact that one fluidrachm of the saturated solution may contain from 58 to 124 drops, according to the method employed for obtaining the drop, and that consequently the amount of potassium iodide in each drop may vary from 0.4 grain to 0.9 grain; the drop does not contain 1 grain of the salt as usually supposed. Dr. Schroeder also stated that potassium iodide cannot form an insoluble compound with starchy food in the stomach, as sometimes taught. Disturbances of digestion are, therefore, not due to such an insoluble compound. Following this, Dr. H. J. Whitacre read a paper on "Pathological-anatomical Considerations Relative to the Bile Passages," which was based upon personal observations in the operating room, and the autopsy room. The autopsy material had been collected at the Cincinnati Hospital, and comprised a great variety of lesions of the gall-pladder, bile-ducts, pancreas, and liver. This autopsy material was given clinical importance by careful inquiry into the history of the patient, as obtained from hospital records, and relatives. The subject was considered from the anatomic and from the pathologic point of view. Clay, and other models were used to show the development of the upper part of the intestinal tract of the lesser peritoneal cavity, of the lesser omentum, and to explain the posterior and internal position of the entrance of the bile ducts into the intestine. The pathology was considered under the headings of (1) Gall-bladder and bile ducts; (2) the lymphatic system of this region; (3) certain diseases of the pancreas. Pathological material was demonstrated, and the following conclusions were based upon this study: (1) The anatomy of the upper part of the abdomen cannot be correctly understood without reference to embryological development. (2) Gallstones alone may produce symptoms by their passage through the bile-ducts, by their impaction in these ducts, or they may predispose to infection by interfering with drainage. (3) Infection of the gall-bladder is by far the most important factor in the pathology of this region. (4) The infection may be so severe that gangrene of the gall-bladder results, or it may be so mild that the patient is unconscious of the lesion. (5) Repeated mild infections will result in extensive alterations in the gall-bladder which render it functionless. (6) The common and hepatic ducts show inflammatory changes in the old cases of gall-duct disease that amply justify the clinical conclusion that such ducts should always be drained for a long time. (7) The advanced and the neglected cases will yield the fatal and the incomplete results in gall-bladder surgery. (8) Cholecystitis and pericholecystitis may occur without the presence of stone. (9) An infection of the gall-bladder sufficiently severe to cause pericholecystitis and extensive adhesions may occur without an acute illness which will direct the attention of the patient to this region. (10) Such adhesions may cause symptoms of persistent chronic gastritis, gastralgia, or intractable intestinal fermentation, and make of the patient a chronic invalid. (11) Primary cancer of the bile passages is much more common than was formerly supposed, and in its earlier stages is an operable disease. (12) Gallstones are the most important etiological factor in cancer of the gall-bladder. (13) The lymphatic supply is much more abundant in the bile passages than in the gall-bladder. (14) Enlargement of the hepatic or the common-duct chain of lymphatic glands may cause marked obstruction of the common bile-duct. (15) Acute hemorrhagic pancreatitis is caused in a certain large percentage of cases by the obstruction of the duodenal opening, of the bile duct with regurgitation of bile into the pancreatic duct. (16) Chronic interlobular pancreatitis is a disease which is very frequently caused by, or associated with, gall-tract disease, and must be treated surgically.

A Hospital with One Patient.—According to the *Daily Mail* of London, the special hospital for the treatment of ringworm, which the Metropolitan Asylums Board built at a cost of £200,000, remained empty until a few days ago when the record was broken by the admission of a child from Mile End road.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending March 12, 1904:

	Cases.	Deaths.
Measles	1579	23
Diphtheria and croup	353	44
Scarlet fever	496	21
Smallpox	5	...
Varicella	112	...
Tuberculosis	455	198
Typhoid fever	22	9
Cerebrospinal meningitis	...	10

An Irregular Manifestation of Malaria in an Infant.—H. Merriman Steele reports the case of an infant aged nineteen months, who was brought to him for the treatment of general prostration, restlessness, dyspnœa, pain on handling, and tumultuous heart action. The temperature was 106°, but four days later it had fallen to 101°. Quinine was then given and the child was well in five days. The special object in reporting the case was to urge the necessity of a blood examination in vague attacks with remittent or intermittent fever. In this particular case, the finding of the plasmodium saved valuable time in determining treatment. The lack of a leucocytosis threw out any consideration of septic processes to account for the fever. As to the "therapeutic test" with quinine, opinions differ, some authorities favoring it, others believing that it is of little value compared with a blood examination. In the case reported five days passed before the temperature was permanently controlled by the quinine. As a test, then, the writer holds that the microscope and quinine are not to be compared, and he believes that when a microscopical examination of the blood is possible, an injustice is being done the patient if that means of diagnosis is ignored.—*Yale Medical Journal.*

Optic Neuritis of Unknown Origin.—In the great majority of cases H. T. Pershing finds double optic neuritis is caused by organic intracranial disease, most frequently by tumor. In almost all of the remaining cases the cause is a general infection or intoxication. The number of infectious and toxæmic states that may possibly cause optic neuritis without intracranial disease is large, but this symptom is rare in any of them except uræmia. If inflammation of the optic nerves does occur in uræmia or in any of the infections, it is generally accompanied by retinitis. A similar neuroretinitis with hemorrhages is occasionally seen in severe forms of anæmia. Some local diseases outside the cranium seem, very rarely, to cause optic neuritis in a way not as yet understood. Thus disease of the upper part of the spinal cord, tabes, suppuration of the middle ear, and even suppression of menstruation, have been included in the list of causes. The author reports a case with intense double optic neuritis, which is most characteristic of tumor, occurring without any other disease, local or general, being found to account for it. In the other cases reported the original diagnosis of tumor or abscess, based mainly on the presence of optic neuritis, was wrong, and they even reported in the hope that they may contribute to an accurate estimate of the significance of this very important symptom. In two of the cases the author thinks it quite probable that the aural suppuration had some causal relation to the optic neuritis, but such cases are too few to serve as the basis of any confident opinion as to the mode of origin. In the third case he had no definite opinion of the cause. Even the supposition of an unknown toxic agent was not free from objection, for any symptoms other than the optic neuritis which might be attributed to intoxication were limited to about two days, and could be otherwise accounted for.—*Journal of Nervous and Mental Diseases.*

Birth Rate in Germany.—According to the Berlin co respondent of the London *Standard* there has been a stea decrease in the number of births in Germany during the p few decades. From 1870 to 1880 the number of births w 40.7 for every thousand inhabitants; during the follow decade it fell to 38.2 per mille; and from 1890 to 1900 was not more than 37.4 per mille, or about as much during the fifties. This decrease, however, has hithe been compensated for by the decrease in mortality. Fr 1890 to 1900, for instance, the death rate decreased more than 2 per mille. In Berlin the decrease in the bi rate has been especially marked; the total number births in the capital being 1700 less in 1903 than years ago. The actual number of births in Berlin 49,000 in 1903, and 52,259 in 1901.—*British Med Journal.*

Health Report.—The following cases of smallp yellow fever, cholera, and plague have been repo to the Surgeon-General, U. S. Marine Hospital Ser during the week ended March 12, 1904:

SMALLPOX—UNITED STATES.

		CASES.	DEA
California, Escondido	Feb. 23–Mar 3	1	
District of Columbia, Washington	Feb. 27–Mar. 5	6	
Florida, Jacksonville	Feb. 27–Mar. 5	7	
Illinois, Chicago	Feb. 27–Mar. 5	4	
Danville	Feb. 27–Mar. 5	1	
Springfield	Feb. 25–Mar. 3	3	
Louisiana, New Orleans	Feb. 25–Mar. 3	7 (impo	
Michigan, Detroit	Feb. 27–Mar. 5	1	
88 localities	Feb. 20–27	(Pres	
Missouri, St. Louis	Feb. 27–Mar. 5	13	
New Hampshire, Manchester	Feb. 27–Mar. 5	7	
New Jersey, Camden	Feb. 27–Mar. 5	2	
Trenton	Feb. 27–Mar. 5	1	
New York, Buffalo	Feb. 27–Mar. 5	1	
New York	Feb. 27–Mar. 5	1	
Niagara Falls	Feb. 20–Mar. 5	2	
North Carolina, Wilmington	Mar. 1–8	3	
Ohio, Cleveland	Feb. 26–Mar. 4	1	
Dayton	Feb. 27–Mar. 5	19	
Pennsylvania, Altoona	Feb. 24–Mar. 5	1 (impo	
Carbondale	Feb. 29–Mar. 7	1	
Johnstown	Feb. 27–Mar. 5	5	
Philadelphia	Feb. 27–Mar. 5	33	
Pittsburgh	Feb. 27–Mar. 5	4	
South Carolina, Greenville	Feb. 20–27	2	
Tennessee, Memphis	Feb. 27–Mar. 5	36	
Nashville	Feb. 27–Mar. 5	7	
Wisconsin, Milwaukee	Feb. 27–Mar. 5	4	

SMALLPOX—INSULAR.

Porto Rico, San Juan	Mar. 8	6	

SMALLPOX—FOREIGN.

Austria, Prague	Feb. 13–20	3	
Belgium, Antwerp	Feb. 13–20	6	
Brazil, Pernambuco	Jan. 16–31	..	
Rio de Janeiro	Jan. 31–Feb. 7	37	
Canada, Quebec	Feb. 27–Mar. 5	3	
China, Chefoo	Feb. 6	(Pres	
Shanghai	Jan. 16–30	3	
France, Lyons	Feb. 6–13	..	
Paris	Feb. 6–13	36	
Great Britain, Edinburgh	Feb. 18–26	12	
Glasgow	Feb. 18–26	51	
Leeds	Feb. 20–27	1	
London	Feb. 13–20	9	
Manchester	Feb. 13–20	1	
Nottingham	Feb. 6–20	35	
India, Bombay	Feb. 2–9	..	
Calcutta	Jan. 30–Feb. 6	..	
Karachi	Jan. 31–Feb. 7	4	
Java, Batavia	Jan. 23–30	16	
Malta	Feb. 6–13	..	
Mexico, Mexico	Feb. 21–28	5	
Russia, Moscow	Feb. 6–13	5	
St. Petersburg	Feb. 6–13	3	
Spain, Santander	Feb. 21–28	4	
Turkey, Constantinople	Feb. 14–21	..	
Smyrna	Jan. 31–Feb. 7	..	
Venezuela, Maracaibo	Feb. 7–14	1	

YELLOW FEVER.

Brazil, Rio de Janeiro	Jan. 31–Feb. 7	4	1
Mexico, Merida	Feb. 21–27	2	..
Vera Cruz	Feb. 20–27	1	..

CHOLERA—INSULAR.

Philippine Islands, Manila	Jan. 23–30	1	1
Provinces	Jan. 23–30	120	90

CHOLERA—FOREIGN.

India, Calcutta	Jan. 31–Feb. 6	..	14

PLAGUE—INSULAR.

Hawaii, Hilo	Mar. 4	..	1
Philippine Islands, Manila	Jan. 16–23	3	2
	Jan. 23–Feb. 3	2	1

PLAGUE—FOREIGN.

Africa, Port Elisabeth	Jan. 8–16	2	..
Brazil, Pindamonhangaba	Jan. 15	several cases	
Rio de Janeiro	Jan. 31–Feb. 7	7	4
India, Bombay	Jan. 2–9	..	419
Calcutta	Jan. 30–Feb. 6	..	50
Karachi	Jan. 31–Feb. 7	49	37

Medical Record

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Original Articles.

ODIDE OF POTASSIUM A SPECIFIC IN LOBAR PNEUMONIA?

A PRELIMINARY REPORT.

By H. ALTSHUL, M.D.,
NEW YORK.
TENDING PHYSICIAN, DEPARTMENT OF DISEASES OF THE CHEST, BELLEVUE OUT-DOOR POOR, ETC.

RVATIONS on sixty-two cases of my own ex- g over a period of twelve years, without a directly attributable to the disease, and over times that number of cases treated by colleagues request, with results approximately similar, aused me to question if iodide of potassium is not ch of a specific in lobar pneumonia as are e in malaria, mercury and the iodides in syphilis, on in anæmia.

bar pneumonia, with a mortality of from 20 per cent., is probably the most fatal of the ious diseases, and in the list of all the fatal dis- to which man is subject, Wilson Fox gives it h position, while Walshe ranks it as third. With- last decade there has been no change for the r in the death rate from the disease, indeed authorities claim that the mortality is con- ably higher than it was twenty to thirty years

With these facts before us a mortality of less 1 per cent. in over two hundred and fifty cases, es ranging from sixteen months to seventy-six s, a number of them in persons living under the unfavorable conditions, suffering from chronic carditis, chronic nephritis, phthisis, etc., is this nough to raise the question whether, after all, ave not a specific for the disease?

e inference is a fair one that when a drug which pidly absorbed and diffused is well borne, with- he slightest untoward effect when given in doses arily causing pronounced and toxic symptoms, drug is doing some work, and that its physio- al effects are required by the system to counter- he effects of some abnormal condition or disease. note this in the tolerance of quinine in malaria, in anæmia, morphine in the presence of pain,

he possibility of the existence of an idiosyncrasy t always be remembered, but is it at all likely every one of this large number of patients uld have been tolerant of doses of from five hun- d to three thousand grains per day of a drug like ide of potassium, which, as a rule, in the majority of s will cause distress and untoward symptoms in s of sixty grains per day? In syphilis, it is true, e effects are not common; yet their occurrence y no means a rarity, even in this disease.

How can we otherwise explain the absence of toward symptoms, the remarkable tolerance of h doses of the drug, than by assuming that its ion is expended in antagonizing the disease and effects?

Before proceeding to a report of the effects of the g in the disease, it may be well to review its ysiological action.

Iodide of potassium is one of the most readily absorbable, and perhaps the most diffusible drug we have. After its ingestion iodine can be demonstrated in the saliva and urine (the iodine reaction has been obtained in the latter in three minutes; Purkinje in Eulenburg's "Real Encyklopädie," Vol. 10, page 467), in all the viscera, the glandular and muscular systems, the blood, the sweat, in pleural exudations, in the synovial and conjunctival fluids, in the contents of abscesses—in fact, in all the secretions and excretions—and it seems to diffuse rapidly and to permeate every portion of the human body. Its absorption from the rectum is almost as rapid as from the stomach; after the application to the skin of a lanolin ointment of the drug, traces can be found in the urine in thirty minutes, and in four hours a decided reaction is obtained. Absorption from the subcutaneous tissues takes place with exceeding rapidity, and persists even in the death agony (Rozsahegyi, *Jahresbericht über die Fortschritte der Pharmac.*, etc., 1878). The reaction is least marked in the fæces, and disappears most rapidly from the blood.

Potassium iodide is changed into sodium iodide in the stomach, and is absorbed in this form. In the tissues, probably in the blood, iodine is liberated, probably through the action of the protoplasm, the blood cells, etc. Professor Binz believes that in this manner—that is, the continued liberation of the iodine from the circulating alkaline iodide—the action of the drug on the cells, and its bactericidal effect on infecting microorganisms is to be explained.

Elimination of iodide of potassium doubtless takes place by the bronchopulmonary, faucial, and salivary glands, but chiefly by the kidneys. (Bartholow, Fifth edition, page 229.)

The effects of the drug are: (1) Antiseptic and antizymotic; (2) markedly increased activity of the lymphatic system, and hence increased production of leucocytes, and increased absorption of products of inflammation; (3) increase of the alkalinity, and lowering of the specific gravity of the blood; (4) very decided vasodilator action, and thus cardiac stimulation; (5) direct cardiac stimulation through its base, and through increasing circulation in the arteries supplying the heart; (6) diuretic; (7) diaphoretic; (8) antipyretic; (9) respiratory sedative.

In lobar pneumonia we find the following conditions and symptoms which require our attention: (1) The toxæmia; (2) the diminished respiratory surface in the lung; (3) the relative hypoleucocytosis with reduced alkalinity and increased viscosity of the blood; (4) the venous engorgement and laboring heart with a tendency to weakness from overdistention of the right cavities and depletion of the left, as well as from malnutrition due to insufficient and badly aërated blood supply, and from impaired nerve power (Douglas Powell, *British Medical Journal*, November 9, 1895); (5) the impaired action of the kidneys and glandular system; (6) the pyrexia; (7) the cough.

Let us see in how far these conditions are affected by the physiological action of the drug.

The Toxæmia.—As before stated, Binz (*Archiv für exper. Pathol. u. Pharm.*, 1880) believes that

there is a continued liberation of iodine from the circulating alkaline iodide. Although the truth of this opinion has not been proven, yet it is generally accepted by physiologists and other authorities. According to Miguels' tables of antiseptic values, as given in Sternberg's "Manual of Bacteriology," page 179, iodine in a solution of 1 : 4000 is "*very* strongly antiseptic," while carbolic acid in a 1 : 333 solution is stated to be only "strongly antiseptic." I mention this comparative value because the opinion seems to be quite a general one that the treatment by means of the creosote and guaiacol preparations, all of which enter the circulation as carbolic acid, is perhaps the best now carried out. Owing to its greater antiseptic value in very much weaker solutions, its more rapid and complete diffusion, its freedom from toxic and dangerous effects, the facility and rapidity with which saturation of the blood and tissues can be obtained, the iodide of potassium is for this purpose of very much greater value. F. Schwarz (*Deutsche medizinische Wochenschrift*, January, 1881), who has obtained very favorable results from the use of iodine and iodide of potassium in the early stages of pneumonia, regards the effect obtained as due entirely to a specific action on the microorganism. He regards iodine as a genuine specific if employed sufficiently early in the disease, within twenty-four to thirty-six hours after the initial chill. As to a possible specific action of iodide of potassium on the pneumococcus, the investigations of Dr. N. L. Deming, now in Fort Wayne, Ind., are of interest. While house physician at the City Hospital on Blackwell's Island he examined the oral secretions of some forty epileptic patients, and found the pneumococcus present in all but five patients, while after a course of iodides it was absent in all but five. From this we can infer that the iodine in the saliva rendered this secretion unsuitable to the life of the microorganism.

Willebrandt (*Virchow's Archiv*, 1865, XXXIII; 1869, XLVII) reports favorably on the germicidal action of iodine in typhus, typhoid fever, and malaria.

L. Stopp (quoted in Eulenburg's "Encyklopädie," Vol. X, page 474) claims similar results in the treatment of diphtheria.

Kitasato, page 185 of Sternberg's work, is quoted as stating that typhoid bacilli and cholera spirilla do not grow in culture solutions containing 8 per cent., and are destroyed by five hours' exposure in a 9.23 per cent. solution.

In Hare's "System of Practical Therapeutics," Vol. II, page 596, under the heading of "Antiseptic Treatment" of pneumonia we find "Benzoate of soda, iodine, salicylate of soda, iodide of ethyl, and carbolic acid are especially recommended as antiseptics. Of these the results obtained from iodine are the most striking."

Leucocytosis.—A number of observers, notably Ewing and Cabot in this country, Loewy, Richter, P. Jacob, and others abroad, have found the presence or absence of leucocytosis to be a marked factor in the course and outcome of the disease. They all seem to agree that a hypoleucocytosis almost invariably means a fatal termination, and that conversely, as a rule, the greater the hyperleucocytosis the more favorable the course of the disease.

Leowy and Richter (*Deutsche medizinische Wochenschrift*, 33, 1895, page 241) found that animals in whom they had previously produced a marked hyperleucocytosis through injections of protalbumoses, pilocarpine, etc., resisted to a marked degree artificial infections. They survived inocu- lations of three to four times the lethal dose microorganisms. It was particularly noted the infected animals showed but very tri febrile reactions, and that the manifestation disease were but very slight. They state " therapeutic effect in pneumococcus infections, only infection which we have as yet investi in this regard, was a strikingly brilliant one."

P. Jacob (*Zentralblatt für innere Medizin*, 17; 1897, 18) expresses himself as believing we can favorably influence the course of infec diseases through the production of an artificia perleucocytosis.

The greatly increased activity of the lymp system and the great glands, following the iodide of potassium, is well known and undisp While the effect of the iodides on the producti a hyperleucocytosis is perhaps not so great as of the protalbumoses, spermin, neucleins, carpine, etc., yet the disadvantages and da in the use of these agents more than counterb their greater effect in this direction.

Diminished alkalinity of the blood.—Loewy Richter (*Deutsche medizinische Wochenschrift*, page 529) quote Neumann as finding tha artificial reduction of the alkalinity of the produces a diminished resistance of the a toward infection by microorganisms. They quote v. Fodor as proving a marked incre the power of resistance to infection of anim whom the alkalinity of the blood had be creased through intravenous injections of m alkalies. They further state that, accordi him (v. Fodor), there is a certain definite pr tional relationship between the degree of alka of the blood and the susceptibility to infec They themselves, having noted a marked inc in the alkalinity of the blood in leukæmia, favorably progressing pneumonia, septicæmia, infer a definite connection between leucocy and the blood's alkalinity. They further found the intravenous injection of agents causing inc of the alkalinity of the blood, enabled rabbi survive a pneumococcus infection to which co animals succumbed in from twenty-four to f eight hours.

F. Kraus (*Berliner klinische Wochenschrift*, 1893, page 876) has observed a marked reducti the alkalinity of the blood in typhoid fever, erysip scarlet fever, pneumonia, etc., and that the no degree of alkalinity is not reached until co lescence is established.

Meyer (*Archiv für exp. Path. u. Pharm.*, Vol. page 304) suggests a marked reduction of the blo alkalinity as possibly causing a paralysis of the tral nervous system, and that the introduction alkalies might be productive of favorable resu He quotes Burckhardt's experiments, in which was found that the intravenous injection of a s solution into rabbits which had been tetanized to beginning paralysis seemed to cause a revivify effect on the lost irritability of the vasomotor c ters. As Geppert proved that progressively w the temperature rise in high fever there is a p portional diminution in the alkalinity of the blo Meyer suggests the use of alkaline drinks, inst of the customary mineral acids, on the appeara of the first signs of impending coma or heart fail in hyperpyrexia.

For the purpose of alkalinizing the blood we kn of no agent so effective as the potassium salts.

The vasodilator action of iodide of potassium is great importance in reducing the arterial tensi and thus diminishing the burden placed on t right heart by the over-distended venous syste

has been claimed by Romberg, Van Santvoord, others that in pneumonia the peripheral blood-sels are relaxed as a result of vasomotor paralysis, that the characteristic and usually found pulse not one of high tension as has been supposed tofore. *Post hoc, ergo propter hoc*, is a very erous and unscientific manner of reasoning, yet how can we explain, otherwise than by ac-ing a state of high tension, the marvellous effect proper dose of the nitrites in the threatening yxia of pneumonia, as so graphically described rof. Andrew H. Smith. He says "By the use ese agents the pulse is changed from being and creeping in character to the large soft tion of low arterial tension. With this change spirations will be found to be less frequent and abored, the mucous râles in the chest will di-h, and the entire function of respiration and lation will undergo marked improvement." patient, cyanotic and dusky from asphyxia, s his color, even to the extent of becoming ed. The effect of the nitrites as given by Brunton arm.; Therap.; and Mat. Med., "Third edition, 785), to whom we owe our knowledge of the n of these agents, and whose conclusions are rsally accepted, is that they reduce blood-ure by dilatation of the arterioles, this being o weakening or paralysis of the muscular walls e arterioles themselves, or of the vasomotor ia in or near them. This is shown by the ing of blood-pressure by amyl nitrite after the has been cut just below the medulla.

e effect of the nitrites in pneumonia would to disprove most absolutely the contention of Santvoord and Romberg, as in this case in-of the favorable effects quoted we would have r an exaggeration of the symptoms of asphyxia, advanced cases, when the vasomotor paralysis ed by them is complete, no effect at all.

e vasodilator action of the iodide is of further in counteracting the effect of the greater ity of the blood, which, by increasing the on resistance between the blood and the vas-walls, adds additional burdens to the heart.

e viscosity of the blood is also considerably ced by the lowered specific gravity; in conse-ce of the greater abstraction of the circulating , through the urine, its fluidity is increased.

indirect cardiac stimulant through its effect he peripheral vessels, the iodide of potassium is a direct stimulant through increasing the circu-n of the vessels of the heart itself, and thus roving its nutrition (Prof. Germain Sée, *decine Moderne*, July 2, 1893). The same au-in *Bulletin Médical*, August 15, 1889, refuting theory that potassium salts are direct cardiac ons quotes the Irishman as consuming daily -1300 grams of potatoes in which he gets 72–80 ms of potash. He considers iodide of potassium a cardiac tonic, and employs it in cases of dysp-a of cardiac origin with excellent results. (Re-ted in the *Lancet*, as read before the French demy of Medicine, October 26, 1889.) Huchard Maladies du Cœur," Paris, 1889) holds the same w.

The diuresis produced by the iodide, probably to the increased circulation and direct stimu-ion of the secreting cells, is of value not only in ieving the heart, but in the increased elimination the waste and the toxins.

The antipyretic effect is probably due to the vas-lar dilatation and to the diaphoresis, permitting aporation and thus cooling the surface and the ood. Trasbot (*Tribune Médicale*, October 19, 889), in addition to claiming a reduction of tem-perature of one degree or more after the ingestion of iodide, states that there is a decided slowing of the respiratory rhythm, and to this he attributes a part of the favorable influence of the drug on cardiac and bronchial affections.

The liquefaction and absorption of the products of inflammation tend to diminish the cough, so distressing in some cases, to facilitate expectoration, and to lessen pain.

From the foregoing we have seen that the symptoms and conditions found in lobar pneumonia are antagonized and controlled by the physiological and therapeutic effects of iodide of potash, and my experience, as well as that of my colleagues, in the large number of cases in which it was used, is confirmatory of this.

In my own cases, sixty-two in number, a detailed report of which is at this moment impossible, owing to my inability in the short space of time at my disposal to gather and arrange the histories, charts, etc., but which will appear in a later paper, in addition to the influence exerted by the drug over the symptoms and conditions before stated, certain changes in the course and character of the disease particularly impressed me.

1. In none of the cases was there the least semblance of a crisis, the invariable termination being by lysis. This applies to both temperature and general condition of the patient. This gradual change is remarkable, as usually about 80 per cent. of the cases terminate by crisis. The most probable explanation of this difference seems to me to be that the antiseptic and bactericidal action of the drug inhibit the growth of the pneumococcus, hence there is a diminution of the toxins produced. These toxins being in circulation in but small quantity, their effect is readily counteracted. The control of the symptoms alone through the action of the drug is hardly sufficient explanation for the change from crisis to lysis.

2. In spite of the generally favorable action of the drug, the duration of the disease is not shortened.

3. The temperature even in cases of apical pneumonia was never very high, rarely exceeding 103°, never above 104°, when treatment was commenced early in the disease.

4. Complications, endocarditis, pericarditis, œdema, embolism, etc., were never met with. In one case, to be reported later, seen in consultation with Dr. L. Neumann of this city, a young woman with advanced phthisis developed a peritonitis; in the course of this a pneumonia appeared, and within forty-eight hours a meningitis. The lungs cleared entirely, the symptoms of meningitis had disappeared, and the patient was fairly on the road to recovery from the acute illness, when an intestinal paralysis, which had previously given considerable trouble, again set in and the patient died in consequence.

5. If the treatment was commenced within the first thirty-six hours after the initial chill the disease was at no time of the violent type with marked cerebral symptoms. If these symptoms were already present when the treatment was instituted they rapidly disappeared, usually within twenty-four hours, and the patient, who previously was perhaps wildly delirious and intractable, became calm and rational. Headache was the exception, and when present was very slight and of short duration.

6. In all cases, the patient treated with the iodide seemed to feel very much more comfortable, and seemed less ill than usual.

We have thus seen that, in addition to the symptoms, the very important and perhaps vital factors in the course and outcome of the disease, the toxæ-

mia, the leucocytosis, the blood's alkalinity and the condition of the heart, are most favorably influenced, if not controlled, by the effect of the iodide.

The iodide of potassium is used, in preference to the iodide of sodium, because of its more rapid absorption and its greater alkalinizing power.

Method of Treatment.—The following plan, with but trifling and immaterial modifications, is the one which I have pursued in all cases:

On the establishment of a diagnosis the patient immediately receives an initial dose of at least 10 to 15 grains of the iodide of potassium, which dose is increased by five or ten grains, according to the severity of the case, every two or three hours, day and night, and this is continued throughout the whole course of the disease, until defervescence is well established. However soft the pulse may become the dose is kept up, irrespective of the quantity which the patient is taking, the guide in our dosage being the regularity of the heart, as determined not by the pulse alone, as this may be irregular with a regularly acting heart, but by auscultation of the heart itself, and the character of the heart sounds, particularly of the second pulmonic sound; if this be clear and distinct, we are accomplishing what we desire. The left ventricle will take care of itself, in the vast majority of cases, if we look after the right heart. Should there be any irregularity of the heart itself, which I have rarely found to be the case when treatment was commenced early in the disease, strychnine is given in doses of $\frac{1}{60}$ to $\frac{1}{40}$ of a grain every four or six hours, until the heart becomes regular, being found sufficient to control the irregularity. The iodide was prescribed in a 50 per cent. solution, and was administered in milk, thus combining medication with nourishment, and necessitating less frequent disturbance of the patient. In this manner I have, in a large number of cases, given from 1,000 to 1,500 grains per day; in one case as high as 1,800 grains. Dr. H. T. Prentiss of Holyoke, Mass., reported to me a case in which he gave 3,000 grains daily for about four days, and another patient, a child, to whom he gave 2,100 grains daily for two days, with absolutely no signs of intolerance, and with recovery from the disease in both cases.

At the commencement of this plan of treatment a slight coryza occasionally appears, but rapidly disappears if the dose be pushed.

In cases in which the disease at its onset is accompanied by marked gastric disturbances I have combined with the iodide the aromatic spirit of ammonia. The use of this agent has been suggested by Sir James Paget as increasing the tolerance of the iodide.

If for any reason it were impossible to give the iodide by the mouth its administration per rectum would be indicated, or when this is not possible, or in extremely urgent cases, by subcutaneous injection. From experiments performed in the laboratory of Prof. William H. Park, to whom I am greatly indebted for advice as well as for the privileges accorded me, I have found that concentrated solutions (1:4) are well borne by rabbits, and do not seem to cause much pain. Occasionally when two drachms of this solution were injected, there was sloughing, but this was the exception, and the subcutaneous injections seemed to be well borne, both locally and generally. I would, however, suggest the deep muscular injection, when very concentrated solutions are necessary, as causing less pain, although subcutaneous injections are preferable, owing to their more rapid diffusion.

In treating the disease by this method, the fact cannot be emphasized too strongly that our guide in dosage must be the condition of the heart, i regularity, and the distinctness of the pulmon heart sounds. The quantity of the drug given p dose or per day must not concern us, our only co sideration being its effect on the heart. By this do not mean to infer that we can keep on indi criminately pouring down the iodide, without a reference to the quantity, but that we must governed entirely by the effect produced. I crease the dose rapidly and persist until the desi result is obtained.

This plan of treatment requires the same jud ment and circumspection in its administration are necessary in every other therapeutic measu From my experience and as a result of observatio on this large number of cases of my own and my c leagues, failure to obtain favorable results will attributable to faulty methods, and lack of cours rather than to ineffectiveness of the treatment.

In conclusion I desire to apologize for the complete and unsatisfactory character of this pap but the extreme prevalence of lobar pneumo the severity and unusually high mortality rate the disease at present existing, prompt me to earlier publication of this method of treatment th at first intended, in the hope that the results obtai by my colleagues and myself may be verified similarly favorable ones by the profession at la

After all, in the words of Prof. F. Riegel, "T ultimate aim of all medical action is to heal an help."

153 West Seventy-sixth Street.

REPORT OF A CASE OF KIDNEY DECAPS LATION, WITH SOME OBSERVATIONS O THE OPERATION.

By A. G. GRUNWELL, M.D.,
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The recent great interest taken by the profession large in the subject of the decapsulation of t kidneys in certain forms of disease of those org has prompted me to report this case operated up at the United States Naval Hospital, Washingt D. C.

As the subject is still a comparatively new one wi much about it still to be learned, I venture to co clude the report of the operation by a few rema as to what appear to me to be its possibilities and limitations.

The patient, a master-at-arms, third class, in t Navy, of very robust physique, was admitted to t hospital June 16, 1903, with the diagnosis of "Ne rolithiasis" on his hospital ticket, which also sta that the disease had existed certainly since Mar 14, 1903. As the hospital case paper gives a ve complete account of the case, I can do no better describing it than to copy from the entries made that record.

"Upon admission is suffering great pain, which referred to the region of the left kidney. He stat that the pain, in the beginning intermittent, is no constant, but that it is greatly increased in paroxysmal manner at intervals. He is well nour ished, but shows signs of continuous suffering.

"9.00 P.M. Has had two paroxysms of agonizin pain, over which morphia in safe doses has litt control. Chloroform inhalations afford relief for variable time. He has passed no urine sinc admission" (12.30 P.M.) "and vomits during th attacks of severe pain. The pain he describes as agonizing, and similar in character to most intens colic. It starts from the left kidney always, and extends down to the left testis, which retracts somewhat.

"June 17. Little change in his condition, except t during the day he has passed 800 c.c. of dark ne, which contains neither pus, sugar, blood, umin nor 'sand'; he has a troublesome diar-ea."

The case-paper entries from June 17 to 21, when was thoroughly prepared for operation, describe nptoms very similar to those just enumerated. e pain was practically constant, and at times so in-se as to make him cry out. Chloroform inhalations ne gave relief, and it was sometimes necessary to e them three or four times during the night. miting and diarrhœa were very prominent symp-ns, and on two occasions spasmodic twitchings, ompanied by intense headache or dizziness, gave impression that uræmia was not far removed. eyelids were "puffy," but there was little or no lling of the hands or feet, and no signs of cardiac ertrophy. The daily quantity of urine passed ied from 1055 c.c., the highest, to practically none the 18th, and the specific gravity from 1005 to . Albumin was nearly always absent, and n present occurred as a trace only, until the 18th, n the small quantity passed contained not only umin, but a substance which had the macro-pical appearance of pus. No blood was passed ny time. There was no fever, the temperature om going above 99° F. The diagnosis was never ain. It was believed that any one of the three ditions, stone in the kidney or ureter, wandering ney, or nephralgia, could account for the symptoms ent. The Röntgen rays gave no help, and the kness of the patient's abdominal walls made the lts of physical examination uncertain. The l absence of blood from the urine made the ence of a pelvic stone improbable, until the pearance of the urine containing the pus-like iment above referred to.

It was very difficult to make the stomach retain d of any kind, though every effort was made to ulate and build up the patient for the operation. as his condition was becoming daily more and re critical, it was decided on June 21 to prepare n for an operation on the following day. The ount of the operation is taken from his case-paper.

"June 22. Nephrotomy performed. Patient was sthetized with chloroform, and an incision, be-ning at the angle formed by the sacrolumbalis scle and the twelfth rib, and extending inward to e axillary line, was made. Without much diffi-ty and with little hemorrhage, the fat-capsule was ched. This was gone through with the fingers d the kidney found. It was necessary to remove rts of the fat mass surrounding the organ in order palpate freely the kidney, which was found to be atly enlarged, of a firm consistence, and of a dull, ty color, and so friable that when part of it was sped with a forceps to steady it, the substance re immediately, a dark hemorrhage ensuing. It s necessary to pack the wound and to wait a nute or two for bleeding to cease. Owing to the ge size and friability of the organ, it could not be wn into the wound, and was accordingly carefully cked around with gauze to hold it in position ile an incision was made into its substance from e cortex. Hemorrhage was profuse and of the me dark venous character, but could be readily ntrolled by inserting the finger. A probe was sed down into the pelvis, and the opening dilated the following finger, until the cavity of the pelvis uld be readily palpated. Neither pus nor a stone as found.

"At this stage signs of shock began to supervene, o the wound in the kidney was lightly packed with gauze, while the packing around the organ was renewed to retain it in place, presenting in the incision, until the danger from hemorrhage should pass. Bleeding had entirely ceased by the time the gauze packing was completed.

"The patient was put to bed and easily restored by ordinary methods. A liter of saline solution was injected into the rectum and retained. The pain from which he had been suffering, is due, beyond doubt, to a condition of intense venous congestion of the kidney."

All things considered, the patient passed the night following the operation very well, sleeping at intervals and being able to take and retain small quantities of nourishment toward morning. During the night he passed small quantities of urine containing blood, and in the morning 280 c.c. of coffee-colored urine was drawn by catheter. This urine contained blood-clots, showing that the ureter was probably free. He passed more urine during this, the first night after the operation, than during any previous night of his sojourn in the hospital.

As his condition was good on the morning of the 23d, it was decided to anæsthetize him with chloroform in order to dress the wound and at the same time to continue the operation and decapsulate the kidney. The following case-paper entry describes the operation:

"10 A.M. Wounds dressed under chloroform anæsthesia. At the same time, the patient's condition being good, the occasion was taken to complete the operation indicated, decapsulation of the left kidney. This was done without difficulty in the following manner: With a mouse-tooth forceps, the edge of the capsule was picked up where incised yesterday, and the incision through the capsule extended along the kidney until its two poles were reached, the capsule being split in a straight line. To do this it was first necessary to remove the most of yesterday's gauze packing.

"With the edge of the divided capsule held up by forceps, a blunt aneurysm needle was gently passed under its margin, freeing it from one end of the incision to the other. The opposite side was treated in a like manner, the incision extending the entire length of the kidney. First one margin of the freed capsule and then the other was now taken up with two dissecting forceps and rolled upon itself. Catgut sutures were passed through the rolls and through the adjacent lumbar fascia to which the kidney was thus anchored. This was done in order to bring the stripped organ into the wound, where it will be easy of access in case of secondary hemorrhage, as well as to give it a permanent fixed position so as to avoid subsequent dislodgement. The patient stood this little operation well, and the diminution in size and improved appearance of the kidney since yesterday was very great."

The gauze packing was all removed from about the kidney, only that extending down into its substance and a small amount placed on top of the organ to absorb blood or urine being left. The large wound through the skin and muscles was partially closed with silkworm gut sutures. He passed a comfortable afternoon, and toward night took and retained liquid nourishment and drank water freely. His evening temperature was 99° F, pulse 96, and respiration 36. Practically no shock followed this operation.

"June 24. Passed the most comfortable night (the second following the operation) since his admission, though tr. opii in ten-drop doses was given to him to keep him quiet. He complains, at times, of pain in the lower abdomen and also in the wound; though the agonizing paroxysms, with which he suffered prior to the operation, have ceased. The attacks of vomiting seem also to have ceased. In

the last twenty-four hours he has passed 1875 c.c. of urine, which is still 'smoky' but does not now contain blood-clots."

The analysis of the urine passed on the 24th was as follows: sp. gr. 1030, blood and albumin abundant, urea 3.28 per cent.

On June 25 the wound was redressed. Upon removing the gauze from the kidney substance a flow of blood was started necessitating the replacing of the plug of gauze. The urine secreted on the 25th amounted to 1480 c.c., contained albumin and blood, and was of the same high specific gravity. He was by this time resting quietly and all narcotics were withdrawn, though later it became necessary to give him an occasional dose of laudanum, for the reason that during his period of intense suffering, he had become almost an habitué of the drug. The intervals were steadily lengthened, however, and within a week he had received the last dose. From this time on improvement was steady, the desire for food and the ability to sleep promptly returning. The quantity of urine reached the normal within a week, but was subject to fluctuations, the diminutions being usually accompanied by attacks of pain and some nausea. These fluctuations, however, were always transitory, usually the next day the amount of urine reaching normal and the symptoms disappearing. The pain in the region of the wound was sometimes severe, but he described it as of a different character from the pain experienced prior to operation, and it was found that prompt emptying of the bowel frequently gave relief. The pain-free intervals steadily lengthened.

By July 5 all blood had disappeared from the urine and albumin was present only in traces, but it remained present until the first of September, when it had practically disappeared.

The large wound healed readily without the appearance of infection. During the first two weeks urine was discharged through the wound, but as the sinus narrowed it gradually disappeared.

On July 26 he was allowed to sit up, and during the last week in August he was given daily liberty to leave the hospital; throughout the month of September there were no unfavorable symptoms, and on October 7, at his own request, he was discharged to duty.

From experience gained in a single case, I feel some hesitancy in expressing my views as to the possibilities of this operation, but a careful study of the case and of the literature upon the subject, lead me to the following conclusions:

To those diseases of the kidney, such as stone, pyonephrosis, and "wandering kidney," long classed as surgical, certain forms of chronic nephritis must now also be added. Indeed the surgical treatment of this affection has already reached the stage where it is now clearly the surgeon's duty to operate in certain cases, for the operation cannot only be the means of saving the patient from a long period of suffering, but can save his life as well. Just where the limitations to operation are to be placed in this disease, is not yet clearly established, and much must be left to the judgment of the individual surgeon in selecting suitable cases, for the indiscriminate employment of the operation in all forms and stages of chronic nephritis cannot be otherwise than disastrous. That the operation itself is a severe one, apt to be followed by profound shock, is clear, so that the use of such a radical procedure should be a cautious one. At present I think it impossible for anyone to state exactly which cases should be operated upon and which should not, and conservatism will certainly give the best results in the end, for not only by proceeding in this wise will the ground be made sure of as it is gone over, but the limits of the operation will be gradually extended without the sacrifice of numerous lives which so frequently follows a new procedure rashly undertaken before its proper sphere of usefulness is defined.

In connection with this operation the whole field of nephritis should be studied and written anew. Especially from a surgical standpoint, much is yet to be learned about the etiology and the early stages of chronic nephritis, and until this disease is better known, allowing of an exact diagnosis being early arrived at, many persons must still die of it. What is true of so many other serious operations is certainly true of this one, viz., the earlier it is performed the more chance of success.

That there is a considerable period in the beginning of chronic nephritis when few characteristic symptoms are present and when the urine is almost uniformly albumin-free, there is no doubt. The anatomical conditions present can then be summed up under the head of "intense venous engorgement," and when the formation of cirrhotic tissue is not yet progressive. This stage lasts a variable time, often, I believe, much longer than is commonly supposed, but eventually it gives place to the stage of active disposition of new tissue, which contracting, forms the cirrhotic kidney. Possibly it may, though rarely, end in recovery, the cause of irritation being in some manner removed. The symptoms of this "stage of engorgement" are commonly ill-defined, the two most characteristic ones being pain and intermittent attacks of suppression of urine, either complete or partial. The combination of these two symptoms is very suggestive, especially if recurrent, and, I think, warrant at least an exploration. It is really deplorable that symptoms are not more pronounced in this stage of nephritis, for it is the one in which the operation of decapsulation would be least dangerous, and in which the best results are to be obtained.

How late in the disease the operation can be performed with a hope of success I am not prepared to say, but with our present knowledge the longer the disease has been established and the more extensive the cirrhosis formation is, the less chance I believe there is for success.

In an ordinary case of shrunken kidney of long standing when the subacute attacks of suppression of urine supervene, the patient's general condition being fair, I believe the operation should be cautiously tried, for it is not improbable that parts of the diseased kidney, which would eventually succumb to the general invasion, may be saved, and made to carry on sufficient work to save the patient's life.

How the operation produces its beneficial result is not yet certainly known. That the mere relief of congestion, allowing the over-distended veins to regain their equilibrium, plays an important part, is shown in this case, in which the relief from urgent symptoms was very prompt. However, there must be something more to make the beneficial result permanent. This is probably accomplished in two ways, (1) by allowing the kidney, when subsequently engorged, to swell beyond its capsule, thereby supplying an automatic relief from the vascular pressure, and (2) possibly by supplying new channels for carrying off the superfluous blood through the blood-vessels of the new-formed scar tissue, something after the manner of the establishment of an artificial collateral circulation in cirrhosis of the liver.

Relating to the technique of the operation, a few words may here be said: From my own limited experience, I do not believe that any one method of operating will apply equally to all cases with the

results. In some instances it is possible, and btless it would be the correct procedure to ve the capsule entirely from the kidney, but cannot be done safely in every case, I am rinced, as the organ is sometimes too large and friable to admit of the necessary manipulation out serious injury to the patient.

hat it is not always necessary to perform the tion upon both kidneys, at any rate simultaly, and probably not at all, I think this case conclusively. Neither is it necessary to lete the operation at a single sitting, and e decided shock, or where the patient is greatly itated prior to the operation, I believe it cerly better not to attempt it, but to limit the procedure to making the kidney readily ible, and to relieving the tension by a judicious on in the cortex, taking great care, however, e that the hemorrhage is completely con- before the wound is dressed and the patient ed from the table. The next day or the llowing, the decapsulation can be completed enough. The result obtained in my case nts me in recommending the method em- d, which is briefly as follows:

kidney being as freely exposed as possible ut serious injury to it and the surroundarts, is held in apposition to the wound reful gauze packing around and beneath o expose it freely, it may be necessary move some of the surrounding fat under re, or by the use of the angiotribe. An n through the capsule, extending the whole of the organ, along its convex surface, and round its ends or poles, using the finger as a , is made. One end of the divided capsule picked up with a mouse-tooth forceps and flat, blunt, curved instrument, like a blunt rysm needle, is passed beneath its margin, rating it from the kidney cortex. This separais carried out the whole length of the incision, the finger is substituted for the instrument the denudation carried down the side of the y as far as desired. By using two pairs of ps the stripped-up capsule can now be easily upon itself, until three or four rolls have been , or until the roll is at least half way down at side of the kidney, when three or four es can be passed through it and the adjacent ar fascia. The other side is treated in the way, with the result that the kidney is well ed of its capsule and at the same time is y enclosed in the wound.

e advantages of this operation are: (1) The t ease with which it can be performed as com- with the complete removal of the capsule. is no unimportant item where the condition e patient makes rapidity and the avoidance much handling of, or tension on, his kidney rative. (2) The kidney is fast in the wound, e it can be seen without difficulty and is ible in case of hemorrage, either immediate condary. As this method is also the best one dealing with a "floating kidney," the fixed ion of the organ is insured, so that it may at uture time wander from its bed.

efore the sutures through the capsule and the bar fascia are tied, the gauze packing must be arranged that it can be easily gotten out when ired. The wound should not be closed, but it be partially brought together, care being taken have an opening left down to the kidney, of cient size to allow of occasional inspection.

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CASES OF URETHRAL STRICTURE AND THEIR MANAGEMENT.*

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The following reports, compiled from my office and hospital notes, exemplify some of the phases and complications of urethral stricture, and describe the management that seemed appropriate to each individual case. The term "management" has been used advisedly, implying that the "treatment of stricture," in its literal acceptation, forms but a part of what is necessary to secure to the patient the best ultimate result.

Case I will illustrate the management of a stricture of small caliber complicated by an acute specific urethritis. Incidentally it presents a typical if not the normal course of such a urethritis in a healthy, intelligent man.

W., age thirty-nine, married, presented at the office with a urethral discharge, a sense of irritation in the deep urethra, and slight frequency and urgency of urination. At night he was obliged to urinate twice. He had had two previous attacks of urethritis; respectively nineteen and fourteen years before. The second left a stricture which was dilated to 28 F. by his surgeon. The patient was then taught to pass a sound; but he neglected to do so until retention threatened. He then resumed gradual dilatation on his own account, beginning with No. 16 F. He carried it up to 20 F., after which he passed a sound only at intervals. At the time he contracted the urethritis for which he now sought relief, he had not passed his sound in two months.

Examination revealed all the evidences of a virulent infection with severe inflammation. The prostate was normal, except for tenderness in the median line. At this time no gonococci were found. A urinary antiseptic was prescribed and he was directed to drink water freely between meals, to remain recumbent, to wear a suspensory, to take three hot sitz-baths daily, and twice daily to flush the urethra with a warm 1-30,000 solution of bichloride of mercury, using a quarter-ounce hand-syringe. His use of alcoholics, tobacco, and coffee was regulated.

The anterior urethritis began to subside at once; but the acute posterior urethritis ran the usual course of a mild inflammation in this region. By the tenth day the patient was almost free from the sense of irritation, and the urinary intervals were nearly normal. No attempt was made to arrest or to modify the acute posterior urethritis because of the patient's hypersensitiveness and fear of instrumentation, and because the inflammation was of that mild grade which requires no intervention. Many gonococci were now found. By the fourteenth day the discharge had begun to diminish. The prostate remained uninvolved.

On the twentieth day the subacute stage having set in, the urotropin was replaced by a balsam. Sitz-baths were continued for a few days longer to minimize any congestion about the stricture. To the same end the warm hand-injection was only gradually withdrawn and replaced by an astringent. At the close of the fifth week there remained only a glairy morning drop and the urinary intervals were normal. The urine was clear, but contained many shreds. All liability to retention having passed, the patient was sent away for two weeks with instructions to use his hand-injection of bichloride, if necessary. The necessity arose but once—after ex-

*Read before the Genitourinary Section of the New York Academy of Medicine.

posure to cold and wet followed by whiskey. A mucoid discharge reappeared, but promptly disappeared under the injection. The urine, however, had again become clouded.

As the urethra evidently was still susceptible, dilatation was postponed another fortnight. It was then begun with his own 18 F. sound, which he succeeded in passing after a little manipulation under supervision. There are no skill and gentleness equal to those of the patient himself once he has practised the technique and learned the peculiarities of his urethra. In this particular case I believe it was good management, not only to let the patient make the initial attempt (under supervision), but also to allow him the instrument he was accustomed to, in spite of its caliber, which was dangerously small for use in a recently inflamed, strictured urethra. The instrumentation was followed by copious irrigation of the penile urethra from the meatus.

The only reaction was a trifling increase in the discharge, which his hand-injection promptly arrested. At the end of a week the dilatation was carried to 20 F. Six days later, sounds 20 F and 22 F. were passed with the utmost care and gentleness. Nevertheless, a little blood appeared at the meatus. The usual after-irrigation was therefore employed. He was now free from all urethral irritation and the urine had become almost clear.

The stricture's caliber having been restored to 20 F., with which the patient had always been satisfied, he now considered himself cured and stopped treatment, contrary to advice.

To explain certain details in the management of this case it should be stated that the patient was first directed to flush or "irrigate" his urethra with a solution as hot as he could comfortably bear because of the highly inflamed condition, and that the flushing was continued long after the primary indication had ceased because of the susceptibility of his urethra. Furthermore, he was fastidious, apprehensive, and possessed of preconceived notions. Of astringents in general, and silver nitrate in particular, he had an unconquerable dread that was not without some foundation in fact, judging from his decription of the treatment given him in the first instance, fourteen years before.

CASE II will illustrate one possible management of an irritable and somewhat resilient stricture, which, theoretically, often requires urethrotomy.

P., age thirty-five, married. In May, 1900, he entered Bellevue Hospital with retention of urine due to a contracted organic stricture in the upper bulbous region. This was relieved with filiform guide and tunnelled catheter, after which, gradual dilatation, accompanied by irrigation of the penile urethra from the meatus, was begun. The first three dilatations were followed by a urethral chill; on one occasion spasmodic retention occurred. At the end of two weeks, the stricture having become sufficiently dilated to render a recurrence of retention unlikely, he was allowed to leave the hospital and to come to the office for treatment. In preparation he was given quinine, three grains three times daily for two days. The technique of the dilatation was as follows: Copious irrigation of the penile urethra from the meatus with a solution of 1 to 30,000 bichloride of mercury; then distention of the penile urethra with iodofom oil; then the instrumentation; finally, irrigation of the penile urethra again. First, Banks' dilating filiform bougies were used; then flexible bougies until 16 F. could be passed with ease; then sounds. Thus, at four-day intervals, the caliber was gradually increased until, on the occasion of the fourth dilatation at the office, sound 20 F. could be pas to the bladder. No urethral chill followed th dilatations at the office, nor hemorrhage, excep the second when a drop of blood appeared at meatus. At the fourth dilatation the qui was discontinued on trial; but feeling hi threatened with a chill three days later, he sumed it according to orders. It was conti for a few weeks after this.

Irrigations before and after were now discontin but sterile iodoform oil remained the lubric At the seventh dilatation, one month after left the hospital, a 24 F. bougie was passed. was followed by a slight stain of blood, an ins tion of silver was given in the form of a 1-per solution of protargol—it being less irritating the nitrate. The patient now went abroad for summer.

He returned three months later, having been and free from urethral symptoms. Explor showed a recontraction to 16 F. Quinine wa scribed and dilatation was resumed by the technique as originally. In spite of all, he a chill after the second dilatation of this co Furthermore, the stricture increased in irritab as shown by the tendency to urethral spasm a time of instrumentation. This irritability met by the topical use of protargol first, then nitrate, combined with dilatation at interv one week, the urine being kept bland mean His final chill occurred at this time, during usual congestion of the urethra. As befor seventh dilatation carried the caliber up to 2

The same general management was followed 27 F. was reached. He was then taught to pa sound. For a period he did so once a week porting at progressively longer intervals for in tion and treatment. While the size of the s was gradually increased the frequency of its us decreased until, a month before the end of the se year, he was passing 29 F. every third week wit reaction, and without other precaution than dinary asepsis.

This rate was continued for six and one months, when the sound was tentatively di tinued, one year ago. Neither recontraction irritability has developed, as proven by repe examinations at intervals. The latest was six days ago. From the day he left the hos he attended to his business without interruptio

The next two cases are reported somewha detail because of the important and intere complications they present.

CASE III is one of tight stricture, chronic titis and recurring epididymitis.

G., age thirty-one, married, presented with the tory of tight stricture of long standing, and ad that whenever dilatation had been undertaken, incapacitating epididymitis had either threatene occurred. The left epididymitis had been infla once; the right, three times. As a consequence had never persevered in any course of treatm Once epididymitis had developed independe of any instrumentation. Though liable to re tion, he was most reluctant to have any tr ment begun. The symptoms were a small stre a sense of "tightness" in the urethra when uri ing; a straining to urinate; a milky morning dr bloody semen, and a continuous lumbar ac No nocturnal urination. The diurnal interv were from four to five hours; occasionally, he periods of diurnal frequency, unaccountable exc by supposing an irrigating urine; a transient acerbation of the urethrocystitis, or the prese

a calculus. He had had urethritis once, fourteen rs before. There was no history of traumatism. he two-glass test showed equally cloudy, faintly moniacal urine and many shreds. This bad lity, the history of recurring epididymitis, and importance of reassuring the patient, made it d management to confine the first instrumenta- to a cursory examination of the penile urethra, to occupy a few days in improving the urine preparing the urethra for the detailed explora- and subsequent treatment. A tight stricture he bulbous portion and general hyperæsthesia he urethral mucous membrane were found. patient was instructed how to use a hand-injec- of a warm solution of bichloride of mercury o,ooo) twice daily, and a urinary antiseptic y three hours was ordered. He was warned st the usual causes of retention. Fortunately abits as to alcohol, tobacco, and coffee were tionally good.

er five days of this preparation the penile ra was irrigated copiously and distended iodoform oil, a filiform bougie introduced, ver it a 12 F. tunnelled catheter was passed to ladder. Two ounces of turbid residual urine evacuated, and two and one-half ounces of a solution of silver nitrate (1–3,000) were instilled into the bladder and left. Tun- sounds 14 and 16 F., in turn, were next threaded filiform and passed to the bladder. This leted the first dilatation. Irrigation of the urethra was repeated, massage of the pros- performed, and the patient allowed to void the nitrate solution that had been left in the er. The hand-injection and the cystogen continued; in addition he was directed to take t sitz-bath three times daily and to keep is feet as much as possible. He remained mbent more or less for three days, then left city on business, and ten days elapsed before could present himself again, at which time as able to report that his backache had dis- ared, that urination required less effort and comparatively comfortable, and that he had no symptom of the dreaded epididymitis.

true recontraction, however, had taken place. rdingly the previous dilatation up to 16 F. repeated. Four days later it was possible troduce a 12 F. natural curve web catheter the purpose of preparing the bladder *before* eeding with the dilatation, and tunnelled d 14 F. entered so easily that it was permis- e to follow it by No. 18 without the intermediate

ilatation now proceeded at intervals of from days to two weeks, depending upon his im- tive business engagements out of the city. two or three occasions it was omitted, and only ation of the bladder and massage of the prostate performed because of a suspicious ache in or the other groin. At the end of five months, n preceded by sound, 23 F., 24 F. could be d to the bladder easily and with very slight mfort to the patient; the residual urine had inished to only half an ounce; its turbidity slight; its odor normal. No hemorrhage had n excited. Epididymitis had not occurred.

he strictures (subsequently a second one was d at the bulbomembranous junction) are y rigid and unyielding. This fact, together the unavoidable irregularity of the visits ong intervals, accounts in part for the relatively progress. Under eucaine anæsthesia the dila- on probably could have been carried a point her at each sitting. This was not practised, it being preferable in such a case as this to have the patient's sensations assist in deciding the permissible degree of dilatation. So long as he had a stricture offering any appreciable obstruction to the urinary stream, and a posterior urethritis of sufficient grade to cloud the urine, just so long would he be liable to recurring epididymitis, one exciting cause of which would be an overdilatation. The prime object was to remove the risk without precipitating the accident.

I regret that in this I was not successful. Four months later, when the caliber had reached 26 F., his first epididymitis developed during a period of turbid urine, the result of errors in diet to which he was prone, and immediately after repeated violent exercise, followed by a jarring of the testicle. There had been no instrumentation for eight days. After steady progress for another four months, during which his urine was brought to an almost normal quality, though his visits had been somewhat irregular, a second epididymitis developed under similar conditions, fourteen days after instrumentation. A month later he broke down from overwork, too frequent coitus and violent exercise. This was promptly followed by a relapse of his old-time intermittent fever with hæmaturia. It yielded to quinine as before. There was frequency for a few days.

He was then sent on a vacation. On his return tentative dilatation was resumed. It resulted directly in his third epididymitis. After a second period of rest his health began to improve, and aided by free diuresis his urine returned to normal.

The Oberländer dilator was now substituted for the sound with apparent benefit, but following the use of a 1–1000 silver nitrate solution in the bladder the fourth epididymitis developed directly. Dilatation was thereupon discontinued and argyrol solution, 5 per cent., was substitued for the silver nitrate in the effort to further improve the bladder and posterior urethra before resuming dilatation again. He is under this treatment at present.

Owing to the patient's size and to the rigidity of his perineum, the massaging finger with difficulty reaches the limits of the prostate. Nevertheless massage of the prostate has been repeated after every dilatation, not only to reduce the congestion of the prostate body, but also to express into the prostatic urethra any inflammatory products that may have been pressed into the ejaculatory ducts by the instrumentation, and to have the same swept thence by the silver solution left in the bladder and voided for that purpose at the completion of each dilatation.

Case IV, one of traumatic rupture of the urethra, details the management of a post-operative filiform stricture with a perineal urinary fistula.

H., age forty-nine, single. In jumping from a moderate height he struck on a post and sustained a complete rupture of the urethra. Apparently the gravity of the condition was not recognized; when seen by a consultant forty-eight hours after the accident the extravasation of urine had become extreme. As described to me by the patient, three operations followed: The first, performed forty-eight hours after the accident, liberated the extravasated urine and established bladder drainage; the second, performed two weeks later, reunited the severed urethra; the third, six months later, was to close a urethral fistula that remained. As is not uncommon, this failed of complete success. Through some misunderstanding the after-treatment was discontinued, and the patient was left with a sinus leading from the deep urethra and bulb to a point in the perineoscrotal region, and

with a dense, tortuous stricture at the corresponding point in the urethra. Through the sinus urine leaked continuously, and with every urination a quantity would escape under pressure while only a dribbling stream escaped at the meatus. The patient was compelled to wear a perineal pad and to change it and his underclothes many times a day. Altogether his condition was pitiable, and had profoundly affected his health and spirits. For the relief of this condition he presented himself one year after the accident.

Examination showed the condition as described. The urine, however, was bright, clear, and contained only a very few shreds. After preparing the urethra, a filiform was with difficulty wormed through the tortuous stricture into the bladder. On this, tunnelled catheter No. 9 F. was threaded and passed to the bladder by gentle manipulation. Moderate hemorrhage was excited. Tunnelled sound No. 11 F. completed the first dilatation. The unyielding nature of the stricture and the patient's worn-out, hyperæsthetic condition, made strict conservatism desirable. All instrumentation, however gentle, caused considerable suffering. Local anæsthesia could not be taken advantage of, as the anæsthetizing solution escaped through the sinus as fast as it was injected at the meatus. After a final irrigation of the urethra the patient was sent home to rest as much as possible and to take a hot sitz-bath three times daily. A urinary antiseptic was prescribed.

Four days later (his second visit) he reported that he had suffered no reaction, and that the stream from the meatus was stronger The dilatation at this sitting was effected by the filiform guide and tunnelled instruments Nos. 9, 12, 14, and 16 F. Barely more than a tinge of blood followed. The usual irrigation of the urethra, before and after, was performed. That evening retention of urine occurred. Apparently it was due, in part, to urethral spasm; it was easily relieved with a soft rubber catheter by his physician. Decided improvement was now noticed. He could void urine without effort; there was less leakage from the sinus; one perineal pad a day was sufficient.

Five days later (his third visit), a preliminary stretching was given the entrance of the strictured zone with the conical tip of a 23 F. flexible bougie. The dilatation was completed with filiform and tunnelled sounds beginning with 14 F. and ending with 20 F. For the first time there was more than moderate hemorrhage. Therefore, when irrigating the penile urethra, about two ounces of the fluid were made to flow into the bladder from the meatus, after which the patient stood up and voided the fluid.

On the fifteenth day the sinus closed. To favor it, and because of the hemorrhage excited by the third dilatation, no increase of the caliber was attempted until the sixth dilatation, sixteen days later, when 22 F. was reached. Though vcy carefully passed, it caused an immediate reopening of the sinus.

For the next four months it was alternately open and closed. Every passage of plain steel sounds at intervals of one week while raising the caliber of the stricture from 22 F. to 25 F. caused the sinus to leak a little for a few days. After a most cautious and gradual dilatation to 27 F. with a Kollmann dilator, the sinus leaked a great deal.

The indications were plain for more conservative dilatation of the stricture, and coincident stimulation of the urethral mucous membrane with silver nitrate solutions. Accordingly the patient was taught to pass sound 24 F. and later 25 F. once a week, after which the topical treatment of the urethra was carried out with endoscope, syringe-sound, catheter.

Meanwhile the involuntary, continuous leak from the sinus had gradually ceased; urine esca from it now only during urination. When he become expert with sound 25 F., he was directe pass it every five days and to come for top treatment and further dilatation every two we On two of these occasions the Kollmann dilator used, but never opened beyond 28 F. Later he given sound 27 F. to pass once a week. The s now allowed only a drop to escape during urinat and in the course of the twenty-first week it cl permanently. Long before this he had recov his health and had resumed business.

A few months later he was passing 28 F. e once a week and reporting at the office every weeks. His urination was normal. The urine tained only a few flakes with slight excess of mu After he had been passing 28 F. only once every days for awhile, he ceased reporting monthly usual, apparently well satisfied with his conditio

The comment may be added that topical t ment every two weeks should have been conti awhile longer in such a case; but the patient f it inconvenient to come to the city regularly.

Case V is one of recontraction following a lected urethrotomy.

B., age forty, married. He was referred to m June 22, 1901, complaining of an inability to ur except in drops. This condition had exist month. He had had urethritis only twice, the fifteen years before. With both, severe ch In 1884 he was thrown astride the limb of a tre neither hemorrhage nor dysuria followed. years later he had acute retention for which a neal section and urethrotomy were perfor There was no after-treatment and he failed to the sound with which he had been provided. T since then he had had retention, to relieve whi had catheterized himself with an English web, etted catheter of small caliber. He declared passed it without producing any hemorrhage. alcoholic habit was fairly marked.

Examination showed a filiform stricture situ toward the upper limit of the bulbous portion. the usual technique a filiform was passed to bladder. The smallest tunneled catheter wa rested. First proving that the instrument wa structed and not held by the swelling of the fil within the necessarily narrow tunnel, a B bougie was substituted and the stricture dila very little. After the urethra had been irri again he was sent home to take a hot sitz-ba once, to go back to bed and to use hot applica locally. By the following day a slight recontra had taken place. He was still able to urina stream, however. A copious urethral irrigatio warm as he could bear, was given, and he wa structed to use a hand-injection twice daily of a solution of boric acid. The third day a second tempt to dilate the stricture was made. The lu was not found as easily as on the first occasion, the somewhat prolonged instrumentation ca increased swelling in the stricture. As a co quence, the following afternoon, he developed re tion which had to be relieved by passing Ba bougie and leaving it in place for five minu Immediately thereafter he voided urine in a g stream. The urethra was irrigated before and af as usual.

It having become evident that serious reten might occur before dilatation could succeed, patient was sent into the hospital at once for op tion. It was to be expected that preparatory

n bed and systematic irrigation of the penile rethra for three days would relieve the congestion out the stricture and allow the tunneled catheter pass. Owing to a misunderstanding the irrigaıns were not carried out, and the stricture reined impassable to the metal instrument at the ne of operation. I therefore cut down through the b upon the tip of the instrument at the face of the icture. With a slender probe-pointed knife, the nen was enlarged until it would admit a thin, oved director along the filiform guide. The throtomy was then completed to 30 F., with toury and Otis urethrotome.

Twenty-four hours later the urethra was irrigated d sound 28 F. was passed until it encountered the ineal tube. The bladder was irrigated daily. the third day the perineal tube was removed manently; the bladder being healthy did not deıd longer drainage. At the same time a 30 F nd was passed through the whole length of the thra. This was repeated five days later. The ineal wound had closed by the seventh day. The ient left the hospital on the thirteenth day and orted at the office.

s is not unusual early in the after-treatment, a ht degree of narrowing was noted at this time. rthermore, the configuration was such that the nt of the sound had to be deflected before it ld pass smoothly onward to the bladder. From date the management consisted of the usual ual dilatation at weekly intervals to restore the ber, and of instillations of silver nitrate by means he Bangs' syringe-sound, alternating with apations through the endoscope, occasionally comed with a silver nitrate irrigation of the bladder. the end of two weeks, the caliber was again 30 F.; incisions in the urethra had healed, as shown by absence of blood after instrumentation; the asional slight incontinence of which he had comined after leaving the hospital had ceased, and urine presented only a few flakes. Having own before how to pass a sound for himself, he s easily re-instructed. On September 10 he was liged to leave the city. His instructions were to his sound once every two weeks.

He reappeared December 5 in bad condition, sically and mentally, the result of hard drinking d neglect to pass his sound for about two months. vertheless, the urinary function was normal and urine contained only a very few light shreds. amination showed a recontraction to 24 F.; but r sound 24 F. had been passed, 26 F. followed h fair ease. This instrumentation, however, was icient to re-awaken enough posterior urethritis d urethrocystitis to give him cloudy urine again. o bladder irrigations with 1-1000 solution of ver nitrate four days apart were corrective. thin two weeks he was again passing a full-size nd at proper intervals; but he continued drink- and soon disappeared from observation.

Case VI is typical of stricture of large caliber h secondary posterior urethritis and urethroitis due to a combination of causes: An anteced- urethritis, the stricture itself, excessive use of bacco and coffee, lithuria, and the practice of thdrawal in which the patient had indulged three nes a week ever since marriage three years before. F., age twenty-six, married, came to the office mplaining of very frequent and painful urination. e was compelled to rise at night every half hour. hortly after marriage he developed a mild urethritis, terior and posterior. Since then there had been sense of uneasiness during urination. With this ception he had enjoyed average general health ntil two months before, when he began to urinate with gradually increasing frequency. At one time urination occurred every fifteen minutes accompanied by pain referred to the vesical neck. Any jolting increased the bladder pain. A month later blood appeared in the urine; but under rest in bed and irrigation of the bladder this ceased in about a week. From time to time he had gone to bed, and had been variously treated for cystitis, vesical calculus, and prostatitis. He had resorted to morphine suppositories. There was neither a personal nor a family history of tuberculosis. By nature neurotic he had now become neurasthenic. He was an abstainer from alcohol, but an inveterate smoker; his habit as to coffee was two cups three times a day.

On examination he strained to produce a stream, and then suffered severe tenesmus. The urine was opaque with phosphates and pus. The symptom-complex was so suggestive of vesical calculus that I persuaded him to let me search his bladder.

After excluding acute prostatitis, the penile urethra was irrigated, anæsthetized, and moderately distended with iodoform oil. A small soft rubber catheter was very slowly passed to the bladder. Even the gentlest irrigation was painful; the bladder could tolerate only two and one-half ounces. Nevertheless, with a Thompson searcher as thorough an examination as possible was made. No calculus was detected.

He was put to bed and on fluid diet, chiefly milk, the free use of plain water, and urinary antiseptics. Very gentle irrigation of the bladder from the meatus once daily with a warm solution of boric acid was carried out, the penile urethra previously anæsthetized. He began to improve at once and dispensed with his morphine suppositories. By the fourth day he was rising only every two hours at night, and could retain four ounces of urine at a time during the day. The quality of the urine had greatly improved.

Under local anæsthesia an instillation was now attempted with a 20 F. soft rubber catheter. It was obstructed at the bulbomembranous junction. Prolonged instrumentation being contraindicated, a bladder-irrigation from the meatus was given instead. The following day a *smaller* catheter was introduced easily, and a one per cent. solution of protargol instilled.

Three days later, the bladder tolerating seven ounces, cystoscopy under local anæsthesia was performed. The mucous membrane in general was fairly normal; the trigone was congested. No calculus was seen. As a final proof, a 22 F. evacuating tube was introduced and the bladder carefully pumped. The stricture at the bulbomembranous junction was then gently dilated to 26 F., after which the bladder and the urethra were flushed by catheter and a 1-per-cent. protargol solution.

No reaction followed the instrumentation; he was allowed up the following day. His diurnal urinary intervals were now from two to three hours; probably they would have been longer but for the prescribed diluent. At night he had to urinate but once. Four days later (on the twelfth day) he left the house and reported at the office. The urine now showed many shreds in the first glass, but only an excess of mucus in the second. Endoscopic examination of the membranous urethra showed acute hyperæmia; at the bulbomembranous junction the mucous membrane had a swollen, thickened appearance and bled slightly; the bulb presented congestion. Silver nitrate solution, five grains to the ounce, was applied.

At the end of another week he did not have to

rise at all at night. The urine showed a few shreds in the first glass, the second was clear. A combined dilatation and instillation of a 1–1000 solution of silver nitrate by means of a 26 F. Bangs' syringe-sound was given. It was repeated at weekly intervals twice, and again at the end of two weeks. Three weeks after this he was entirely free from the long-standing urethral irritability. He was asked to report every two months for inspection.

CASE VII is one of chronic extravasation of urine with scrotal abscess and urinary fistula. Incidentally it illustrates the reparative power of the urethra.

C., fifty-nine, married, was admitted to my service at the Post-Graduate Hospital June 30, 1903, complaining of long-standing dysuria and of a scrotal abscess that had developed about four months before. It had twice been incised and more or less completely drained. His health had failed; finally he had to give up work.

Examination showed extreme hyperæsthesia, a filiform stricture in the midzone of the penile portion, and a foul, sloughing sinus in the right half of the scrotum, which in turn was much inflamed and tumefied. Near the root of the penis the abscess had a small upper opening, from which a few drops of urine escaped during urination, while from the large lower opening it came in a free stream. The patient was poorly nourished and in bad general condition. He was slightly septic and uræmic.

After two days of rest in bed and preparation, an ordinary external urethrotomy was performed by the usual technique. The stricture was divided to 30 F. with the Otis urethrotome. A length of soft rubber catheter was tied in the penile urethra to act as a splint, that the opening between the urethra and the sinus might be allowed to close properly by granulaton. The scrotal sinus was treated by dissecting away all the old cicatricial tissue from the lower opening after both it and the upper opening had been enlarged, and by thorough curetting. Through and through drainage was established.

On the fifth day the catheter-splint was removed from the urethra and very gentle irrigation from the meatus was performed once daily. No fluid escaped by way of the sinus; the communication proved to have closed permanently. The bladder was irrigated once daily by way of the perineal tube, which was removed, sterilized and reinserted at proper intervals up to the tenth day, when it was left out. The perineal wound healed slowly; by the end of the fourth week it had closed permanently.

For obvious reasons a sound of small caliber, 22 F., was the first one used after the operation. This was on the tenth day. It passed smoothly and was repeated a few days later. On the seventeenth day it was repeated and the bladder irrigated with two ounces of a 1–1000 silver nitrate solution, the urine not being satisfactory. Following this the bladder was irrigated with boric solution once daily, but owing to a misunderstanding of the order was distended to its capacity.

The patient now developed an irregular temperature, ranging from 99° F. to 104° F., apparently due to the lighting up of an old pyelitis or an absorption focus in one or the other kidney. All local treatment was therefore discontinued. Under free diuresis (up to six quarts of water a day), the administration of stimulants, urinary antiseptics, and creosote, the fever ran its course in about three weeks.

Two weeks later the after-treatment of the urethra and bladder was resumed. He has progressively improved in health and strength, and has returned to his business. At present, sound 23 F. can b passed with ease; the bladder function is good a the urine is fairly clear. The scrotal sinus has r mained closed, as has also the perineal wound.

A summary follows of certain details in t technique: Copious irrigation of the penile urethr from the meatus with a solution as warm as t patient can bear, is advised before and after i strumentation until the stricture has been dilat beyond the danger of retention from reaction swelling. The irrigating solution should be deli ered under gentle pressure from a hand-syrin with separate blunt tip. Similar irrigation, or instillation or irrigation of silver nitrate, protar or argyrol, is to be practised whenever blood a pears after instrumentation.

To facilitate the passage of small instrumen especially filiform bougies, and for asepsis. penile urethra is moderately distended with a per-cent. solution of iodoform in sterile sweet almo oil or with plain sterile oil.

The filiform guide and tunnelled instruments dispensed with as soon as a 20 F. ordinary so can be passed to the bladder with fair ease. E ceptionally the filiform guide may be dispen with at 18 F.; but, if the canal through the st ture is tortuous, or if there is a pocket or an false passage, a sound of small caliber than 20 unless very blunt, is dangerous except in ski hands.

The bladder is treated so long as there is evid of cystitis or urethrocystitis.

Specific treatment of the urethral mucous m brane with silver nitrate solutions is begun as s as a caliber of 18 or 20 F. has been reached, is continued combined with dilatation, until tissues have been made as near normal as poss under the conditions present.

At the conclusion of the after-treatment lowing urethrotomy, the patient should report fixed intervals for two years that any tendency recontraction may be detected and met, and t if he is required to pass a sound, the proper li tations thereto may be prescribed.

20 EAST FORTY-SIXTH STREET.

SOME OBSERVATIONS WHILE SERVING THE PHILIPPINES.

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THERE are few "first comers" to the Philippines do not believe that all they see, the air, water, so in fact the whole earth, with its many and sundry cumbrances (living and dead)—is reeking in ger I do not except the medical man entirely in this tiatory impression, because I have heard one or of them make some startling statements tending ward my partial conclusion. This idea, however, l but a short time with the common-sense practitio for he soon settles down to ferret out a real etiol of disease, abounding within these our new pos sions. Not so with his lay brother, who has contract along with his "philippinitis," "germ-mania." thinks the islands full of germs, and tells everyone Once I asked an acquaintance why he objected a certain recently built house located in Cavite, which he replied, very promptly, that he knew was "full of germs." I inquired his reason for s an assertion, whereupon he vociferously respond "Why, I saw a cockroach in this house over inch long."

The microscope is a good diagnostican in so cases and in some hands; but when the egoist ta

ld it is time for the laity to watch out for him; much so, as they would an inexperienced boy ndling a shot-gun; it is he who instilled my end. There is still another sort, a professional, o imbues into the minds of men a mistaken tion regarding germs; he is of a more intelligent ide, and consequently more dangerous to human- —especially those poor unfortunates doomed to in the Philippines, and at this minute battling inst the heat of the tropics. These alarmists are ponsible for all such cockroach episodes. They , in a large percentage of cases, seeking notoriety h a microscope. He carries it under his arm it were, and never ceases to talk of it, telling n or Jim all about his new discoveries with it, vely explaining its workings the while. We et him, even out here in the Philippines, spec- ing into the remote corners of these islands of s, advocating a thousand new methods as to the "X" bug may be destroyed, etc. So rely dissimilar is the strenuous surgeon and sician, with rolled sleeve and bared arm, mod- y working, working on a common-sense principle the good of those sufferers most in need of his gies—the latter certainly does more for advance- t, especially so in this newly born colony where there is a bit of fighting going on, with ladrones). r things are more settled, there is ample time the germologist. In lenience toward his mis- lied energy, however, even while there are roscopic topics of more consequence, let us rse him to the extent that we trust he will e day catch his germ, and pin it fast to his terfly-case, hoping posterity shall be benefited o doing. My plea is not against the microscope, her, I wish to leave it in expert hands. If there those who have been sent to do microscopic k alone, let them do it and not neglect something t they are familiar with, for the sake of dab- g in another man's work —let every man stick his original job.

It is the opinion of many that skin diseases deserve most thought from professionals serving in the ilippines. It is useless to attempt an enum- tion of all the names given to each by various thorities (many of whom differ so widely). To cuss them *tout ensemble*, without classification, l bring out my observations just as clear. The an of life designated as the skin, but which is erally thought to be a mere covering not unlike clothing, even by not a few well-educated per- s, is taxed to its utmost in this climate, not only ause of the tropic heat, but because of many ditions of living here. The Philippine sun ms to have a powerful influence upon the body, overstimulating effect, likened to the surcharged inic ray, penetrating the skin along the nerve rs, and exerting its influence upon the entire vous system. I am of the opinion the sun's s exert this influence more in the region of the ilippine Islands than in any other tropic country the world; because, for one thing, we do not as accommodate ourselves to our environment. e do not dress properly, we do not bathe our dies systematically, we do not cool our houses we should (owing no doubt to the unsettled te of affairs), and most of us eat and drink properly. I repeat, that many think, other an a protection to the flesh, blood-vessels, nerves bones, the skin could be dispensed with, parch- ent or canvas answering the same purpose. No e outside of a medical graduate thinks of the kin as a vital organ of life. I would be pleased to emonstrate to some of these the dangers of remov- ing more than one-fourth of their cuticular cover- ing, only I refrain from annoying my conscience to that extent and become responsible for life. It ought to be, if it is not, well known, how- ever, especially in our great cities, where fires are not infrequent, that extensive burns destroying large areas of skin always prove fatal. Now it is not necessary to destroy entirely an organ to dis- able the human economy. If we weaken a vital organ, all the remaining machinery of the human system suffers in proportion. The skin is disabled in the Philippines, hence most of the nervous troubles. What is to be done when an organ is disabled, and is all the while subjected to the same disabling influence: this is a pertinent query. I should suggest very great care and nursing of the organ; pamper it, and do not expect more of it than God Almighty intended. If we white-skinned races expose our bodies unduly—(for we are taught in childhood about white surfaces that blister and black ones that do not)—overstimulating our circulation artificially at the same time, and do not wash off the greater output from the sweat glands, we make this part of the machinery do extra work under the most unfavorable con- ditions. This injustice to a thermic regulating, breathing organ will cause more trouble than if a small part were torn off, entirely exposing the flesh, blood-vessels, nerves, and all the delicate structures beneath. A covering is sufficient to protect these; but when we remove a covering possessed of vitalizing functions, the great harm comes from this loss, and not because of undue severity to the structures beneath. The under- lying tissues can be artificially protected from harm, but the function of the working covering is lost forever, and so what remains must do extra work. Such a state corresponds with an active regiment. Kill off a third, or make the whole inefficient by overwork, and you get bad results in either case. The glands of the skin are the individuals in the regiment. Weaken the individuals, and the regi- ment deteriorates as a whole.

Not only in guarding our skins have we to con- tend against the sun's rays in all its forcefulness as an agent arrayed against these glands, causing inflammations of every description, but insects prevail in vast quantities; their stings and bites add to the enemy's strength, and so we must prepare against many foes, and toughen the point of first attack. Here are found insects in choice assort- ments, centipedes, spiders, scorpions, and the fes- tive mosquito in his glory. The reptile family I shall not mention, and yet there is a healthy pro- portion of these as in all tropical countries. Even after months of residence in the Philippines, when one has become acclimated to the singular potency manifested by this influence of sun, there is in reserve an array of living things to prey upon the poor alien's depleted cuticle.

Investigating the cause of that sudden exhaustion seen in our marines during the Samar campaign, I discovered that most of the cases of "giving up" (as they called it) on the march was due to a species of land leech. This blood-sucking animal would fasten itself to the bodies of our men while they were asleep, or even while they were walking along the trails (as there was little or no pain experienced when this occurred). It would attach itself to their legs unbeknown, and carry on its depleting influ- ence silently though seriously to the unfortunate victim. The fact that these creatures had accom- plished their nefarious work before discovery, suggested to my mind the most dangerous side of the circumstance, for forewarned is forearmed. I wish particularly to note this fact, and hope that it

may reach the recognition of some of those who may be similarly placed. This was not all the harm. Wherever there was a mark of the leech showing its attachment, an ulcer resulted in over 75 per cent. of the cases. These, apparently at first harmless sores, soon developed into the characteristic tropical ulcer, with all its tardiness in healing, and other unfortunate consequences. These ulcers ultimately were a cause of great suffering, adding to the exhaustion from loss of blood in the primary stage.

It is true, moreover, that insects not only expend their poisons with their stings—there is another easy avenue. In the vile habit of "tuba" drinking, there is presented a favorable means of spreading toxins by the wholesale, and in concentrated form. Some little explanation here is not amiss. "Tuba" is an intoxicating liquid made by the Filipinos, who cut off the blossom stalk of the cocoanut tree, and then collect the escaping sap from the stump so left into a bambo tube (about three feet in length and five inches in diameter), hence the name "tuba"; it is then fermented with a native bark, strained, and is ready for use. This tube is fastened in the tops of the tree, allowed to remain there maybe for days before it is filled, and then another tube takes its place. In the meantime, every sort of insect gets at it, "tuba" having an attraction for bugs; they swarm about the fermenting liquid, fall in, and die. Although the natives may strain out dead insects after removing the tube from the tree, there remains in liquid form a strong essence of bug. This, to my mind, is the main reason why the drink is so poisonous, and consequently is considered by local authorities to have on the troops a decided maniacal and deadly influence. Not only do insects haunt the tuba trees (so called because such trees bear no fruit, and are used for the manufacture of tuba exclusively), but small birds and even bats have acquired the habit, and they, too, sometimes fall in. I know a case in which an enormous fruit bat got so drunk on tuba that it first became quarrelsome with its neighbors, and then dropped down out of the tree upon the ground in a semi-paralyzed state. The concoction known as bino is another alcoholic poison that I would warn the American (living in the Philippines) against. This bino is a vulgarism for the Spanish vino, and is made of anything the most handy. When anyone asks for bino he may get a poor red wine or a bad white wine, doctored to suit the market; and when the natives are so disposed they will put in red pepper, or wood alcohol, because it then savors more of alcoholic stimulant, whatever else it contains is guesswork, but in most cases it contains this methyl alcohol. It may be safely said that alcohol is not a necessity, as some have advanced, in any part of the tropics; but if one is addicted to the use of it, he should confine himself to the best that is to be had, and he should never indulge in the drug until his system has awakened for the day's work—that is to say, he should never drink before the midday meal. My sincere opinion is, that it is better not to drink any while serving in the Philippines, unless prescribed by a competent physician, and even then many stimulants are at hand which are equally as good. To live properly, dieting oneself and keeping down deposits of uric acid with plain food, is far better than to overstimulate the system, thus fooling ourselves into believing that we are capable of as much work in the tropics as elsewhere. It is impossible to exert the energies of white men more than that which the natives themselves attempt. Therefore it should be a rest of the body during the heat of the day, no work between the hours of eleven in the forenoon and three in the afternoon; most of this time must be employed in rest, or, better, sleep. One should avoid the sun as much as his duties will allow, and when obliged to be in it, a perfect protecting head covering is imperative. Do not expose the head or face to direct sun rays, and keep your eyes well shaded. I have seen the eyes so sunburnt as to permanently weaken them. A thick cork or pith helmet, large and drooping in the rear, to protect the nape of the neck, is the best head-gear. Do not weaken the mucous membranes with alcohol or stimulating food, such as curried meats, and protect the skin as much as possible, ever on the alert to help nature in protecting those tissues which must bear the brunt of climatic conditions. A mild solution of tepid carbolic acid (¼ per cent. phenol in water) sponged over the body after the daily bath will do much to prevent skin diseases, and is far better than stronger solutions applied after the trouble has set in. My suggestions as to the mode of life in the Philippines are: To avoid over stimulating, avoid the sun, and keep the body cool by frequent bathing. If it can be afforded, cool your residence with one of the numerous refrigerating stoves on the market. Lemon or lime juice in water is much more wholesome than alcohol. For we look carefully into the many fancy-named fevers we find that the congested liver is responsible in a likely number, and therefore calomel and soda are more called for than the antipyretics. My own experience allows me to make this assertion. When the tissues become lax, as is observed in many cases of dilatation of the stomach and dropsical effusion into the lower limbs, then it is time to take two or three months vacation and go to a colder clime. Disillusion yourself of the notion that alcohol as stimulant will rejuvenate these enervated tissues and beware of the advice of such charlatans as would influence you into postponing your vacation at this critical period by advising alcoholics. When these symptoms of laxity and depletion appear, I repeat that it is time to leave the Philippines, remaining away until there is a resilience back to the normal of the weakened condition. In conclusion I may add a few short hints as to daily life *apropos* of my personal observations above stated. The wearing of a flannel band about the abdomen is not a necessity, but a habit and notion handed down by the British pioneers of India. I am convinced, however, that the abdomen should be protected while sleeping; at other times the everyday wearing apparel and exercise supply enough heat to prevent the chilling by evaporation of sweat. I would advise, whenever it is necessary to lie down and sleep, that a blanket be handy to throw over the abdomen, and in some cases of very restless sleeping a broad flannel band may be substituted at bed time. Water supply is the one thing where care is imperative; drink distilled water if possible, and have your clothing washed in the same; if the latter cannot be done, the wash clothes must be boiled. I believe, if the Secretary would establish a regular rate, designated laundryman, and if each ship was allowed its quota. thereby having the ship's washing done on board (with distilled water) it would materially prevent the spread of the many mild forms of so-called dhobi (or dobie) itch sometimes found in the navy. I would strenuously advise that food handled by natives to any great extent be debarred from the messes, not that I wish to criticise the Filipino's personal habits, but my observation prompts me very clearly in this matter and I sincerely believe I am correct in warning against it. The natives, as a rule, do not keep their hands clean, although it is said their bodies are

ushed daily; nevertheless they are not microscopically clean. I would advise Americans to be extremely careful of this little detail, as it may seem, and I would moreover advise the laity to accustom themselves to the art of disinfecting their own hands by occasional ablutions in one-tenth per cent. solution of bichloride of mercury. They should be cautioned to use the hands for what they were created, and be warned against such acts as scratching; use a disinfected wood or ivory "back-scratcher" (a common utensil in the far East), and only when imperative. Keep the hands away from your face and hair as much as possible during working hours. Scrupulous care of the teeth is another precautionary measure against disease in the tropics; by this I may include perfect cleanliness of the mouth, nose, and fauces. My plan is to clean the teeth upon rising and upon going to bed with a camphorated saponaceous dentifrice, not using enough force to injure the enamel; after this, rinse the mouth and gargle the throat with warm Dobell's solution of boric carbolic mixture. It is advisable and as well at these times to snuff some of the warm antiseptic fluid up the nostrils, allowing it to flow past the posterior nares without swallowing; with a little practice this can readily be done without causing gagging or flooding the eustachian tubes. Adopting these habits of microscopical cleanliness, I am convinced that the chances for contracting contagion are reduced to a minimum. There were many other topics bearing on the train of thought expressed in this paper, but those only striking me the most forcibly I submit now, trusting that some good may possibly be gained from these few personal impressions and observations. In conclusion I wish to say that Americans are now beginning to learn how to live in the Philippines, and I am pleased to observe this. I would suggest that my plan of cooling dwellings by the various new methods of refrigerating stoves be tried, if only as an experiment.

PORTSMOUTH, VA.

VALUE OF TOTAL AND DIFFERENTIAL LEUCOCYTE COUNTS DURING THE COURSE OF TYPHOID FEVER.

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ALTHOUGH from the viewpoint of diagnosis the total and differential leucocyte counts of typhoid fever have received due consideration, but little has been written relative to the knowledge which is to be obtained by these means during the course of the disease. This is the more surprising since the characteristics of these counts in the middle and latter weeks of typhoid fever are well known and established beyond all question. Such characteristics are a reduction in the total number of leucocytes combined with a relative increase of the large mononuclears, and a relative decrease of the polymorphonuclear neutrophilics. It might, therefore, be supposed that frequent leucocyte counts during typhoid fever would be of value in enabling the clinician to thoroughly keep in touch with the protean clinical picture of the disease. That in reality such is the case there can be no question. The following examples are submitted in support of this assertion:

CASE I.—C. P., age twenty-four years. This patient showed the ordinary clinical course of typhoid fever up to the latter part of the third week. In the latter part of the first week the total leucocyte count was 8,000, and the differential count at that time showed large mononuclears, 19.4 per cent.; polymorphonuclear neutrophilics, 67.8 per cent. On the twelfth day the Widal reaction was first tried and found positive (1–50). On the fourteenth day the total leucocyte count was 6,500, and the differential count gave large mononuclears, 22.5 per cent.; polymorphonuclear neutrophilics, 61.2 per cent. Counts on the nineteenth day gave the following results: total count; 10,500, differential count, large mononuclears, 10.2 per cent.; polymorphonuclear neutrophilics, 78.6 per cent. Up to and at this time the clinical picture of the disease showed absolutely no deviation from the usual. On this day the temperature was pursuing the usual course, and a most careful clinical examination failed to reveal any cause for the alteration in the characteristics of the total and differential counts. Nevertheless, the case was regarded with suspicion. On the following day (the twentieth) the clinical picture was still undisturbed, but the total leucocyte count was 12,000—the large mononuclears showing 8.9 per cent., and the polymorphonuclear neutrophilics, 84.6 per cent. These counts were made on the evening of this day. The next morning (the twenty-first day) the patient was seized with a severe chill, followed by accelerated respirations and a sudden rise of temperature to 105.6° F. A physical examination of the chest showed a beginning consolidation of the right lower lobe. The total leucocyte count was now 19,000—the large mononuclears, 6.2 per cent.; the polymorphonuclear neutrophilics, 89.4 per cent. A microscopical examination of the sputum showed that it was loaded with a capsulated diplococcus, as stained by Welch's method. The patient died from the complicating pneumonia on the twenty-fourth day.

CASE II.—D. .P., age seven years. This was a case of typhoid fever, which was complicated by measles in the first part of the second week. Typhoid bacilli had been isolated from the fæces by the Hiss method on the sixth day. The Widal reaction was negative on the fifth, but positive on the eighth day in a 1–50 dilution. On the fifth day the total leucocyte count was 6,750, the percentage of large mononuclears being 25.1, and that of the polymorphonuclear neutrophilics 54.6. On the ninth day a severe bronchitis with coryza developed, the rest of the clinical picture remaining the same. The total count on this day was 4,500, but polymorphonuclear neutrophilics were present in 86.1 per cent., the large mononuclears showing 3.2 per cent. Confirmatory counts on the tenth day gave practically the same figures. The bronchitis and coryza increased in severity, and on the thirteenth day an abundant eruption of measles appeared. Simultaneously there was a marked fall in the temperature (no antipyretic measures having been used) from 104.2° F. to 101.3° F. The characteristics of the total and differential counts were found to be the same as on the ninth and tenth days. The eruption of measles remained for five days, during which time the case was a typical one of measles, with a low temperature—this never going above 101.3° F. With the fading of the measles eruption on the eighteenth day, the total leucocyte count was found to be 4,150—the large mononuclears showing 21.8 per cent., and the polymorphonuclear neutrophilics 59.3 per cent. On the evening of the eighteenth day the temperature was 104.1°F. From this time on the case ran a typical course of typhoid fever—the total and differential leucocyte counts also remaining typical. Recovery ensued after an eight weeks' course dating from the time of the beginning of the typhoid fever.

CASE III.—A. H., age eighteen years. This was a case of typhoid fever marked by two relapses. The first attack ran a nine weeks' course and showed an atypical temperature throughout. The Widal reaction was positive (1–50) on what was probably

the sixth day. On this day the total count was 8,000—the polymorphonuclear neutrophilics showing 64.8 per cent., and the large mononuclears 18.4 per cent. On the sixty-third day the temperature first reached normal. For four days thereafter it remained practically normal. On the sixty-eighth day it began to rise. By the seventy-second day it had reached an evening height of 103.2° F. The question now arose as to whether this was a relapse or a new infection of other than typhoid origin. On this day the total count was 4,000—the percentage of polymorphonuclear neutrophilics being 48.1, and that of the large mononuclears 32.9. On the basis of these counts the opinion was given that the existing temperature was due to a relapse of the typhoid fever. Subsequent events confirmed this opinion—the relapse running a ten-days' course, to be followed by a similar relapse and final termination in recovery.

Conclusions.—These cases show that so long as the typhoid infection remains pure the characteristics of the total and differential leucocyte counts peculiar to this disease are maintained.

In the presence of complicating infections these characteristics are altered. Such an alteration precedes the clinical picture of the complication. Therefore frequent and careful total and differential leucocyte counts during the course of typhoid fever are of great value in enabling the clinician to keep in touch with the variations in any given case.

In conclusion, I desire to express my thanks to Dr. Herbert F. Williams, whom I am indebted for the opportunity of observation in one of the above cases.

227 PARK PLACE.

A NEW SIGN OF BASILAR MENINGITIS.

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To discover a new sign is, to tell the truth, more often the simple act of putting it in print. Many a modest practitioner knows clues to the recognition of disease that he never thinks of putting on record, and the world keeps on searching for the knowledge that perished with him. Among diseases of childhood the insidious attack of tuberculous meningitis is avowedly difficult of diagnosis. When the historic symptoms of the disease, headache, vomiting, drowsiness, constipation, and perhaps convulsions declare themselves, the physician would very probably be directed to an apprehension of some meningeal trouble when reflex symptoms and pupillary signs are fully developed with retraction of the head and the Kernig sign, the case can with much confidence be diagnosed basilar meningitis of tuberculous origin. A sign which I have invariably found to be present in this disease, frequently so early as the fourth or fifth day, according to the severity of attack, is a rhythmical dilatation and contraction of the pupil. The method of obtaining the sign is as follows: Place the child's head between the knees of the physician face upward, with the body of the child supported on the bed, table, or lap of the nurse. Grasp the sides of the child's head with each hand and produce gradual and forcible extension of the head on spinal column. As the head is brought back in this extension the pupils will be seen to commence to dilate simultaneously with the commencement of extension the more extreme the extension the more the dilatation. Now upon flexion the pupils contract so that when the chin is forcibly brought to the manubrium the pupils are well closed up. This can be done several times a minute, and each time the pupillary phenomenon will be repeated. The dilated pupils, with extreme retraction of the head in the late stages of the disease, may be in some measure mechanical or hydrostatic from increased pressure by effusion on the nerve roots or centers at the base of the brain. An early recognition and treatment of this disease is very important if we would hope to save many of our little patients.

The Influence of Skin-grafting on the Recurrence of Morbid Growths.—The influence of skin-grafting on the recurrence of morbid growths is a subject of great interest. Dr. Robert Campbell, writing to the *British Medical Journal* of February 13, refers to this matter as follows: "I have found in cases of lupus that if the affected skin be excised and skin-grafting of the raw surface be employed there is no tendency for the disease to recur; whereas, if the wound be stitched up, there is a marked tendency to the formation of tuberculous nodules in the stitch holes and scar. The same observation applies to keloid scars. I have also reason to believe that skin-grafting exercises an inhibitory influence on the recurrence of sarcomata of the skin. I have not yet been able to satisfy myself that carcinomata are affected in the same way. I think the question is one which is worthy of investigation."

Diagnosis of Incipient Consumption and the Cases Suitable for Sanatoria.—C. H. Cattle would admit to the sanatorium all patients having the disease limited to one lung without clinical signs of cavity and having a temperature very little above normal after the patient has been put to bed for a week or two. He believes in putting all patients to bed as a preliminary for treatment. He thinks that cases of pleurisy should have a three months' course in the sanatorium after the active symptoms have subsided. Most pleurisies are tuberculous and the disease is probably latent in the lung at the same time. These cases probably furnish the examples of healed tuberculosis. When there is evidence of constitutional disturbance, as when latent lesion is about to become evident on physical examination, sanatorium treatment should be adopted. Acute cases are not suitable for treatment away from home until the acute symptoms disappear without much destruction of lung tissue, except in selected cases in middle life, when the disease has a tendency to spontaneous cure. Cases with glycosuria, tubercle of the kidney, ulceration of the intestines, or other grave complication are not suitable for the sanatorium intended for permanent cure. Phthisical patients should not be sent to the sanatorium without due consideration of the possibility of relapse.—*The Practitioner.*

Chronic Synovitis Due to the Organism of Mediterranean Fever.—J. P. Kennedy reports the case of a patient who suffered from what was called subacute rheumatism of the shoulder contracted after a wetting. At first he had persistent pains in the various joints, which finally settled in the right shoulder, which became swollen. No treatment had much effect. Hot fomentations gave the most relief. The shoulder was much swollen, tender, and tense; the deltoid was wasted with fluctuation on both sides of it. Diagnosis was that of a large subacromial bursitis. The blood was negative for Widal's reaction to Mediterranean fever. Fluid from the bursa showed small cocci. The joint was much relieved by drawing off the small amount of fluid, and the evening temperature fell from 100° to normal. Injection of one to eighty carbolic-acid solution 20 minims, produced a rapid recovery. The organism was proved by inoculation to be Micrococcus melitensis. The writer thinks that the reason he did not get a reaction for Mediterranean fever by Widal's test was because the dilution used was too high (1-40 and 1-100 respectively). It should not be diluted over 1 to 30. He also thinks that the seven local symptoms found in this fever are due to deposits of the micrococcus in the affected tissues. Often an external exciting cause can be found for these local affections, which are very frequently located in the shoulder.—*Journal of the Royal Army Medical Corps.*

MEDICAL RECORD:

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MEANS OF DIMINISHING SMALLPOX.

The *Hospital* of February 13, 1904, contains an article by J. E. R. Stephens, Barrister-at-law, dealing with the recent report of the British Royal Commission on vaccination. The work of the commission has been very thorough, and, of course, the conclusions reached are instructive in the highest degree. The report stated in part: "We can see nothing to warrant the conclusion that in this country vaccination might safely be abandoned and replaced by a system of isolation. If such a change were made in our method of dealing with smallpox, and that which had been subsituted for vaccination proved ineffectual to prevent the spread of the disease, it is impossible to contemplate the consequences without dismay. Power would, in our opinion, be conferred on sanitary authorities to give compensation for loss of wages, and generally pay expenses occasioned either by the isolation of patients, or persons who have come into contact with them, or such supervision of them as is necessary, whether in hospital or elsewhere." The commissioners paid special attention to the fact that the common lodging-house is frequently the "*fons et origo*" of smallpox, whence the malady does spread far and wide. Tramps who wander throughout the country contract the disease, and carry it from place to place. The following recommendations were made in view of this theory:

(1) That common shelters which are not now subject to the law relating to common lodging-houses should be made subject to such law.

(2) That there should be power given to the local authority to require medical examination of all persons entering common lodging-houses and casual wards to see if they are suffering from smallpox, and to offer a reward for prompt information of the presence of the disease. (3) That the local authority should have power to order the keeper of a common lodging-house in which there has been smallpox to refuse fresh admissions for such time as may be required by the authority. (4) That the local authority should be empowered to require the temporary closing of any common lodging-house in which smallpox has occurred. (5) That the local authority should have power to offer for lodgings to any inmate of a common lodging-house or casual ward who may be reasonably suspected of being liable to convey smallpox. (6) That the sanitary authority should give notice to all adjoining sanitary authorities of the occurrence of smallpox in common lodging-houses or casual wards. (7) That where the disease occurs, the public vaccinator, or the medical officer of health, should attend and vaccinate the inmates of such lodging-house or wards, except such as should be unwilling to submit themselves to the operation. One of the questions put to the commission was as to the objections made to vaccination on the ground of injurious effects alleged to result therefrom, and the nature and extent of any injurious effects which do, in fact, result.

The majority of the commissioners, in answer to this query, considered, in the first instance, the evidence afforded by infantile mortality, vaccination being in most cases coincident in point of age with infancy. "If then," said the commissioners, "it is the parent of other diseases, and has substantially augmented the number of deaths due to them, we should expect to see some effect produced on infant mortality as a whole; yet it is clear that the majority of infants in the first year of life, as measured by the proportion of their deaths to births, has not increased at all during the times when infant vaccination has been increasing."

Referring to syphilis as a result of vaccination, the report says, "If vaccination were, to any serious extent, a cause of syphilis we should have expected to see some evidence of it in the comparative records of the mortality of infants under one year of age. Statistics disprove this allegation.

So far as cancer is concerned, the commissioners deliver themselves of this view of the situation: "It may be that, in addition to the apparent increase, there has been some real increase in the mortality from cancer; but there is not a shadow of evidence to connect this with the practice of vaccination, whilst there is strong evidence pointing the other way."

As regards the connection between erysipelas and vaccination the commissioners remark as follows: "The evidence, is, in our opinion conclusive to show that there has not been, during the past forty years, any material increase of deaths from erysipelas owing to vaccination."

The report further stated: "An examination of the analysis of the fatal maladies connected with vaccination during the period 1886 to 1891 made by Dr. Ogle, shows that erysipelas is credited with almost one-half of the total number of deaths. Next in number comes the class which includes pyæmia, septicæmia, and blood-poisoning. If this class be added to erysipelas and maladies allied to it, they account altogether for two-thirds of the cases in which the cause of death has been connected with vaccination."

Commenting upon Dr. Ogle's statement, the commissioners said: "It is not always easy to determine whether vaccination has been the cause of or has contributed to subsequent erysipelas or blood-poisoning. Erysipelas is a common disease of infancy, and not infrequently leads to death. The evidence of Dr. Ogle shows that nearly two thousand per million die of erysipelas during first three months of life, and that the mortality rapidly declines as the age advances. Quite apart then from vaccination, there is nothing remarkable in the occurrence of erysipelas in the case of an infant. The disease is obviously contracted, in the majority of cases, from some other source."

A careful examination of the facts which have been brought under the notice of the commissioners enabled them to arrive at the conclusion that, although some of the dangers said to attend vaccina-

tion are undoubtedly real, and not inconsiderable in gross amount, yet, when considered in relation to the extent of vaccination done they are insignificant. There is further reason to believe that they are diminishing under the better precautions of the present day, and with the addition of the further precautions which experience suggests they will be less and less in the future.

That part of the report which refers to the spread of smallpox by tramps and common lodging-houses would seem to be even more applicable to this country than to Great Britain. Tramps abound here, and they are always more or less moving from place to place. Smallpox has been particularly prevalent in the United States during the past four years, and it is extremely probable that tramps have been largely instrumental in disseminating the disease. The matter is worthy of investigation, and if it be found that smallpox is spread by these means, precautionary measures should be taken at once.

THE ROCKY MOUNTAIN "SPOTTED" OR "TICK" FEVER.

Recognized by Montana physicians for fifteen or twenty years as a distinct clinical entity, but hardly noticed in the literature, this disease is somewhat exhaustively discussed by Drs. Louis B. Wilson and William B. Chowning in the *Journal of Infectious Diseases*. The authors propose for it the name *Pyroplasmosis hominis*. The center of the disease seems to be the Bitter Root Valley, Montana, though cases have been reported from Idaho, Nevada, and Wyoming. Of 126 cases, 105 occurred in April, May, and June, with the maximum time limits as March 17 and July 20. Men furnished 79 of the 126 cases, probably from their increased exposure to contagion in roaming the foothills, which is the principal infected area. Most physicians experienced in the disease recognize but one type, the "spotted" one, which is severe, and is fatal in 70 to 80 per cent. Accurate diagnosis of the mild type offers much difficulty. Though its existence must be admitted, during the author's investigations all cases but one were of the severe form, the diagnostic feature of which is the "spots." The disease in Idaho appears to be much milder, though all cases show the characteristic eruption. Where elicited, the incubation period was two to eight days. The onset is of the type usual in general infections. The initial chill is usually the most severe, the recurrences decreasing in severity. At the outset there is severe aching in the bones and muscles, usually great weakness, and there may be severe headache. Constipation is usual, bronchial cough is frequent, and there is considerable restlessness. The urine is usually scanty, and high colored, and sometimes albuminous. The skin is dry and the tongue heavily coated (first white, later brownish), and finally it becomes dry and cracked. Sordes appear early and may be quite pronounced. The whole facies is thus very like typhoid fever. The fever on the second day may be 103 or 104, and increases to a maximum of 105–107 on the fifth to the seventh day. Recovery is usually by lysis, the fever diminishing about the end of the second week to normal two to four weeks later. The eruption appears two to five days (in sixty-five cases on the third; in two on the ninth) after the chill, first about the wris and ankles or the back, thence extending over th body, usually last on to the abdomen, generall taking two days to reach the maximum. Th scalp, palms, and soles are frequently covered The eruption is circular, rose-colored, and macula the color at first disappearing on pressure. Rapidly however, the character changes, the macules be coming permanent, dark blue or purple, and con fluent, imparting a mottled appearance. Som jaundice is generally present. About the thir week desquamation (usually slight) begins. Som severe cases show low muttering delirium, and pick ing at the mouth, ears, and bedclothes may b present. Except at the outset, the disease is re markably free from pain. The rapidity of th pulse, and sometimes also of the respiration, ma be out of all proporton to the temperature. Th blood count shows a marked reduction in the re cells and hæmoglobin, with at times a slight leuco cyte increase. Freshly drawn blood shows sparing inclusions in the red cells of organisms showing th characters of *pyroplasma*. The spleen is uniformly enlarged and tender. All severe cases show mor or less œdema of the face and extremities. Naus and vomiting develop about the beginning of th second week and in fatal cases continue to the end Some cases show nausea from the onset. Nine cas examined showed granular and blood casts. Res ration is usually not over 36, but sometimes reaches 60. It is regular, but usually shallow.

The macroscopic lesions post mortem are: Earl and intense rigor mortis; skin marbled or petechia in all cases tick bites; hypostatic congestion o lungs; myocardium soft, the right ventricle fille with dark fluid blood, the left almost empty or with only a small clot; spleen 3–3½ times the norma weight, dark red, soft, and almost diffluent, outlin of the Malpighian bodies almost obliterated; liv slightly enlarged and pale; kidneys with sma subcapsular hemorrhages and congested corte Microscopically the skin shows changes referabl to interference with the capillary circulation, th extravasation and pigmentation accounting fo the persistence of the "spots" long after recovery The heart muscle, spleen, liver, and kidneys, show parenchymatous degeneration.

From the standpoint of etiology, the disease i strictly limited to the west side of the Bitter Roo Valley; it is confined to one season (March to July) there is not even a suspicion of direct transference from one person to another, and the avenue of in fection seems clearly to be the tick bite. The main reasons for implicating ticks as carriers of the in fection are that in all the cases tick bites preceded the onset, and that no other carrier was suggested by the study. Ticks appear about February 15 and disappear about July 15; the sharp geographical limitation by the river harmonizes with the transmission by a temporarily parasitic animal of slow locomotive powers; one case was definitely known to have been induced by a tick bite; and lastly ticks play the rôle of transmitters of the nearest known relatives of the parasite, *e.g.* of *Pyrosom bigeminum*, the causative organism of "Texas fever" of cattle. No bacteria of etiological importanc were found.

There is some reason to incriminate one of th

rodents of the region, *Spermophilus columbianus*, a third host of the parasite, though such a multiplicity of hosts has not yet been recognized for the hæmocytozoa. Still no parasites were found in the blood of other animals, or in that of over one hundred persons unaffected by "spotted fever;" parasites indistinguishable from the pyroplasmata were found in the blood cells in ten out of fifty-one spermophiles from the west side of Bitter Root Valley, but in none of those of sixty-two from the east side of the same valley; *Spermophilus columbianus* is very abundant on the west side, much less so on the east side of the Valley; it is averse to swimming; and during spring the Bitter Root is swollen to a torrent, and *Spermophilus columbianus* is out from hibernation only from about March to August 1, and ticks were found upon them; and finally experiments showed that the pyroplasmata could live a long time in the blood of another rodent (rabbit) without causing symptoms.

Early diagnosis is sometimes extremely difficult or impossible. When, however, in spring or early summer in the infected area, constipation, headache, pain in the back or limbs or radiating from the tick bite, muscular soreness, chill followed by fever and usually mental apathy occur, pyroplasmosis is to be suspected; and the diagnosis becomes positive when the rash appears (usually on the third day and first on the extremities), or when pyroplasmata are found in the blood.

Treatment would appear to be eminently unsatisfactory. Quinine in large and small doses has been tried, but the results seem hardly encouraging.

EPIDEMIC DYSENTERY.

During the past half-dozen years much discussion has arisen relative to the specific bacterial etiology of epidemic dysentery. Unfortunately not a small portion of what has been written upon this subject concerns claims of priority in the discovery of the causative bacillus as advanced by different observers. In such discussions the medical profession have little or no interest, and it is also evident that their continuance conduces in no great measure to our knowledge of the causation of this disease. It is, however, interesting at the present time to note that out of this chaos of opinions and diversity of claims the true status of affairs is formulating, so that even now it is possible to forecast with much certainty what will ere long be recognized as indisputable truth. The protean clinical picture of epidemic dysentery has been acknowledged for many years. Within this disease have been included cases which range all the way from the acute dysentery of camps through the various degrees of ileocolitis to the infective diarrhœas of infants and adults. It is somewhat surprising that for classes of cases which show such clinical diversity a bacterial entity should have been considered possible. When the symptomatology is taken into consideration there does not appear to be any definite reason why an epidemic in Japan and another in the United States or Germany should be regarded as necessarily caused by the same microorganism. As a matter of fact, there have been a number of varieties of so-called dysentery bacilli isolated in different epidemics from the stools of patients suffering with epidemic dysentery. These varieties differ to a certain extent in cultural peculiarities and also in their pathogenic properties when inoculated into animals. R. H. Firth (*Journal of the Royal Army Medical Corps*, December, 1903) has made a special study of the cultural and pathogenic characteristics of many of these varieties. He comes to the conclusion that certain of these species are practically identical—as, for instance, those isolated by Shiga, Kruse, Vaillard, Harris, and Flexner, Nos. 1 and 3. Others are easily to be differentiated from these. There does not seem to be any question but that all of the varieties are distinct from the bacillus coli communis and the typhoid bacillus.

Firth's work shows a careful technique and adds evidence to opinions which have been expressed in other quarters. There are probably a number of varieties of bacilli capable of giving rise to the clinical picture commonly regarded as epidemic dysentery. These bacilli certainly belong to a group of closely related microorganisms. Whether or not they are interchangeable forms cannot now be definitely stated, but it is very improbable that such is the case. Under these cricumstances the important practical point is that an immunity to one of these varieties does not imply an immunity to the others. The difficulties of an effective serum therapy are therefore apparent.

The Selection of Cases of Pulmonary Tuberculosis for Treatment in Sanatoria.

With increasing hopefulness in the treatment of pulmonary tuberculosis has grown a demand for early diagnosis, as the results will be the better the earlier treatment is instituted. To await the development of distinct physical signs or the appearance of tubercle-bacilli in the sputum is to lose valuable time and with it therapeutic opportunity. The problem presented is in large measure a physiological one, and comprises a fortification of those natural resisting influences through which the invasion of the causative microorganism is ordinarily repulsed, or its effects are neutralized when it succeeds in obtaining lodgment in the tissues. Of the means for attaining this end, first place must be given to an abundance of pure air and sunshine, while the question of food is scarcely of lesser importance. Whatever tends to the improvement of the general nutrition must be considered as an adjuvant in the treatment of pulmonary tuberculosis. It has been found that the necessary measures can be best applied in institutions favorably situated, adequately equipped and intelligently administered, but some discrimination is required in the selection of cases, in order that the best results may be obtained, and the methods do not fall into disrepute. In a paper dealing with this subject, Dr. C. H. Cattle (*Practitioner*, February, 1904) gives expression to the view that patients in whom the disease is limited to one lobe of a lung, without clinical signs of a cavity, and the temperature does not range much above the normal after rest in bed for a week or two, may be received into a model sanatorium. Many cases of pleurisy, it is thought would be better for a three-months' course at a sanatorium after subsidence of the active symptoms. A considerable proportion of such cases are tuberculous, the disease being latent in the lung at the same time. When from the presence of constitutional disturbance a latent lesion gives indication of becoming evident to physical examination, sana-

torium-treatment should be adopted. Dr. Cattle believes that acute cases are not suitable for treatment away from home unless the acute symptoms subside without great destruction of lung-tissue. Cases that exhibit early a tendency to cavity-formation are considered ineligible for sanatoria, which aim at cure within a limited period, and cases should be debarred in which a cavity can be recognized, except under special circumstances, as, for example, when the disease is chronic and there is no tendency to hemorrhage and there is evidence of considerable repair. In persons who are getting on toward middle age the disease often manifests a tendency toward spontaneous arrest; hence, a greater extent of disease may in their case be consistent with the hope of ultimate recovery than in the majority of younger persons. Also cases of glycosuria, of tuberculosis of the kidney, of intestinal ulceration or other grave complication are considered unsuitable for treatment at a sanatorium that aims at permanent improvement or cure. For various reasons a considerable proportion of cases relapse and gradually lose the good that had been gained. This fact should be taken into consideration in sending poor patients to sanatoria, and it also raises the whole question of the after-care tuberculous individuals.

The Volume of the Red Cells in Various Diseases.

The *Journal of Medical Research* for December, 1903, contains a "Study of Volume Index," by Dr. J. A. Capps. By "volume index" is meant the quotient obtained by dividing the volume percentage of the corpuscles as obtained by the hæmatocrit by the percentage of the normal number of cells shown by the blood count, this quotient representing, in the author's opinion, the only reliable test of the volume of the red cell relatively to the normal. Measurement of diameters is of limited value and is often misleading. Especially is the use of saline admixtures to prevent coagulation a procedure to be avoided, as in order that the solution may be in osmotic equilibrium with the blood, a special test would have to be made with each blood. The best results Capps finds to follow the use of blood alone. Two precautions are vital to avoid coagulation, namely: scrupulous cleanliness of the tubes, and speed, the blood being put, within a few seconds after it is drawn, into the hæmatocrit, which should then be revolved at a uniform speed of 10,000 revolutions a minute, for three minutes. Operating thus, Capps finds the cell volume invariably increased in pernicious anæmia and usually more so than the hæmoglobin content. The heightened volume index is a more constant and trustworthy sign than the increased color index. The polychromemia is due to increased cell volume and not to increased affinity for hæmoglobin. Moderate cases of secondary anæmia show only a slight loss in volume, but in high-grade anæmia the cells become small and atrophic. A small group of secondary anæmias exhibit during the early stages the low color and volume indices of chloranemia; later on as oligocythemia becomes marked, macrocytism, with high color and volume values, resembling pernicious anæmia, occurs. In a large proportion of chlorotics the cell volume suffers as well as the hæmoglobin content, though always to a less extent. Prognostically, the condition of the volume index is important. A normal, or nearly normal, volume index indicates a quick recovery, even though hæmoglobin is much reduced; but a low volume index entails a slow response to treatment and tedious convalescence. That is, the cell must grow to normal size, before it can take up its normal amou of hæmoglobin. Color loss is always greater a takes place more rapidly than loss in volume, wh during recovery volume is restored before color rea es normal. Normal hæmoglobin content repres protoplasmic saturation, wherefore color indi above normal necessitate an assumption of increa volume, supersaturation with hæmoglobin probab never occurring. Volume seems to be chiefly alte by influences affecting cell growth or degenerati The large erythrocytes of pernicious anæmia probably young cells. Small cells may result fr malnutrition of the bone marrow (chlorosis), actual degeneration (sepsis). Cell volume suff remarkably little change from osmotic influen An explanation of this lies in the fact that molecular density of bile and lymph present in ja dice and dropsy is nearly the same as that of bl serum. Osmosis cannot be responsible for the alterations in chlorosis, as their shrinkage in volu is accompanied by great loss of hæmoglobin. increased osmosis cannot be the cause of increa cell volume in pernicious anæmia, as there the ce rich in hæmoglobin. Capps has never observed "acute swellings" described in dropsy, hemorrha and jaundice.

Cancer in Australia.

Theories as to the causation of cancer, while noting the extreme interest taken in the mat are at the same time somewhat confusing. origin of the disease is sometimes attributed causes which seem to the ordinary medical m vague and improbable. Nevertheless, it is well t the question should be discussed from every p of view, for it has not infrequently happened t great scientific discoveries have owed their solut to apparently most unexpected agencies. Writ in the *Lancet*, February 20, concerning cancer Australia, Dr. G. Cooke Adams propounds a theory with regard to the origin of cancer on t continent. The writer summarizes his views as lows: (1) That cancer is not due to a bacteria parasitic origin; (2) that cancer is a constitutio disease due to a specific or malignant virus origina in the blood and chiefly manifesting itself after thi five years of age, and at its greatest virulence tween fifty and seventy years of age; (3) that ma nant disease may be congenital, and certain fo acquired by infection or contagion; (4) that principal factor in the cause is hereditary tende (5) that the principal exciting factor is prolon local irritation acting on a constitution suffering f an inherited tendency or which has been debilita through want of treatment of one or other of following diseases in their order of frequen syphilis, alcoholism, obesity, rheumatism, gout tuberculous disease; (6) that the principal diet factors in the cause are sugar, beer, and alcol (7) that the principal hygienic factors in the ca are woods and forests whose dropping foliage, composing, causes stagnation of water; also ba formed streets and defective drainage in cities, the overcrowded badly housed and fed populatio cities; (8) that cancer is preventable disease, and t the absolute cure is only to be found in the means preventing its exciting causes and completely moving the same; (9) that the sanitary indigen foliage of the following natural orders—(*a*) myrtac (*b*) lauraceæ, and (*c*) coniferæ—appears to exert specific influence in rendering the native born popu lation of the countries where they grow almost im mune from malignant diseases other than might b caused by prolonged local irritation (the Australia eucalypts belonging to the myrtaceæ exert the great

st influence in this direction) possesses a specific ction in arresting the pathological progress and rocess of malignant diseases, and (10) that all in- rnal and local treatment should be absolutely voided, more particularly such local treatment as he *x*-rays and Finsen's light, as they are likely to st up secondary conditions around the site of lesion. ar better is early and prompt removal when the alignant growth is accessible.

Dr. Adams' opinions respecting cancer are novel nd not in accordance with the result of the re- arches of recent investigators. The fact, however, distinctly curious that native-born Australians ould not be susceptible to cancer only to a small tent. There are few who will agree with the writer to the non-effectiveness of local treatment. The stimony regarding the beneficial influence of *x*-rays nd Finsen's light is too strong to be disregarded. hat internal treatment is of little use is doubtless e opinion of the majority of the medical profession ho have had experience of cancer, while the em- oyment of radical measures is always indicated hen the malignant growths are accessible.

The Divorce of Pathology from Medicine.

The Senatus of Edinburgh University is said to e engaged at the present time in the rearrangement f the whole medical curriculum. Mr. Stuart Mac- nald thinks, therefore, that it is a good oppor- nity to put forward a plea for different methods the teaching of pathology, and expresses his ews on the subject in the *Scottish Medical and rgical Journal*, February. The writer is of the inion that the modern relation of pathology to edicine receives too scant attention, and argues that reëminence in medicine without a thorough ground- g in pathology is hardly possible. In view of the bove facts, he considers that this modern divorce f pathology from medicine can only be regarded ith alarm.

Mr. Macdonald points out that recent appoint- ents to chairs of pathology in Great Britain has een filled by men who have devoted themselves ntirely to pathology, and who have taken a de- nite farewell of clinical work. Indeed, such ap- ointments are now held by those making pathology specialty, in contradistinction to the old days hen these posts made the best of all trainings r the physician and surgeon, and the hospital irectly benefited.

A sketch is then made of the place which the riter thinks pathology should take in the medical urriculum, and the more important matter of the elation of the medical graduate to pathology is iscussed.

With regard to this question Mr. Macdonald says: "At present the clinician appears to be debarred to some extent from the requisite pathological training, and the consequences are bad for himself and bad for the pathologist, for the latter's time is often encroached on by work which should prop- erly be done by the clinician."

Again he says: "The clinical pathology depart- ment should be separate, and should deal with the reports on patients in the wards, from the patho- logical department proper, which at present is over- burdened with report work. The staff would con- sist, as at present, of the senior pathologist, who should be making pathology a specialty, and his assistants, who might be either going in for pathol- ogy or clinical work; but as I have indicated, the trained pathologist will always have a better claim for such posts and the clinicians are to a certain extent excluded. They could, however, become attached to the department as Fellows. The senior pathologist, relieved of his routine work, could apply his whole time to the superintendence of the thor- ough working up of the post-mortem cases. With his assistants and properly trained clerks and labora- tory boys every case might be thoroughly examined microscopically. At present it is quite impossible. An attempt should be made to allow of the junior assistant—physicians doing some of the post-mor- tems. This would give them opportunities which at present they do not have, and, moreover, a greater interest in the ward work."

The writer is of the opinion that the Carnegie trustees have made a mistake in the manner in which they have expended the money provided by the millionaire iron-master for Edinburgh University. He thinks that the cause of research would be much better advanced by the more liberal endowment of existing institutions, and above all by the providing of a sufficiency of trained technical assistants, than by the promotion of recent graduates to research appointments at £100 ($500), or £150 ($750) a year.

The point mainly urged by Mr. Macdonald as to the teaching of pathology in the majority of large medical schools is very pertinent under existing circumstances. The pathologist nowadays is a spe- cialist, and does not as a rule pay so much attention as formerly to grounding students in general pathol- ogy. The separation of pathology from medicine is to be deplored, for it is owing to this fact that the physician or surgeon has not received the training necessary to enable him generally to make a correct diagnosis from a microscopical and chemical stand- point. The ordinary medical student should have all facilities afforded him of gaining a competent knowledge of pathology, if not he cannot be properly equipped for the work before him.

Production and Inhibition of Glycosuria by Saline Solutions.

In the *University of California Publications*, M. H. Fischer gives some interesting results of experi- ments on this subject. Injection into rabbits of a $\frac{1}{4}$ molecular solution of sodium chloride, bromide, or iodide, produced polyuria, and usually glycosuria, the two conditions being, however, in- dependent of each other. The polyurial comes on 10 or 15 minutes after the beginning of the infusion, and lasts as long as it continues. The glycosuria begins, if at all, 1 to 4 hours after the beginning of the infusion, and lasts 6 to 8 hours. The amount of sugar rises steadily to 0.2 per cent., and then de- creases to zero, after which continued infusion ef- fects no further glycosuria. Less concentrated so- lutions than $\frac{1}{4}$ molecular produce no glycosuria, though they may produce polyuria. Also the latter occurs alone if to the $\frac{1}{4}$ molecular solution of sodium salts there is added calcium chloride. Further, once started, the artificial glycosuria is markedly lessened or checked by the addition to the infusion of as little calcium chloride as 25 c.c. of a $\frac{3}{8}$ molec- ular solution per 1000. On the contrary the ad- dition of sodium citrate increases sugar excretion. The amount of sugar and quantity of the urine bear no relation to each other, and vary indepen- dently. Albuminuria was a frequent, but not a con- stant, accompaniment of the glycosuria. In those animals in which no glycosuria occurs on the in- fusion of a $\frac{1}{4}$ molecular sodium chloride solution, the addition of a small amount of sodium citrate brought about the excretion of sugar. A consid- erable latent period exists before the solutions begin to produce or to check glycosuria, calcium chloride taking 30 to 60 minutes to check it, and a pure sodium solution requiring an hour or two to reës- tablish it. We thus have here again the same con-

tradictory antagonistic effect upon the tissues between the sodium and the calcium salts that Loeb has shown to exist in the case of the neuromuscular tissues.

The Treatment of Asthma by Intratracheal Injections.

Asthma is no doubt a disorder of varied origin and probably also of varied mechanism. In some instances the disturbance may reside in the bronchial mucous membrane, in others in the vascular apparatus. At times the exciting influence may have a direct or local effect, at other times an indirect or reflex effect. The treatment will vary accordingly, and may appropriately be both local and constitutional. The first indication usually is to relieve the paroxysm, and this can be most effectually done by means of a hypodermic injection of morphine and atropine or hyoscine. Then any discoverable exciting cause should be removed, if possible. This may be found to consist in vegetal emanations, in disease of the upper or lower air-passages or derangement of the bodily metabolism. Not rarely a definite etiological factor cannot be made out and the treatment must in large measure be empiric. Mr. Colin Campbell (*Liverpool Medico-Chirurgical Journal*, January, 1904) speaks in terms of warm praise of a procedure that he has employed successfully for more than nine years, both for the relief of the acute symptoms and for the prevention of their recurrence, namely, intratracheal injections. For these purposes he relies mainly on menthol, glycerin, and gelatin, although many other drugs are available when special indications are present, notably the salicylates. The menthol is believed to relieve the spasm of the bronchioles, the glycerin to stimulate the secretion of the mucous membrane, and the gelatin to dissolve the sputum. Large doses may be employed, up to 30 grains of the menthol and up to two ounces of the glycerin. Complete relief is said usually to follow the first injection, although more may be required and the treatment may need repetition in successive years.

The Relation of Pathological Conditions of the Choroid Plexuses to Mental Diseases.—George Ashton asks, are pathological changes present in the choroid plexuses of the insane? Are they more pronounced in any particular insanity? In what way may they influence the course of mental disease? We answer that pathological changes are present. The pathological changes most frequently met with are: (1) Hyaline degeneration. (2) Increase of the fibrous tissue. (3) Cystic degeneration. Pathological changes are most marked in the choroid plexuses from cases of general paralysis of the insane and senile dementia. They are present, but not so markedly, in cases of epileptic insanity, chronic mania, and chronic melancholia. They are least marked in cases of acute insanity. The choroid plexuses from our only case of congenital idiocy showed marked pathological changes. There are four possible functions of the choroid plexuses: (1) they may act as reservoirs for excess of blood in the brain; (2) they may secrete cerebrospinal fluid, or some of the constituents of that fluid; (3) they may absorb cerebrospinal fluid, or even possibly act as excretory agents for some of the constituents of the fluid; (4) they may have an internal secretion. The author does not for a moment consider that pathological changes in the choroid plexuses are a primary factor in the causation of mental diseases. As a secondary factor, however, aggravating the original morbid process in the brain, and retarding or preventing its arrest, these changes may have an influence of the most potent kind. He is inclined to regard these changes in the choroid plexuses as playing a greater part in the pathology of mental aberration than has so far been ascribed to them.—*The Medical Chronicle.*

News of the Week.

The Manhattan Eye and Ear Hospital.—In a refe ence, in the issue of last week, to the financial dif culties of hospitals in this city, the New York E and Ear Infirmary was inadvertently called t Manhattan. The Manhattan Eye and Ear Ho pital is, we are informed, in excellent financ condition, and has not closed nor contemplates cl ing any ward for lack of funds. The hospital constantly filled, and through lack of accommod tions many are turned away who require attentic It has outgrown the old building, and it is the tention of the directors to sell the present site ju as soon as they succeed in completing the endo ment fund of $200,000, the income of which w be needed to maintain the increased expenses of institution of twice the present capacity.

Association for the Study of Tuberculosis.—A meeting of the Tuberculosis Committee (appoin at the Baltimore Exhibition), held in New York February 27, it was decided to refer to a lar gathering the discussion of the question relating organizations for the study of tuberculosis in t country. A meeting for this purpose will be h at the College of Physicians, Thirteenth and Loc Streets, Philadelphia, on March 28, at half-past th

Rival Hip-Dislocation Methods.—It is repor that Dr. Lorenz of Vienna will come to Phila phia to receive an honorary degree from the Jeffe Medical College on May 27. While in the city will assist at an interesting clinic which will be h at the Jefferson Hospital on June 6. To this cl will also come Dr. Albert Hoffa, the chief expo of the operative treatment of congenital dislocat of the hip. It is proposed that at the clinic diffe cases will be taken up and that Dr. Hoffa operate on at least one patient upon whom Lorenz method was not successful. It is expec that Mr. Noble Smith of London and Mr. Rob Jones of Liverpool will also attend the clinic.

The Newest Medicomatrimonial Bill.—Assem man T. F. Matthews, it is said, will shortly in duce at Albany a bill providing that all per must obtain a physician's certificate before a m riage license can be issued to them. The bill, said by its author, is designed to place greater strictions upon the marriage of imbecile and h witted persons, and also to prevent those ha consumption and other diseases from marrying.

Imprisoned for Libelling a Quarantine Board.— Dr. J. M. Lindsey, President of the Internation Quarantine Board, an organization having for it object the advocacy of uniformity in State quara tine regulations, was found guilty on March 17 libeling the members of the Quarantine Board Mobile Bay. He was fined $100 and sentenced t ten days in jail. Dr. Lindsey published in Ne Orleans and Mobile newspapers last summer a article attacking the board, declaring it did n enforce its regulations faithfully and operated th quarantine for the money that was in it. H pleaded that his article was addressed to the boar and not to its members individually, and also tha its allegations were true.

The Inventor of the Laryngoscope Nearly a Cen tenarian.—Señor Manuel Garcia, to whom belon the credit of the discovery of the practical applic tion of the laryngoscope, entered upon his hun dredth year on March 17. The *British Medica Journal* records that he was born at Madrid in 180 When he was still a child his family were drive from Spain by the Peninsula war, and for a tim settled in Naples. There the elder Garcia studie the art of voice production, of which his son was t

come so distinguished a professor. Young Garcia's fancy at first turned to the sea, but in deference to his parent's wish he was trained for the operatic stage. He made his first appearance in New York. On his return to Europe he established himself in Paris as a teacher of singing. He has lived in London since 1850. The following is his own account of the invention of the laryngoscope: "Never being thoroughly satisfied with my own teaching, I longed to see a healthy glottis exposed in the very act of singing; but how could the mysteries of an organ so well hidden be revealed? One day in the autumn of 1854 I was strolling in the Palais Royal, preoccupied with the ever-recurring wish, when suddenly I saw the two mirrors of the laryngoscope in their respective positions as actually before my eyes. I went straight to Charrière, the surgical instrument-maker, and asking if he happened to possess a small mirror with a long handle, was supplied with a dentist's mirror. Returning home I placed against the uvula the little mirror (which I heated with warm water and carefully dried), then flashing on its surface with a second mirror a ray of sunlight I saw at once the glottis wide open before me, so fully exposed that I could see a portion of the trachea." More than twenty years before Babington had devised an apparatus similar to that used by Garcia, but he had never examined his own larynx as the Spanish *maestro* did. For several years after the date of Garcia's paper the laryngoscope was treated by superior persons as a "physiological toy." Its scientific and practical possibilities were brought home to the profession by Czermak of Budapest, who undertook a missionary expedition to the chief medical centers of Europe to demonstrate the uses of the instrument.

An Iowa Hospital for Inebriates.—The Iowa State Senate has voted an appropriation of $125,000 for the location at Knoxville of a hospital for habitual drunkards. This is the first open approval of Iowa's so-called "diplomaniac law." This law, which went into effect two years ago, has been severely criticised.

Water Legislation.—The Ohio Legislature has passed a bill giving cities the right to protect rivers from sewage for twenty miles above the intake of their water supply. In Cincinnati certain sewage is said to be emptied above the present intake of the water works, and a resolution was proposed by the City Solicitor that any connection, direct or indirect, for water-closet or vault purposes with any sewer, drain or system of sewers draining into the Ohio River above the intake of the water supply of the city, and the maintenance of any such connection after thirty days from the going into effect of the order, be prohibited. Action was delayed until after investigation.

A Physicians' Office Building.—The experiment of devoting the Sydenham Building to physicians' offices is one that is being watched with considerable interest. The owners have put the matter of selection of tenants into the hands of a committee of physicians, and it is said that of the first fifty applicants for suites only twenty-eight were admitted. It is the intention of the committee to make the building as nearly like a private residence as possible, and to allow in it nothing whatsoever of a commercial nature, although there has been considerable pressure brought to bear by druggists and instrument makers desiring to open shops in the building.

Koch in South Africa.—According to the Berlin correspondent of *The Lancet*, it is rumored that Professor Koch intends to resign his appointment as chief of the Royal Institution for Infectious Disease and to settle in South Africa. This conjecture no doubt originated in connection with the repeated and prolonged visits which he has made to Cape Colony and the other British colonies in Africa on the invitation of the Colonial Governments. The rumor in question is, however, unfounded. Professor Koch has gone to South Africa by special permission of the Emperor, and his place at the above institution will be preserved for him till his return. It is true, the correspondent adds, that Professor Koch has no objection to be absent from Berlin, his relations with the medical faculty there not being very cordial for reasons which are of a personal rather than of a professional character and are not of recent date. If he contemplates retirement, it is certain that nothing will be decided till his return, which is announced for the end of April.

Iroquois Memorial Hospitals.—The proposal of the Iroquois Memorial Association of Chicago to establish an emergency hospital in the building district in memory of the victims of the theatre fire has been indorsed by the Chicago Medical Society. The action of the society was embodied in a resolution presented by Dr. Andrew M. Harvey, and seconded by Dr. W. A. Evans. The preamble lays stress on the need of a hospital in the heart of the city, and the resolutions continue: "That the Chicago Medical Society approves the action of the trustees of the Iroquois Memorial Emergency Hospital in their generous effort to give to the people of Chicago a modern, fully equipped and endowed hospital capable of rendering prompt assistance to those cases of unexpected injury and sickness which are of daily occurrence;" and further, "That we, as a society, tender to the hospital our counsel, advice, and professonal service whenever required." We understand there is also another hospital to be erected as a memorial of the Iroquois Theatre fire. The institution, which, it is said, will cost half a million dollars, and is to be one of the finest in the world, will be known as the Chicago Homœopathic Hospital. William H. Hoyt and Richard T. Crane, who lost relatives in the fire, are the principal contributors.

Sale of the Mount Sinai Hospital Site.—The Appellate Division of the Supreme Court recently decided that Mt. Sinai had no marketable title to the land upon which its old hospital was built, and consequently an agreement to sell the same for $425,000 was void. The property was originally part of the common lands of the city, and was leased to the hospital corporation for a term of ninety-nine years, at a rental of $1 a year, to provide a site for a hospital which was to be used for benevolent and charitable purposes, and without discrimination as to race or creed. When the corporation decided to move uptown, it petitioned the city for leave to sell the Lexington avenue property. The petition was granted and a deed was made conveying the property absolutely to the hospital corporation, with leave to sell on condition that the proceeds were to be devoted solely to carrying out the aims and objects named in the corporation's charter. At the same time, the city made a contract to pay sixty cents a day for every free patient cared for in in the hospital. The court set this grant aside, holding that no good consideration passed between the city and the hospital, and that the grant was not a legal appropriation for a charitable purpose, since there was no provision for its control by the State Board of Charities. To relieve the hospital of its embarrassment a bill has been introduced in the State Senate authorizing New York city to

sell the property to the Mt. Sinai Hospital in consideration of an agreement by the hospital to grant free dispensary treatment to not less than 500 of the poor of the city each year for five years.

Cincinnati Academy of Medicine.—At a regular meeting, held March 14, the newly elected president, Dr. S. P. Kramer, was formally given the chair and delivered an address. This was followed by a business session and refreshments.

Order of St. Joseph to Erect Hospital in Chicago.—Plans for the Hotel Dieu, a religious hospital to be built for the hospitalers of St. Joseph, who came here from Kingston, Ont., has been prepared by Architect George A. Beaudry. The building will be erected at the corner of Harvard avenue and Sixty-fourth street, and will be four stories high, covering an area of 165 by 175 feet, and be of fireproof construction. The exterior will be of Bedford stone, with tiled mansard roof, above which will rise an ornate dome 68 feet high. In the halls there will be enameled brick wainscoting with marble and mosaic work, and the building will embody all the improvements that go to make up a first-class hospital. The cost is estimated at about $200,000. This, however, will be but a part of the building, which, when complete, will have a frontage of 225 feet and a depth of 175 feet. Rev. Bernard P. Murray, pastor of St. Bernard's parish, will have charge of the building.

Cincinnati Hospital Internes.—The annual competitive examinations for internes will take place at the Cincinnati Hospital on April 4, 5, 6, and 7. There are twenty-five candidates, of whom eight will be chosen for a service of eighteen months.

National Anti-Tuberculosis Association.—To prevent tuberculosis by legislation and through a campaign of education is the object of an organization incorporated in Springfield, Ill., recently, under the name of the National Anti-Tuberculosis Association. The incorporators are Dr. W. B. Metcalfe, Rev. F. M. Carson, C. W. Hanford, Alderman W. M. Butterworth, and Walter R. McDonough, all of Chicago. According to the incorporators the association is purely philanthropic. They expect to enlighten the public through lectures and publications, and to urge several important legislative measures that will check a spread of the disease. There is not a tuberculosis clinic in Chicago, and they mean to establish one in the downtown district as soon as possible. Several doctors are interested in the association, and the list of directors will show a large number of the prominent business men of the city. A campaign of education and for better legislation is needed to protect families. A hospital for the treatment of the disease may be established later.

Inspection of School Children.—The Board of Education of Chicago, through Dr. Henry Hartung, has formulated the following routine for the examination of school children: *Eyes.*—Diseases of the conjunctiva and lacrymal apparatus, muscles of the eyeball, visual acuity, hypermetropia, myopia, astigmatism. *Ears.*—External ear, auditory meatus, drum membrane, hearing, acute or chronic diseases of middle ear. *Mouth and Pharynx.*—Defects of tongue, lips, palate, condition of teeth, hypertrophy of tonsils, pharyngitis, adenoids, granulations, etc. *Nose.*—Acute or chronic rhinitis, nasal hypertrophies, polypus, deflection of septum, etc. *Chest.*—Abnormal development, round shoulders, spinal deflection, diseases of the heart and lungs. *Skin.*—Acute or chronic affections, scabies, pediculosis, favus, etc. *General Nutritional and Structural Disorders.*—Anæmia, chronic headaches, glandular enlargement, tuberculosis, deficiency of muscular development, nervousness, chorea, or any pathological condition which may retard the pupil's growth or influence his progress in school work.

The Henry Phipps Institute Lecture on tuberculosis, which was to have been delivered by Dr. Maragliano of Genoa on March 28, has been indefinitely postponed by reason of illness, preventing the lecturer from coming to America at this time. An abstract of the paper will be read at the meeting in Philadelphia to discuss the formation of a society for the study of tuberculosis, announcement of which is made elsewhere in this issue. The tuberculosis committee will be entertained at luncheon by Dr. L. F. Flick on the same day.

Dr. Rudolf Rapp has been appointed a member of the staff of the Craig Colony for Epileptics at Sayer, N. Y.

Long Island College Hospital.—The summer session at this school has been discontinued, the faculty having determined to lengthen the regular session in order to conform to the practice of other leading schools, into June.

A Röntgen-ray Congress is to be held in Berlin in the spring of 1905, to celebrate the tenth anniversary of the discovery of the *x*-rays. There will be an exhibition of *x*-ray apparatus in connection with it and with the German Surgical Congress.

Obituary Notes.—Dr. MOREAU MORRIS, who was Health Commissioner in 1866 and was up to the time of his death a special medical inspector for institutions the inmates of which are children, died on March 17 at his home in this city. He was born in Stillwater, Saratoga Co., N. Y., on June 19, 18[illegible] and was graduted from the College of Physicians and Surgeons in this city in 1848. He began practice at once in New York, and was appointed physician to a school for deaf-mutes, established by his father, and to the New York Juvenile Asylum. In 1[illegible] Mayor Hoffman appointed him Health Commissioner. Six months later the Metropolitan Board of Health was formed and Dr. Morris became a Sanitary Inspector. In 1869 he was made Assistant Sanitary Superintendent, and in 1870 became Sanitary Superintendent. He was for thirteen years surgeon of the Seventh Regiment and then of the Seventh's Veteran Association. He was at one time State Cattle Inspector.

Dr. FRANK K. IRVING, electrotherapeutist at the City Hospital, Newark, N. J., died in that institution on March 19, of pulmonary tuberculosis. He was thirty-five years of age, and was born in Fort Wayne, Ind.

Dr. WILLIAM FREDERIC HOLCOMBE died at the Presbyterian Hospital in this city, on March 17, at the age of seventy-nine years. He was born at Stirling, Mass., and was graduated from the Albany Medical College in 1849. For many years Dr. Holcombe was lecturer on diseases of the eye at the New York University Medical College and had been connected with the Eye and Ear Hospital, the New York Ophthalmic Hospital, and the Medical College for Women.

Dr. AMOS SEIP died at Easton, Pa., March 2[illegible] aged eighty-one years. He was a graduate of the Medical Department of the University of Pennsylvania in the class of 1848, and had practised medicine for more than half a century when a stroke of paralysis, three years ago, caused him to retire from active work. He attained prominence during the cholera epidemic, in the Lehigh Valley in 1855, and was in charge of a soldiers' hospital at Easton during the Civil War.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE KING AT CAMBRIDGE UNIVERSITY—WINDSOR HOME FOR PATIENTS—MEDICO-CHIRURGICAL SOCIETY—METABOLISM IN FEVER—GYNECOLOGICAL SOCIETY, ANNUAL MEETING, TUBAL GESTATION, CURIOUS CAUSE OF IRRITATION OF BLADDER—BIRTH RATE—ASYLUMS BOARD—DUBLIN COLLEGES—A PATHOLOGICAL DEMONSTRATORSHIP—DEFENCE—NURSES' BILL—SAILORS' VISION—HOMELESS PEOPLE IN LONDON—LEAGUE OF MERCY—SIR S. WILKS—RECENT DEATHS.

LONDON, March 4, 1904.

Royalty is again to the fore in matters of medical interest. On Tuesday the King and Queen and Princess Victoria spent several hours at Cambridge, where town and gown vied with each other in displaying their loyalty. The visit was, as a matter of fact, academic in its object, but the popular demonstration was none the less enthusiastic. The King received three addresses, attended a congregation in the Senate House, and opened in succession the Law Library, Law School, Medical School, Botanical School, and the Sedgwick Museum, which last he unveiled the statue of the eminent professor after whom it is named.

A statement of the aims of the university in erecting the several buildings was read, in which His Majesty was told that they are a part of the policy on which the University entered long ago and which is not even yet consummated, to meet as far as possible the claims of science while also providing for the literary studies which have ever been dear to it.

Princess Christian on Saturday opened a new medical and surgical home for paying patients at Windsor. This her Royal Highness has founded in connection with a district and nurses' home as a memorial of her son, Prince Christian Victor. The establishment is equipped with all modern appliances.

On Wednesday the Princess presided at the seventy-fifth annual meeting of the Royal Free Hospital. Her Royal Highness is president of this valuable charity and expressed the greatest interest in its work. The chief event of the year was a bazaar organized by the Princess, which brought in £3116; but this sum will be required for the improvements in the arrangements for the nurses. The hospital is largely dependent on legacies—a very uncertain source of income. King Edward's fund increased its grant last year by £500 and gave £1500 for certain building improvements urgently required.

The annual meeting of the Royal Medical and Chirurgical Society was held on Tuesday. The report showed a credit balance for the year of £857. The entrance fee of £6 6 shillings has not hitherto included the first year's subscription. In future the sum is to be divided into £3 3 shillings entrance fee and the other £3 3 shillings will be for the first year's dues. The president, Mr. Alfred Willett, then delivered his address, which included the usual obituary notices of those Fellows who had died during the year. Votes of thanks were passed to the retiring officers and the incoming president, Sir Douglas Powell, took the chair.

At the previous ordinary meeting of this society, held on the 23d ult., a paper on "Metabolism in the Febrile State" was read by Dr. G. C. Garratt, giving the results of analyses of patients in the London Hospital during seven years. In the absence of pyrexia a nucleinic diet caused no retention of sodium or chlorine, but a small loss of nitrogen. Reduced urinary water was due to increased excretion by other routes. Reduction of chlorine occurred in all acute fevers except malaria. This reduction might continue far into convalescence, but bore no relation to retention of water. Sodium and chlorine given in other combinations were retained, and the return of one might not coincide with that of the other. That the chlorine was retained in combination with albumin seemed probable, but Dr. Garratt had not detected chlor-albumin in muscle after fever. Urea and uric acid showed the usual febrile increase without relation of phosphates. He concluded that endogenous uric acid came from proteids rich in nitrogen and sulphur but poor in phosphorus. Excretion of phosphorus and free acid tended to run parallel. Sulphuric acid increased out of proportion to urea. Potassium increased, but less than urea; it showed some parallelism with phosphoric and sulphuric acids and played the principal part in combining with them. Dr. Garratt therefore suggested that some of the increase did not represent metabolism of potassium-holding tissues, but the output of phosphoric acid was a better guide. The organism in fevers seemed to possess a power to select what proteids it would consume and to choose those rich in sulphur and nitrogen, sparing those rich in phosphorus and potassium. Calcium, like chlorine, was decreased during fever. Magnesium was much reduced at first, but increased later.

Captain Statham referred to the difficulty of eliminating error in estimating urea by the hypobromite process.

Dr. Spriggs suggested that ammonia, being always present in urine, was a normal product of cell metabolism converted into urea in passing through the liver. Blood which did not pass that way would lose its ammonia in the kidneys. In pyrexia the liver only converted part of the ammonia salts, so more was thrown on the kidneys.

Dr. Robert Hutchinson spoke most highly of Dr. Garratt's work and said he had changed his opinion on the decreased chlorides in consequence. Dr. Garratt had also shown that sodium might be retained, not as chloride, but in some other combination. The extreme difficulty of estimating metabolic processes from examination of excretions was further shown by this valuable paper.

At the Gynecological Society Dr. Wm. Duncan read an account of a case of rupture of a tubal gestation nineteen days after conception and ten days after the uterus had been curetted. He also showed the specimen, which the president (Professor Taylor) thought of extreme interest. He had himself described a case following curetting and remarked on the importance of excluding pregnancy before resorting to that proceeding. The patient was in such a state that transfusion was imperative before operation, and Dr. Duncan said it showed the necessity of taking the apparatus with one.

Mr. Spanton read a note on a cause of irritation of the bladder in girls. Some little patients of three to five years had suffered so much as to cause a suspicion of calculus, but none was found, and there was no albumin and no sugar—under the microscope, a few blood-corpuscles, mucous cells, phosphates, and urates. A few woolen fibers were detected in one case and in subsequent ones looked for. These were exactly like those of the child's combinations. These were changed for linen, and diluents were given freely, and in a few days all went well. In other cases Mr. Spanton was naturally on the alert. It is obvious that neglect in such a case might lead to serious complications and to the surgeon's discredit. I congratulate Mr. Spanton on his care and acuteness in detecting the origin of the trouble.

At this meeting the new president, Professor John Taylor of Birmingham, delivered his inaugural address, which he devoted to the "diminishing birth rate, its causes, tendency, and possible remedy." He showed that the rate is diminishing on the continent as well as in our islands, but not to the same extent. He also held that not only are our marriages less fertile, but that the children born are weak, neurotic, and inclined to alcoholism and crime. Further, the upper classes are becoming so sterile that the rising generation is being recruited from the more ignorant and vicious population. This, he said, was a "handwriting on the wall." He believes the chief cause to be the adoption of measures to prevent conception, and these unnatural practices he declares to be destructive to the life of the nation and race, as well as exceedingly injurious to the individual. He has known acute disease thus caused, but chronic illness is very common. Neurasthenia and brain-fag, he said, are too often cases of marital onanism. He declared that "there is no method of prevention that can be regarded as innocuous"; that the health and mental and moral stamina are undermined, and that the children "arranged for" in these artificially sterile marriages also suffer and are degraded by their antecedents. All this will no doubt seem shocking to the followers of Malthusian notions, but Professor Taylor is sure of his ground and says those in gynecological practice must know it. Some thirty-five years ago prevention was advocated by some admirers of Malthus and the French system. The notion "has spread like a blight over the middle classes," says the professor, and the "true wealth of the nation, the "full-breathed, bright-eyed, and happy-hearted children, of Ruskin have more or less gone down before it." Let us hope the less prevails over the more.

I have more than once called attention to the extravagance of the Asylums Board. The managers seem to be waking up to the fact that building schemes are costly and that the public is in earnest in remonstrating. Some genius among them has hit on a notable scheme of economizing—nothing less than to dismiss some of the junior medical officers; and as to the seniors—why, reduce their allowances of coals and candles, let them light and warm their own apartments and pay for the charwomen and porters' time! Truly a certain way of recouping tens of thousands of pounds wasted on bricks and mortar!

Some time since the presidents of the Royal Colleges of Physicians and Surgeons in Dublin were omitted from

the list of persons having the right of private entrée to levees and drawing rooms at the Castle. This was resented as an insult to the profession and unaccountable, considering the manner in which the Viceroy has acknowledged his indebtedness to it. I understand that His Excellency has directed the right to be restored.

A Riddell Demonstratorship of Pathology is to be established in Queen's College, Belfast, the sum of £5000 having been given for that purpose by the Misses Riddell. A tube of radium has also been promised to that college by Sir Otto Jaffe of Belfast.

The proposal of the restless section of the British Medical Association to undertake the defence of practitioners is exciting a good deal of opposition. We have two defence societies, as you know, and they might well amalgamate. But the British proposes to absorb both, and to give its members no benefit whatever, but to levy from them the same sum that the defence societies ask for the work they have done pretty well, on the whole, although there are exceptions.

Dr. Farquharson fathers the Nurses' Bill in the House of Commons. The nurses want to be registered—they do not know the uselessness of it—and the matrons want to be put on the proposed council and to be paid fees and traveling expenses as they may themselves from time to time allow.

Eyesight in the navy is beginning to demand more attention. The boys on entering pass a rough test, but afterward no examination is made, and yet it is between youth and middle age that visual trouble is apt to develop. When so much depends on accurate gunnery it is time to end neglect. One observer thinks that 30 per cent. of sailors are not improbably affected with some defect of sight, and suggests a fresh examination every time a ship is commissioned.

The Medical Officer of the County Council on the night of the 29th ult. conducted a sort of census of the Homeless persons in London, *i.e.* people who have not the means to pay for a night's lodging in the common lodging-houses or will not apply for poor-law relief. They pass the night in the streets, or under arches, or in the recesses of front doors, or on landings and staircases of tenements where the doors are left open. From the persons counted on the night named the doctor estimates that one in every 2000 of the population was homeless. The count was restricted to a limited area and there were more than 6000 vacant beds in the common lodging-houses that night.

Yesterday, on the invitation of the Duchess of Somerset, a number of ladies and gentlemen of North Kensington met and formed a branch of the League of Mercy. The Duchess expressed her pleasure at meeting so representative a gathering and commended the work of the League, which was found to assist the hospitals through the medium of the King's fund. Her Grace added that as the Countess of Chesterfield had been so successful in another part of Kensington she felt sure they would not let North Kensington lag behind.

I am glad to report that Sir S. Wilks has improved during the week.

Among recent deaths I may mention the following: Jas. Smith Turner, M.R.C.S., L.D.S., consulting dentist to the Middlesex Hospital, one of the leaders of dental reform who helped the late Sir John Tomes to obtain the Dentists' Act (1878), which has done so much to raise the dental branch of the profession.

Charles Godson, F.R.C.S., of Barnet, at the ripe age of eighty-four, a kindly, courteous gentleman, who had retired from practice above twenty years. The statistics of his midwifery practice for thirty-five years, compiled by his son Clement, may be seen in the *Obstetrical Transactions*, 1877. There were only 7 deaths in 3223 deliveries.

George Niven, M.A., Aberdeen, M.B. Cambridge, of Manchester, aged only forty-five. He was one of four brothers who have all made a notable record.

General Sepsis from Wounds.—If the septic process has invaded the system, the use of antistreptococcus serum is very valuable, in full dose of 10 c.c., repeated once or twice in twenty-four hours. In punctured wounds with a valve-like opening the wound should be freely opened to the bottom and cleansed. In gunshot wounds of the abdomen the only thing is immediate laparotomy and suturing up of the perforation. In wounds of the chest, provide drainage and wait for Nature to cure, unless there are clear and urgent reasons for operation. The same is true in wounds of the skull and brain, with rigid asepsis and the removal of all spicules of bone.—LATHROP.

THE PSYCHICAL RELATIONS OF TUBERCULOSIS.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: In a recent letter published in your journal (Febru ary 13, 1904), Dr. S. A. Knopf reiterates the assertio which he made in his article, "A Plea for Justice to th Consumptive" (MEDICAL RECORD, January 2, 1904) tha I am a "phthisiophobe," because I believe all consump tives to be criminals or insane. In this renewed attac upon me, Dr. Knopf again bases his assertions upon tw sentences from my article on the "Psychical Relations o Tuberculosis" (*New York Medical Journal*, August 1 an 8, 1903), in spite of my explicit denial, which you wer good enough to publish in form of a letter in the MEDICA RECORD for January 23, 1904.

With all due modesty, and with all due respect to D Knopf and the Standard Dictionary which he (somewha irrelevantly) quotes in his letter of February 13, I sti retain the mastery of my own thoughts, and reserve th right to demand that my utterances shall be interprete according to the canons of English and the laws of log before they are made the subject of controversy. Fortu nately for me, however, Dr. Knopf lays bare in his lett the method whereby he has arrived at the conclusion tha I am a phthisiophobe and regard all consumptives, or a average consumptive, as insane or possessed of crimin tendencies. Let the reader judge for himself:

Dr. Knopf bases his whole ingeniously wrought stru ture of casuistry upon the following sentences which h quotes *verbatim* from my article: (1) "To me this accou shows the germination of a homicidal tendency which the resultant of the psychical defects which I have ou lined in my analysis of the average consumptive's men peculiarities." (This sentence, as Dr. Knopf must kn if he has read it carefully, does not mean that the ho cidal tendency is seen in the average consumptive, b that it was apparent *in this one case*, to which I refer the words "this account." It means further that I beli that this tendency was the resultant of those psychi traits (neurasthenia, psychasthenia, etc.) which I outlin in another part of the article under the heading of "t mental peculiarities of the average consumptive.")

(2) "Here (*i.e.* again *in this case*) psychasthenia, t loss of self-control, and the rise of brute selfishness ha combined to distort the clearness of ethical perceptio

To these quotations from my article, Dr. Knopf ad the following comment: "Now in the Standard Dictio ary the word 'average,' when applied to persons in t sense, is defined as *possessing general or typical charact istics*. Thus, according to Dr. Saxe's conclusions, t general and typical characteristics of a consumptive i psychasthenia, the loss of self-control and the rise of bru selfishness, *resulting in a distortion of the clearness of e cal perception*." (Italics mine). Thus, by simply substitu ing the equivalent of the word "*average*" taken from t first sentence, for the word "*here*," my second sentence made to mean what Dr. Knopf wishes it to mean for h own purposes. The homicidal tendency which I cite this case (of a man who deliberately spat everywhere t that his wife may not survive him) was spoken of by m as the resultant of certain fundamental changes in th mentality of the consumptive—changes which in t average case are manifested, as I took care to state, b petty exhibitions of selfishness, by loss of self-contr (peevishness; irritability of temper), etc., but which *this instance* have been raised to the higher potencies of mental disorder and intensified into a state in which t clearness of ethical perception is distorted. Nowhere I say, I repeat, that a greater tendency to crime has be noted among consumptives than among normal indiv uals, nor that the average consumptive exhibits a d torted ethical perception. I certainly do *not* say it in t final sentence which Dr. Knopf quotes from my conc sions, and which merely summarizes the traits which ha been noted by the foremost authorities who have writt on the subject, of the mentality of the typical consum tive. For these ideas I neither claim originality nor as my own authority, but every statement I have made supported by the testimony of writers of internatio reputation—the weight of whose opinion even Dr. Kn must acknowledge.

I have quoted here in detail, because I wished yo readers to see exactly to what lengths Dr. Knopf w obliged to go in order to extract the desired meaning o of my article. And even those who have not read m now much-discussed modest effort, but who have obtain their information regarding it from Dr. Knopf's arti and letter, will now realize the situation. I think I ha proved to any unbiased man who has followed this co troversy that Dr. Knopf's tirade against me had no fou dation and that his arguments utterly collapse on critic review. However this may be, the personal elemen upon which Dr. Knopf lays so much stress, is to me sub

rdinate to the real question at issue which I am glad to ave raised—the question as to the relation of tuberculosis and crime and as to the ethical necessity of exercising clemency in consumptive criminals. This is a matter r investigation by expert criminologists and alienists, nd I have no doubt that a great deal of light will be thrown n it from this quarter within the next few years. Dr. nopf himself cannot pretend that he has spoken the last ord on this subject. So far as I am concerned, the phthisiophobia" and the other crimes which he lays at y threshold no longer require discussion.

DE SANTOS SAXE, M.D.

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SPONDYLOZE RHIZOMÉLIQUE.

TO THE EDITOR OF THE MEDICAL RECORD:

R: In the issue of the MEDICAL RECORD of February , 1904, there is an article by Dr. Alfred Gordon of Philelphia entitled "Contribution to the Study of Spondye Rhizomélique, with Report of Three Cases," which tains the report of a case which, it seems to me, should t be admitted to this category. As the case in question the most important one reported by Dr. Gordon, and, it seems to me, there is no justification for calling it a tribution to spondyloze rhizomélique, I should like to Dr. Gordon through your columns why the case is not ost typical one of amyotrophic lateral sclerosis. The ts of the case as he records them are: A fifty-four-r-old negress developed (1) vertigo, attended with loss consciousness; (2) difficulty of speech; (3) stiffness of spine and the extremities; (4) disturbance of the incters; (5) spastic ataxic gait; (6) mask-face due to ticity of the muscles; (7) joints stiff but not enlarged, ient moves *tout de pièce*. The objective symptoms e: (1) Argyll-Robertson pupils; (2) some ataxia of the er and lower extremities; (3) tremor of the upper remities; (4) exaggeration of all the tendon-jerks; (5) inski jerk; (6) increased mechanical irritability of all voluntary muscles; (7) muscular atrophy of the appear-e and distribution of the type Aran-Duchenne; (8) ing sensations in the legs and girdle sensation about thorax; (9) no objective sensory disturbances; (10) nounced general arterial sclerosis. The rigidity, ataxia, iculty of mastication and of speech, wasting and weak-s increased, swallowing became difficult, incontinence eased, bed-sores developed and the patient died, the se having lasted between one and two years. If this ot the classical picture of amyotrophic lateral sclerosis sibly of syphilitic origin because of the Argyll-Robert-pupils, although such pupils occur, I believe, occa-ally in cerebral arterial sclerosis), then the description s in our books is all wrong.

would not trespass to this extent upon your space e it not that the subject of spondyloze rhizomélique n important one, whose etiology and pathogenesis are ood as unknown, and it is essential that at this stage our knowledge no contribution tending to add to its curity be permitted to pass unchallenged.

JOSEPH COLLINS, M.D.

ew York.

PHYSICIANS PREVENTED USING THE LIBRARY OF THE ACADEMY OF MEDICINE.

TO THE EDITOR OF THE MEDICAL RECORD:

IR: By a new rule of the Academy of Medicine Library, ysicians of this city, who are not members of the acad-y, are considered merely as members of the general blic, and are now prohibited from the use of the library cept three and a half hours daily at a most inconvenient e, from 9.30 A.M. to 1 P.M. It seems to me that this a great injustice to the medical public, and will now t the scope of medical education. I feel reasonably e that those who have given financial support, and other-e in the form of bequests to the library fund, certainly pected the general medical public to have access to this uable library. Furthermore, I am convinced that those o contemplate giving to the library fund may hesitate they know that the medical profession has so little portunity to use the library. Personally my office hours e up the whole morning, and no doubt there are hun-eds of others similarly situated, who will be debarred m the use of the library. On a recent visit to the rary at 5.30 P.M., I was refused admittance on account non-membership. It was important that I should con-lt a reference book, and I endeavored to be admitted as guest of one of the two occupants of the library. The endant would not permit it. However, after considerable parley, I was allowed to remain when one of the mem-rs of the academy insisted upon it. By this new rule would appear that the value of the library is lessened, nd the attendance much smaller, as evidenced by the afternoon when I was present. At this time there were but two readers in the library.

Formerly the general medical public had access to the library from 10 A.M. to 6 P.M., and members of the academy had the same hours, with the added privilege of the exclusive use of the library in the evenings.

SAM'L G. TRACY, M.D.

NEW YORK.

Progress of Medical Science.

The Boston Medical and Surgical Journal, March 3, 1904.

A Case of Traumatic Hæmopericardium.—John Lovett Morse reports this unusual case. The patient was a girl two and a half years old. About a month before the writer saw her she had fallen on to a needle which was on the window-sill. The needle broke off, about half of it remaining inside the chest. It penetrated the chest near the right edge of the sternum. She seemed well for about two weeks. She began to ail at this time, although her symptoms were rather indefinite. She breathed hard, the respiration often being grunting in character. She complained of pain in the side. Physical signs and fluoroscopic examination showed effusion in the pericardium. It was tapped and aspirated. Bloody fluid was obtained by this procedure. The child was much relieved by this operation and in a few days was discharged well. This hemorrhage must have been due to a lesion of the pericardium caused by the needle. The needle probably did not reach the pericardium at first, but later worked its way to it. It is not easy to explain the comparative mildness of the symptoms with such a large effusion. Probably the greater part of the pressure of the fluid was exerted on the liver and diaphragm. At operation, the needle was first introduced into the fifth right space just at the edge of the sternum. The results show that the pericardium can be safely and successfully reached in this situation.

The Relation of Some Special Causes to the Development of Neurasthenia.—Robert T. Edes believes that it is possible without straining facts to accept the view that neurasthenia is not merely a name to cover want of classification, but is a fairly well-defined condition, if not a distinct disease, and has a real pathology. Neurasthenia is a state of diminished energy of the nervous centers, especially the higher psychical, closely akin to ordinary fatigue, only of such extreme development as to have caused incapacity for rapid restoration. Neurasthenia is a paresis of the attention and will, the result of long-continued overfatigue. Apparently the simplest, most obvious and most often assigned cause for neurasthenia is mental overwork, and in the cases of the young, overstudy. It is when there is added to excessive work, responsibility, worry, ambition, failure of attainment of the object striven for, and the like, that neurasthenia often develops. Even monotony is sometimes more wearing than some forms of mental labor. Extreme muscular fatigue renders one incapable for a time of doing his best mental work. The coincidence of neurasthenia and sexual abnormality of any kind cannot be considered proof that the former is the result of the latter without further inquiry. The causation may be in the other direction. Abnormalities of all kinds are well-known accompaniments and symptoms in many neuropathic conditions as well as in actual insanity. Symptoms of difficult and imperfect digestion are among the most frequent among what may be called the secondary ones of neurasthenia. They aggravate it and are caused by it, and thus an obstinate, vicious circle is produced. There has been much discussion concerning the connection between ocular defects and neurasthenia. The writer says that it is conceivable that any one of these important conditions, if brought to bear upon a system which is by birth or education of impaired resistance, should by itself be applicable to all cases of neurasthenia as the sole cause. It is of course equally possible that all should be present in only one case, but the probabilities are immensely against either of these extreme alternatives. The general practitioner or the neurologist to whom these patients go, should be able to follow the most important clues far enough to be able to decide when it is necessary to call in a specialist.

Journal of the American Medical Association, March 19, 1904.

Examination of the Blood of Pneumonia Patients for Pneumococci.—Fifty cases are analyzed in the paper presented by F. C. Kinney. He concludes that the germs can occasionally be found in the blood at any time during the disease. In one series of twenty-five cases the pneumococci were found in 12 per cent. In a second series of the same number of patients and with a method more favorable for the growth of the organism, they were found in 76 per cent. The best results as to their presence are obtained by using large quantities of blood with a

dilution of over one to twelve of a liquid culture medium, preferably bouillon. The technicalities of the method are given in detail. The mere finding of the organism is of no prognostic value. Of nineteen positive cases in the first group 69 per cent. recovered, while of the negative cases 33 per cent recovered. But when the germ was found in the blood of a patient who subsequently died, it was invariably present in large numbers.

The Use of Silver Foil to Prevent Adhesions in Brain Surgery.—The use of this material is commended by M. L. Harris, who reviews the literature of the employment of this class of substances and adds illustrative cases from his own experience. Regarding the technicalities of the method, he notes that the traumatism incident to the operation should be as slight as possible. A bone flap which can be replaced is preferable, when possible, to the trephine opening with the bone left out. Before the introduction of any substance hemorrhage should be perfectly controlled and all blood-clots removed. The substance should extend well beyond the edge of the area involved in the adhesions. There should be no openings or breaks in the substance. The material must be one which can be sterilized. The wound must heal in a perfectly aseptic manner.

A Method of Dispensing with Rubber Gloves and the Adhesive Rubber Dam.—J. B. Murphy advises the use of an impermeable coating, preventing the escape of skin secretions and preventing the entrance into the pores and srevices of the skin; a coating which will not impair delicacy of touch or the pliability of the skin. The preferable preparation is one of from 4 to 8 per cent. of gutta percha in benzine or acetone. He has found from a four months' experience that the 4 per cent. benzine solution is the most serviceable for the hands, as it wears better on the tips of the fingers under handling instruments, sponges, and tissues than the acetone solution. For the abdomen the acetone solution has the advantage, as it dries in from three to four seconds after its application, while the benzine solution takes from two to three and a half minutes to dry to a firm coating. The acetone coating when dry is only slightly adhesive while the benzine coating is sticky. The method of application to the hands and forearms is that of simple washing, as with alcohol, care being taken to fill in around and beneath the nails. The hands must then be kept exposed to the air with the fingers separated until thoroughly dry. They may then be washed in alcohol, bichloride, or any of the antiseptic solutions without interfering with the coating or affecting the skin. It wears off on the tips of the fingers if the operations be many or prolonged, when another application may be made between operations; on the remaining portion of the hands one application is sufficient for a whole morning's work. Washing in benzine after the surgeon has finished his work leaves the skin soft and smooth.

Medical News, March 19, 1904.

Forensic Eye Aspects of Tabes.—Jas. G. Kiernan states that the Argyll-Robertson pupil exceptionally occurs in many conditions. It has been temporarily noted after railroad accidents and other shocks, in cases in which no subsequent evidence of grave neuroses had occurred. In such cases it disappears. Exceptionally it has been found in alcoholism. It occurs early in locomotor ataxia, in paretic dementia, and in constitutional syphilis. But constitutional syphilis occurs quite often in which it is absent. It is frequent in parasyphiloses. But it is not to be taken as a pathognomonic mark of these conditions, since it has been found in conditions like alcoholism, and therefore may be a temporary expression of toxic states occurring during constitutional syphilis.

The Individual Equation of the Patient in Surgical Operations.—W. L. Estes states that some patients are particularly liable to microbic inoculations. They are very apt to die from very mild forms of sepsis after operations. It goes without saying that the environment and habits of the patient have much to do in determining the result of an operation. Vegetarians do not stand the loss of blood well. Meat eaters do not generally stand general anæsthetics well. The disposition is bound to affect the outcome of an operation. A cheery spirit has a markedly favorable influence. The extremes of age increase markedly the bad prognosis of an operation. Nationality makes little difference. The physical condition of the patient ought to be carefully determined. Organic diseases of the viscera greatly modify the prognosis of operations. The two regions that seem to be especially unfavorable for extensive operations are the base of the brain and the thoracic cavity. The surgeon should do all he can to prevent disease. Temporizing in surgery will not do. When an operation is necessary, it should be done at once.

The Clinical Significance of Pain in the Epigastrium.—Frank H. Murdoch declares that pain in the epigastrium may be due to hyperacidity, hypersecretion, hyperæsthesia of the stomach, nervous gastralgia, biliary colic, certain affections of the spinal cord, cancer, gastric ulcer, pancreatitis, some forms of appendicitis, and Addison's disease. The pain of hyperacidity comes on one or two hours after meals and ceases at the end of the digestive period. It may be temporarily relieved by the ingestion of food or alkalies. The pain of the periodic hypersecretion comes on suddenly in the midst of perfect health. Besides pain, there is extreme thirst and vomiting of large quantities of hot, sour gastric juice. In hyperæsthesia of the stomach the pain appears immediately after eating. In nervous gastralgia the pain is intense, either sharply localized or diffuse. In biliary colic the attacks appear only at intervals, and have no relation to the taking of food. The attacks are sudden and are apt to be followed by jaundice. In cancer of the stomach, pain is the most constant of all the symptoms. It does not depend upon the taking of food. The pain of gastric ulcer usually comes on from ten to twenty minutes after the ingestion of food, and disappears at the completion of gastric digestion. There is often intense pain in the epigastrium in Addison's disease. The weakness, however, characteristic of the disease appears before the pain.

New York Medical Journal, March 19, 1904.

The Dangerous (?) Operation of Uterine Curettage.—D. H. Craig criticises the views expressed in a recent paper by Van de Warker, claiming that uterine curettage is perfectly safe in the hands of those qualified to practise surgery. It is not a minor operation, however, and calls for quite as much judgment and skill as do many operations usually considered much more formidable. He objects to the use of a triple-clawed volsella, and deprecates too forcible traction on the uterus. Adequate dilatation must be secured. Assuming modern asepsis to be maintained, he considers the greatest danger to be perforation of the uterine wall. The avoidance of this complication begins with the second step in the actual operation. The cervix is grasped with the volsella or bullet-forceps, *after the scrubbing and disinfection of the vagina is completed, never before*, and the next step should be the determination by the probe or sound of the exact shape and depth of the uterine cavity. If this step is never omitted there is no danger of perforating the wall of the flexed, non-puerperal uterus, which much more often occurs in inserting the dilating instrument than with the curette. He advises against the post-operative tampon. Absolute asepsis is probably never attained, and gauze furnishes a mesh in which the oozing blood will clot instead of draining away by gravity. Moreover the withdrawal of gauze is apt to deposit septic matter on the fertile soil of the abraded surfaces. Douching should be avoided for forty-eight hours. If a douche is ever demanded, saline solution or sterile water should be preferred.

The Inaccuracy of the Common Spoon as a Milk Sugar Measure in the Home Modification of Milk.—Attention to the inaccuracy of the spoon measure is called by J. M. Miller, who states that the amount of milk sugar contained in a level teaspoon, as measured by three different persons, weighed respectively, 55, 85, and 90 grains, and a level tablespoon 168, 215, and 195 grains respectively. In answer to the objection that with such an inert substance such variations are of little moment he replies that in weakly children the variation may be of great importance. He therefore advocates the use of a small box measure instead of a spoon. Such measures are insisted on by the most careful writers on pediatrics.

Post-operative Pneumonia.—The patient of L. E. Holmes, a boy of nineteen years, was operated on for sarcocele and phimosis, unilateral castration and circumcision being performed. Two days later pneumonia developed without apparent cause. The case ran a somewhat prolonged course, but the patient was discharged well on the twenty-fifth day after the operation. A possible cause of the lung lesion might have been the aspiration of mucus during the anæsthesia (ether), but it could not be absolutely proven. The author discusses the various causes of post-operative pneumonia. No one causal theory will explain all cases. The lesion is more often of the lobular type, rather than the lobar. There is a special danger in operations done by artificial light (electricity excepted) when chloroform is employed, for a poisonous gas is formed by the combination of chloroform vapor with carbon monoxide. The literature of this latter phase of the question is reviewed with some detail. Pneumonias follow with about the same frequency with both ether and chloroform, but a general anæsthetic does not materially increase the danger of post-operative pneumonia if the lungs are in a healthy condition. We should

be sure that we are using a pure drug in a clean inhaler, should give the anæsthetic with the greatest care, in as small quantities as possible for the maintenance of a proper narcosis, and after operation should always keep the patient's head low, changing the position of the patient frequently in order to avoid hypostatic congestion.

American Medicine, March 19, 1904.

The Problem of Potassium Iodide.—Alfred Gordon calls attention to the usefulness of the iodides in the treatment of cerebrospinal syphilis. The idiocyncrasy of the patient should be first tested. Small doses of the drug are given, say, 0.32 gm. (5 gr.) three times daily for an adult. The dose should be increased every other day, 8 gr., then 10 gr., three times daily, and so on. The patient must be seen often, and at the slightest symptoms of intolerance the drug should be discontinued for one or two days and the same plan again followed. There is no possibility of establishing a maximum dose. The writer has used sodium iodide instead of potassium iodide in the majority of his cases.

Occurrence of Diabetic and Non-diabetic Glycosuria in the Same Individual.—Heinrich Stern presents the following conclusions from his work on this subject: The diabetic state may be well established before glucose is excreted by the urine. Diabetic glycosuria is nothing more than the salient feature of the second stage of the diabetic deterioration. Glycosuria is a symptom, an enunciation of manifold other disturbances of ectogenous, as well as endogenous causation. With the assistance of various concrepant factors we are enabled to differentiate clinically between the diabetic and non-diabetic form of glycosuria. Complex melituria is the result of two concurrent or interdependent affections of dissimilar character, having the one symptom, glycosuria, in common. The recognition of complex melituria depends upon the alternate prominence of one set of symptoms, including the respective glycosuria.

The Ochsner Treatment of Appendicitis after Operation.—George S. Brown gives a series of cases and the method of post-operative treatment. Lavage, tight binder, opium, plenty of water to drink and no purgatives until the bowels manifest a disposition to move by the uncomfortable rolling about of the gas and the other symptoms showing that the inflammation is subsiding and the paralysis of the bowel is being overcome. Irrigation of the stomach and bowels will favor quiescence of the bowel and the formation of adhesions. By using the binder properly—keeping it tight as the gas recedes, opium can be used liberally, for its quieting influence on the nervous system and conservation of the patient's strength. Irrigation, when sufficiently prolonged, will not only empty the stomach of ether-laden mucus, but will wash every particle of ether out of the blood. The writer gives his patients all the water they want, both before and after ether, and has had only good results from the practice. If there is nausea, vomiting cures it in a little while if the patient is given water.

The Lancet, March 12, 1904.

The Treatment of Incontinence of Fæces by the Subcutaneous Injection of Paraffin.—Two cases are reported by H. Burgess. He would divide such cases into two groups: (1) Those in which the sphincter retains some power, but cannot close the canal entirely. It is conceivable that if by introducing paraffin into the submucous tissue on the inner surface of the sphincter we narrow the lumen of the bowel at this situation and thereby diminish the work which the sphincter has to perform; even a weakened sphincter may be able firmly to occlude the remaining lumen and so to render the patient continent. (2) Those cases in which the sphincter is completely paralyzed, as in many nervous diseases, or has been entirely removed, as after the operation of excision of the rectum. Various plastic operations have been devised, but at times no one seems to meet the emergency. In these exceptional instances the paraffin injections may relieve the difficulty.

An Inquiry into the Source of Scarlatinal Infection and Its Bearing in Hospital Treatment.—R. E. Lauder briefly reviews the anatomy of the mucous lining of the upper air tract, and notes how easy it is for modification in its physiological integrity to allow of the reception and development of various infections. This tract is the focus of trouble. He then goes on to detail the mode of treating the disease in his own hospital, finding it possible thereby greatly to lessen the occurrence of albuminuria enlarged glands, aural and nasal discharges, etc., and also to reduce the duration of the fever and length of confinement to bed. The method referred to has to do with practical hospital details, and must be consulted in the original paper by those interested. He thinks that too much stress has been put upon "feeling" *per se*. A more rational plan is to care for the upper air tract of convalescent patients, particularly with reference to the checking of nasal and aural discharges.

The Congenital Origin of Hernia.—R. H. Russell notes that congenital hernia ordinarily signifies an oblique inguinal hernia into a funicular process which is unobliterated throughout, so that there is no barrier separating the abdominal peritoneum from the tunica vaginalis. It was not understood that the hernia was present at birth, but that it had entered a congenital sac. It was considered that the inguinal hernia in which the sac was found to be distinct from the tunica vaginalis might be safely relegated to the category of acquired hernia, and acquired hernia implies that the sac is not a developmental structure and is not therefore present at birth, but that it has been formed by the stretching and pushing down of the normal peritoneum in front of the descending hernia, the essential cause of the hernia in such a case being a local weakness or inadequacy of the abdominal wall. Hernia descending into an open funicular process need not of necessity find its course to the tunica vaginalis completely unopposed, but on the contrary it is common for the tunica vaginalis to be cut off from the main length of the tube by an obliterated portion of varying length. The upper portion of the partially obliterated funicular process is no whit less entitled to the name of "congenital sac" than is the whole of it, but a distinctive title of some kind was called for; and as the term "congenital" had been already appropriated by one variety, the name "funicular" was given to the other. But both are congenital and funicular in an equal degree. The author believes that we should no longer use the term "congenital" in this connection as denoting a variety of hernia distinct from all others. He suggests the use of the terms "total funicular" and "partial funicular" for those respectively now in common use, viz., "congenital" and "funicular."

British Medical Journal, March 12, 1904.

Erythema Scarlatiniforme (Influenzal).—James Hamilton calls attention to the difficulty of diagnosis in certain cases of influenza. In one case under his care sore throat developed, tenderness beneath the angle of the jaw and back of neck, and later in the day a rash appeared on the face, chest and limbs, till the patient was the color of a boiled lobster. A few months before, however, she had had an attack of scarlet fever. So the writer ruled this disease out in the present instance. He has seen a number of cases as puzzling as this one which cause the practitioner much anxiety.

The Danger of Suprarenal Treatment in Hæmoptysis.—J. Gray Duncanson describes the effect of the administration of adrenalin chloride solution in a case of hæmoptysis. The pulse became hard and there was more hemorrhage. As soon as the suprarenal treatment was abandoned, the pulse became soft and bleeding ceased. The writer feels assured that, in cases of hæmoptysis, suprarenal treatment should be withheld, unless, as he adds, the questionable procedure of spraying a solution of one of the adrenal products from an atomizer be tried as an occasional inhalation.

Reflex Disturbances Associated with Adherent Prepuce.—Robert M. Simon describes three cases. The first patient was a boy of eighteen months, who suddenly became unable to walk. He dragged one leg and complained of pain in the hip. Incipient hip mischief was suspected. Finally, the prepuce was found to be long and adherent. After circumcision the recovery was immediate and complete. The second patient was a boy of fourteen, who suffered from severe intestinal colic. Adherent prepuce was found and treated, with disappearance of all symptoms. The third child, a boy of three, began to wake up at night screaming and complaining of pain in the abdomen. The prepuce was adherent and the meatus narrow. Surgical treatment of these conditions was followed by cessation of the symptoms.

Tetany Associated with Mucomembranous Colitis and Phthisis.—H. Hyslop-Thomson presents the history of this case. The family history of the patient, a woman of twenty-one, was bad. Her father and brother had died of pulmonary tuberculosis. There were enlarged lymphatic glands close to the angle of the jaw. Percussion resonance over the front upper right lobe was diminished, while the vocal resonance and tactile fremitus were increased. Respiratory murmur was harsh and crepitations were audible. Gradually the stools became soft and slimy, while mucus and shreds of membrane, and now and then blood, were passed. There was a fairly uniform evening pyrexia. Following an attack of abdominal pain, with a discharge of blood from the rectum, there occurred a characteristic attack of tetany. The spasm was easily controlled by hypodermic injections of hyoscine hydrobromate. Heat applied to the limbs brought relief. The patient soon began to get better, and left the hospital in

an improved condition, though the physical signs were still present to a degree.

A Case of Syphilitic Convulsions Preceded by Marked Somnolence of Long Duration.—William B. Bennett gives the history of this patient, a man aged thirty-four years. One Saturday morning he awoke as usual and spoke, but when he came down to breakfast he could not utter a word, although he made great efforts to do so. About nine o'clock he fell into a comatose condition, and later had a convulsion. On Sunday morning he slept heavily, but on Monday his mind was clearer. On Tuesday he could say a few connected sentences. He was put on antisyphilitic treatment. He had felt drowsy for five months before this attack. He had never had any pain in his head or elsewhere. A history of chancre eight years before was obtained, though he had had no secondaries of any description. For some months after this attack which has been described his memory was a little defective, but this passed off completely. The writer thinks that the lesion in this case was extensive syphilitic endarteritis of the cerebral arteries, without thrombosis or embolism, but possibly with a spasm of the arteries.

Deutsche medizinische Wochenschrift, March 3, 1904.

An Antibody against Steapsin Solution.—Schütze studied the possibility of producing a serum containing antibodies having an inhibiting effect on the fat splitting property of steapsin. Rabbits were injected with 5 or 6 c.c. of this solution in intervals of three to four days until 50 or 60 c.c. had been given. Castor oil was used as test fat, and it was shown by titrating with $\frac{n}{10}$ soda solution that the steapsin solution had marked fat-splitting power. The serum obtained from the rabbits was then added, in varying amounts, to the castor oil before treating it with the steapsin, and it was found that unmistakable inhibition of the steotolysis was produced. It required from five to ten times as much serum as steapsin entirely to annul the effect of the latter. The serum was not affected in activity by heating for two hours at 55° C.

The Variability of the Gonococcus.—Schonz reiterates the view he has formerly expressed to the effect that many aberrant types of the gonococcus occur which differ widely in cultural and pathogenic properties from those usually considered typical, and that the pseudogonococci of many authors are simply variants of the typical form. This is in accord with the modification to which we have had to subject our views in the matter of the true and pseudo diphtheria bacilli, which are now generally grouped in one class. The fact that gonococci have been cultivated by Urbon and Wildbolz on ascites and glycerin-agar, bouillon, gelatin, glucose-agar, and horse serum robs the gonococcus of one of its most distinguishing features, namely, its relation to artificial media. The conclusion is that many diplococco must now be ranked with the gonococcus, including the pseudogonococci which Krukenberg isolated from the conjunctiva. The question as to the identity of the meningococcus intracellularis will probably a so be settled by including it in the gonococcus group.

The Value of Jousset's Inoscopy.—Kormoczi and Jossniger have repeated Jousset's procedure for detecting tubercle bacilli in blood and exudates. The method consists in collecting small quantities of the suspected fluid in sterile glasses and allowing it to stand till the separation of flocculi of fibrin has taken place. The sediment is strained off, is washed with water and then digested in the incubator with a solution containing pepsin, glycerin, hydrochloric acid, sodium fluoride, and distilled water. The digested mass is centrifugalized and smears are made from the deposit and stained by Gaffet's method. Blood is diluted with distilled water before coagulation. Jousset obtained remarkable results in this way, and found the tubercle bacillus in seventeen cases of pleurisy in supposedly non-tuberculous patients. It was present in eight out of twelve cases of doubtful ascites, and was found in the blood of two cases supposed to be typhoid fever. The authors repeated Jousset's work with great care, using autopsy material in order to have an absolute check on the diagnosis. The number of positive results was much smaller than expected, the method failing even on well-marked tuberculosis cases, so that the conclusion is that though a useful method which often gives positive results, in much less time than they could otherwise be obtained, the negative findings are not certain evidence of the non-existence of a tuberculous process.

Münchener medizinische Wochenschrift, March 1, 1904.

Atropine in Mechanical Ileus.—Boseck adds another to the list of cases in which obstruction has been relieved by atropine in large doses. The patient was a man of forty-two years with recurrent carcinoma of the mesentery, who on two occasions after periods of mechanical obstructi lasting ten and eight days respectively was relieved by t hypodermatic injection of four milligrams of the dr He succumbed to a third attack in spite of a similar inj tion. The author recommends the measure as one to tried when the diagnosis is doubtful for operation refused.

The Mucous Membrane Eruption of Measles.—Ri reports observations on 520 cases of measles occurring a recent epidemic in Erlangen. On the whole, the res are in accord with the statements of Koplik and corro rate the value of his sign as an aid to early diagnosis. a number of cases the author observed as earliest sy toms, even before the buccal enanthem, subjective ph phobia and congestion of the conjunctiva of the lower The description of the eruption as seen does not di notably from the classical one, but the author found t the bluish or yellowish point forming the center of the could easily be brushed off without causing bleedin some authors aver, and that it was composed princip of desquamated epithelial cells with poorly staining nu He regards the red spots as the true enanthem and white epithelial desquamations merely as more or less stant indications facilitating the recognition of the m læ. Owing to the congestion and swelling of the ly atic follicles of the soft palate accompanying most dis of the mouth, this region is a less favorable one in w to endeavor to identify the spots of measles. In no the other infectious diseases examined, such as rub diphtheria, follicular and suppurative angina, were spots found. Out of 3,972 cases of measles occurri Erlangen since 1859, the maximum number came in with smaller increases in late March and early April in late October and early November.

Egypt and Tuberculosis.—V. Becker, who has twenty-two years in different parts of the country cusses the suitability of Egypt as a resort for cons tives. Many recent writers have recommended it f dryness of its atmosphere, but the author does not it as an altogether satisfactory place of residence fo patients. Certain races of natives, particularly th lahs and Bedouins, exhibit but little tendency to tu losis and the disease is rarely seen among them, but o like the Copts, and particularly the Nubians fro southern cataract regions, show a marked predispo for it. All races of negroes fall easy prey to tuberc and exhibit the same susceptibility that imported mo do. The advantages the climate offers are those humidity and of transferring much of the work lungs to the large glands and the skin. This ent increase in the work of the heart, and cardiac inc tence frequently develops in white colonists. The of tuberculosis most favorably influenced is that hypersecretion and large amounts of expectoratio these the improvement is often most surprising e cavities exist, but laryngeal cases do particularly The summer is rendered very uncomfortable for a cigners and decidedly injurious for the sick by the *cha* a hot, exceedingly dry wind loaded with sand, and few patients can stand it. The cost of living is also double of that in Germany.

Berliner klinische Wochenschrift, February 29, 19

The Osmotic Pressure of Exudates and Transuda Rzentkowski determined the freezing points of a ser these fluids, but finds that the differences they exhib too slight to permit of their being of great diag value. In general it may be said that the freezing po an exudate is lower the greater the number of pus it contains, and that tuberculous exudates, regardl their origin, have the smallest molecular concentr The concentration rises in rheumatic exudates, a greatest in purulent fluids, in which it increases with age. The molecular concentration of exudates is pendent of the composition of the blood, but the centration of transudates is higher and depends o nature of the primary chemical disturbance of the b

The Effect of the Galvanic Current on Tetanus T Antitoxin, and Mixtures of the Two.—Römer says observations with the ultra microscope of Sieden Zsigmondy show that the toxic properties of bac poisons are combined, not with genuine albumins with albumoses or nearly allied bodies. Such albumo pepton molecules are much smaller than those of ge albumins but are still to be regarded as forming col solutions. As substances in this condition when jected to electrical currents exhibit activities simil those of ions but without dissociation of the molecul author undertook some investigations on the effect galvanic current on tetanus toxins and antitoxins. fluids were placed in U-shaped tubes having the anod one and the cathode in the other arm of the tube. After

rrent had been passed, the anodal, cathodal and inter-diate portions of fluid were separately pipetted off d their toxicity tested. The results showed that weak rents increased the toxic action of the fluid both at the de and cathode and to some extent in the total fluid, that it seems possible to reactivate, to some extent, toxin t has lost virulence. Strong currents (over 2 ampères) inish the toxicity both at the anode and in the mixed ds, while at the cathode the toxicity is reduced to a less ee or even raised. Even the short passage of relatively k currents sufficed to produce a uniformly distributed inution in the antitoxic power of tetanus antitoxin. ompletely inactivated mixtures of toxin and antitoxin n subjected to the current showed the unexpected lt of a rapid diminution in virulence and soon became rely inactive. In a closing paragraph v. Behring phasizes the importance of these observations, and mises further communications from his laboratory on subject and on that of the antibacterial substances in .

e Bactericidal Action of Typhoid Blood Serum.—Stern Korte report on some interesting observations made letermine the bactericidal potency of the serum of hoid patients. The technique was as follows. The hoid serum in the requisite dilution is added to a half of a 1-5,000, twenty-four-hour froth culture of hoid bacilli, together with a diluted rabbit serum to ide the complement. In less dilute strengths of the an serum a preliminary heating to 55° is necessary, with the weak solutions this may be omitted. ether with suitable controls, a series of tubes con-ng different amounts of the typhoid serum is placed e incubator and allowed to stand for three to four s. The contents of the tube are then poured on r plates and the proportions of the colonies developing the different tubes noted after twelve hours. All the examined from patients still in the febrile stage, or tly after it, showed marked bactericidal action in ions of over 1-1,000, and in most cases the effect was eptible in a dilution of 1-50,000,and in some even in veral millions. None of the cases were examined r than the eighth day. One case just before a severe se showed bactericidal action in a dilution of one to million, a fact having an interesting bearing on the tions of immunity and serum therapy. In all cases bactericidal strength was much greater than the utinating strength, often being one hundred or more s as strong, but no relationship between the activity e two could be established. The serum of five patients had had typhoid fever several years previously showed tronger bactericidal action than is often observed in non-hoid cases. The diagnostic value of the reaction can stated only by saying that the greater the dilution hich it occurs the greater its diagnostic significance, as is the case with the agglutination reaction. For ctical use it will be found serviceable in cases in which agglutination reaction is absent or is doubtful, as it is erior to it in sensitiveness.

French and Italian Journals.

adiotherapy in Cancer.—Oudin reports certain obser-ions proving that when tumors. sarcomata or epitheli-ata are treated by the *x*-rays, there are sometimes pro-ed general phenomena, it may be of miliary generali-on, or it may be of intoxication, due probably to the that morbid products from the cancerous focus are own in great abundance into the circulation from ence they are absorbed. The symptoms consist of exia, diarrhœa, vomiting, general depression, and ed death may be the outcome. It is necessary, then, such cases to proceed with caution in order that the anism may be able to eliminate all waste matter. e must be taken that the power of resistance of the dy shall not be overcome by the absorption of the mulation of toxins.—*Le Bulletin Médical*, March 9 04.

Case of Tetanus Cured.—Potherat reports the case of a ng boy of sixteen years, who, eight days after being nded in the hand by a piece of iron, was seized with symptoms of tetanus. The patient was carried to the pital and received an injection of 10 c.cm. of antitet-ic serum. This treatment met with no result. Poth-t determined to return to the old method of treating disease with large doses of chloral. The wound was t carefully cleansed. The patient was isolated, and jected to the treatment by chloral. The dose was car-d up to thirty grams a day. On the third day the mptoms began to grow less. The treatment was con-ued, nevertheless, for thirty days with doses of chloral rying from ten to fifteen grams, and now seven weeks er the accident the patient is completely cured.—*La esse Médicale*, March 2, 1904.

Metrorrhagia and Ovarian Cysts.—E. Camelot declares that metrorrhagia is far from being frequent in the course of the evolution of ovarian cysts. However, these cases cannot be called exceptional. Out of 169 cases that he has studied from the point of view of the influence of these neoplasms on menstruation, Gaillard has noted that in about one-fifth of the cases menstruation was suppressed or diminished in quantity, or retarded; in one-eighth of the cases it was augmented in quantity or in duration; in a certain number it had become irregular or painful. It was noted that ovarian cysts caused amenorrhœa rather than metrorrhagia. But there was nothing of much significance in these observations. The writer reports two cases. The first patient was a girl of eighteen years who suffered from severe hemorrhages. No lesion could be found either in the uterus or in its appendages. Under ether, however, the cyst was demonstrable. After its removal, normal menstruation soon returned. The second patient was a woman forty-eight years of age. After the removal of the cysts, the hemorrhages immediately ceased. —*Journal des Sciences Médicales de Lille*, March 5, 1904.

Movable Heart and Cardioptosis.—E. Barié says that in the treatment of this condition the most important thing is to mitigate the nervous symptoms, and, secondly, to try to combat the mechanical difficulties. For the nervous disturbances one should use hydrotherapy, bathing, cool sponging, gas baths, and out-of-door life. Bromides and valerianates in small quantities are very useful and suggestion should be pushed to the psychical limit. Treatment of the displacement consists in avoiding the assumption of certain predisposing positions, and at night the head must be kept low. A pad may be worn to give the left side support and help keep the heart up. A cardiac belt, made with a concave metal plate or a corset, is very useful. The etiology of this condition probably depends on the relaxation and want of resiliency in the great vessels. These, however, become less flabby with age, which accounts for the greater frequency of the trouble in the young. This condition may be dependent on a congenital deficiency in the elastic tissues of the vessels. This lack of elasticity is shown in pernicious anæmia. Prognosis in these cases is never more serious than that of an asthenia caused by the nervous symptoms. Perhaps this condition may lead to cardiac dilatation. The cardiac displacement must be distinguished from bathycardia or low heart.—*La Presse Médicale*, January 27, 1904.

Carcinoma of the Sudoriferous Glands.—Gustavo Lusena gives an excellent résumé of the subject of growths of the sudoriferous glands. Carcinoma of these glands is exceedingly rare, only a few undoubted cases having been published, to which he adds one of his own. Adenoma and epithelioma involving these glands are both more common, and most of the published cases are of this nature. In the true hypertrophy of these glands, whether physiological or pathological, the location of the growth is at the point of greatest activity of the normal glands. Lusena's case occurred in a patient at the age of sixty-three, beginning in the right gluteal region, near the anal fissure, and increasing in five months from its beginning to the size of an egg, ulcerated in the center, where it had been incised. The tumor was not at all painful, and gave inconvenience only in sitting and walking. It was at once removed, but recurred in five months in the scar. The new tumor was removed, and at the time of the report, four months later, had not recurred for the second time. The tumor originated in the deepest parts of the corium and the subdermal tissues. It consisted of larger or smaller tubes, and cystic cavities containing amorphous material with cellular elements intermixed. There seemed to be no doubt of the origin of the tumor, which by its atypical formation, the active proliferation of the typical epithelium, the lack of a limiting membrane, its rapid growth and recurrence, seemed to be an adenocarcinoma of the sudoriferous glands. It showed a gradual transition in different parts of its structure from the normal glands to the atypical tumor formation. Lusena thinks we should distinguish between two types of sudoriferous carcinomata the single and the multiple. In the first we have a single tumor, rapid in its development, without pain, encroaching on the surface of the skin, relatively soft, not infiltrating the neighboring lymphatic glands, having a possibility of recurrence and a relative benignancy. Its histological characteristics are the formations of tubules or cysts lined with cylindrical epithelium, in a state of active proliferation. The second form is multiple, the nodules tending to run together and form plaques, of rapid diffusion, and forming new nodules quickly; pain is more marked, and the lymphatic glands are involved. Under the microscope there are solid tubes and masses of cuboidal epithelium, which infiltrate the connective tissue in all directions, forming a true carcinoma.—*Lo Sperimentale*, February, 1904.

Book Reviews.

ORGANES GÉNITO-URINAIRES DE L'HOMME. Par HENRI HARTMANN, Sous-directeur des travaux pratiques de Médecine Opératoire à la Faculté de Médecine. Paris: G. Steinheil, 1904.

THIS is a collection of lectures given by the author in 1902, amplified and extended, illustrated and elaborated, until we have before us a rather complete treatise of 432 pages. While minor operations receive brief mention, the important and complicated ones are described with full detail, and the illustrations are often made with the patient in the position for operation, thus presenting the relation of anatomical parts more as the operator sees them than when the drawing is made in the vertical position. The work may be taken as an accurate guide to the diagnosis and surgical treatment of genitourinary diseases in man as this branch is taught to-day in France.

THE EYE, ITS REFRACTION AND DISEASES. The Refraction and Functional Testing of the Eye Complete in Itself, in Twenty-eight Chapters, with Numerous Explanatory Cuts and Diagrams. By EDWARD E. GIBBONS, M.D., Assistant Surgeon of the Presbyterian Eye, Ear, and Throat Hospital; Demonstrator and Chief of Clinic of Eye and Ear Diseases in the University of Maryland, Baltimore. New York: The Macmillan Company, 1904.

THE volume is one of 472 pages, is admirably printed and beautifully and fully illustrated. The title of the book is somewhat misleading in that the diseases of the eye are considered only in their relation to the optics of the eye and the mechanism of motility. It is really a work on physiological optics, the subject being introduced by chapters on light, its propagation and refraction, the properties of prisms and lenses, and the phenomena of reflection. The principles which govern these phenomena are explained in a direct and sufficiently elaborate manner, and the appropriate formula are given. A chapter is devoted to the gross anatomy and to the physiology of the eye, and this is followed by some twenty-four chapters on the various phases of physiological optics. The author shows himself to have a masterful grasp of the subject, and presents it clear "and concise." The directions given for determining the state of the refraction of the eye and the condition of the muscles, for the proper adjustment of glasses, the acuity of vision, the extent of the fields of vision, and the color sense are complete and reliable.

The work is an admirable one and is worthy of careful perusal by all who are interested in ophthalmology or in physiological optics. It occupies a plane below that of Donders and Landolt, so far as pure physiological optics is concerned. In regard to the methods of determining and dealing with the refraction and motility of the eye, it is superior to older works, as it is thoroughly up to date.

PHYSIOLOGISCHE UND KLINISCHE UNTERSUCHUNGEN ÜBER DAS GEHIRN, GESAMMELTE ABHANDLUNGEN. Von Dr. EDWARD HITZIG. Berlin: A. Hirschwald, 1904.

THE book, as the title tells us, is a complete collection of Hitzig's publications on his experimental work of localization of function to the cerebral cortex. The volume is divided into two parts, the first of which is an enlarged edition of his earlier works. The second part, entitled "older and later" studies of the cerebrum, is very complete, and comprises a critical review of the different theories concerning the function of the brain, together with his own observations.

A chapter is devoted to a close criticism of Ferrier's work, and in this the latter's conclusions are attached very sharply. The author says in résumé: "Ferrier, by means of a method exposed to every sort of criticism, and in a very superficial manner, has established that strong electrical currents for the anterior and basal region of a dog's brain produce chewing movements. That constitutes his share of praise. On the other hand, he has not found once with any degree of certainty the focal points which we have established; he has published a mass of observations concerning focal symptoms which can be explained by inconstant or faulty methods; and finally he has fitted this work without nomenclature, with discoveries which do not belong to him but to us."

In chapter III of the second part, the theory of cortical inhibition and subcortical centers for the coarser movements, as propounded by Goltz, Loeb, Bubnoff, Heidenheim, and others is discussed very freely, and the author, relying on his own experiments, does not concur in their opinions. In reviewing Munk's work we find that he really differs very little from that author, principally in nomenclature. Altogether, it is one of the most valuable and important contributions to the study of brain functions that we possess at present; one to which the student of neurology must go and one to which the historian of medicine will go gladly.

DAS EINDRINGEN DER TUBERKULOSE UND IHRE RATIONELLE BEKÄMPFUNG. Nebst kritischen Bemerkungen zu E. v. Behring's Tuberkulosebekämpfung. Von Dr. HUGO BECKMANN. Berlin: S. Karger, 1904.

IT is the author's opinion that tuberculous infection occurs mostly during childhood, and that it is the pharyngeal tonsil which forms the portal of entry for the organisms. From here they enter the lymphatic stream, and after passing the cervical nodes may reach the bronchial glands and either remain quiescent or cause metastases in the lungs or elsewhere. The prophylaxis of tuberculosis therefore consists in surgical treatment of the nasopharynx, nose, and pharynx.

DIE ERRICHTUNG GEBURTSHÜLFLICHER POLIKLINIKEN AN HEBAMMENSCHULEN; ihre Bedeutung für die Ausbildung der Hebammen und für die allgemeine Hygiene. Von Dr. FRITZ FRANK, Direktor der Prov. Hebammenlehranstalt in Köln. Berlin: S. Karger, 1904.

THIS brochure is an argument in favor of the policlinical training of midwives, and describes the essential features of the course given in the author's institute in Cologne. Although the outdoor department at first encountered much opposition, its value was speedily recognized, and it has now become very popular.

MODERNE ÄRZTLICHE BIBLIOTHEK. Herausgegeben von Dr. F. KAREWSKI, Berlin. Heft 1. DIE WISSENSCHAFTLICHEN GRUNDLAGEN DER KRYOSKOPIE. Von Prof. Dr. A. VON KORANGI. Berlin: Leonhard Simion, 1904.

THE object of this series of essays is to provide authoritative résumés by specialists of the progress that is being made in theoretical and applied medicine. Each pamphlet will contain a paper on a single subject, treated in a strictly scientific but easily comprehensible manner. The first number, on cryoscopy, augurs well for the usefulness and success of the series.

LA TORSION DU CORDON SPERMATIQUE ET L'INFARCTUS HÉMORRHAGIQUE DU TESTICULE. Par le Dr. ANDRÉ LAPOINTE, Ancien Interne Lauréat des Hôpitaux de Paris, Ancien Aide d'Anatomie à la Faculté, Lauréat de l'Académie de Médecine. Paris: A. Maloine, 1904.

THIS little work, devoted to a pathological condition which has hitherto been rarely dignified by a monograph, may be said to "fit a space." There is opportunity for fine points in differential diagnosis, especially when we have to do with a testis in the scrotum. The 180 pages, including bibliography, may be read with advantage by any practitioner.

SEHPROBEN-TAFELN; mit besonderer Berücksichtigung des militärärztlichen Gebrauchs. Von Dr. BERTHOLD KERN und Dr. REINHOLD SCHOLZ. Berlin: August Hirschwald, 1904.

THE test-cards are designed for determining the acuity of vision only. Six cards with characters in black on white ground are supplied. The characters are letters and figures of the ordinary block type, constructed, after the principle laid down by Snellen. Two of the cards have the characters arranged in the ordinary manner. Three cards, one of which is arranged to read by reflection from a mirror, have large and small characters intermixed and arranged in broken lines and diagonally. One card is for testing near vision and is in German. There is nothing to commend this arrangement over that in general use, except perhaps it may be a little greater approach to accuracy in the construction of the letters.

TRAITÉ D'HÉMATOLOGIE. Par FERNAND BEZANÇON, Professeur Agrégé a la Faculté de Médecine, Médecin des Hôpitaux, et MARCEL LABBÉ Chef de Laboratoire à la Faculté, Médecin des Hôpitaux. Avec 125 Figures et 9 Planches en couleurs, d'aprés les Aquarelles de M. Labbé. Paris: G. Steinheil, 1904.

THIS is the most pretentious treatise on the blood which has yet appeared in the French language. The book is divided into seven sections, and in these the subject is treated under the following captions: (1) The Physics, Chemistry, and Bacteriology of the Blood in Its Entirety. (2) The Enumeration and Mensuration of the Red and White-blood Cells. (3) The Red-blood Cell. (4) The leucocyte. (5) Hæmatoblasts. (6) The Serum. (7) The Blood-forming Organs. In these sections the histology, pathology, and technique of the subjects considered are given side by side. The histological and pathological portions are especially voluminous, and consist essentially of a recital of the work of various observers with respect to these themes. As a bibliographical collection, therefore, the work must be rated high, since it will be found that practically all of the work the world over which has been done in these directions receives mention. It is to be regretted that, as a rule, the authors have refrained from personal comment upon the themes treated, so that the reader, unless he be a special worker in hæmatology,

will be at a loss to comprehend the actual status of the subjects considered. The technical portion of the book cannot be commended, as it is incomplete. This is especially true with respect to staining the blood for the malarial organism and the differentiation of leucocytes. In the sections devoted thereto, Jenner's and Wright's stains (two of the best) receive no mention. It will hence be clear that as a work of histological and pathological reference it possesses value for the specialist in hæmatology, but that as a general textbook upon the subject it is not likely to attain a high rank.

A Laboratory Manual of Physiological and Pathological Chemistry. For Students in Medicine. By Dr. E. Salkowski, Professor in the University and Director of the Chemical Laboratory of the Pathological Institute, Berlin. Authorized Translation from the Second Revised and Enlarged German Edition. By W. R. Orndorff, A.B., Ph.D., Professor of Organic and Physiological Chemistry in Cornell University. With Ten Figures and a Colored Plate of Absorption Spectra. New York: John Wiley & Sons; London: Chapman & Hall, Limited, 1904.

This first English translation of Salkowski's "Practicum der physiologischen und pathologischen Chemie" corresponds to the second German edition of that work, with the exception that the sections on inorganic chemistry are omitted. In addition to giving the tests for carbohydrates, fats, and proteids, the examination of milk, muscular tissue, adipose tissue, bone, pathological transudates, bile, biliary, and urinary calculi, blood, and urine is taken up in considerable detail. A section on quantitative analysis concludes the book. The technical descripton of the tests is eminently satisfactory, in that the minutest details are clearly stated, so that the beginner can make no mistake regarding their proper execution. The preparation of the various testing reagents used is accurately given. This latter is an exceedingly praiseworthy feature of the work, as it is usually omitted in manuals of this character. As a laboratory aid to the beginner, the book deserves the highest possible praise.

Electrodiagnosis: Scheme for the Differential Testing of Nerves and Muscles, for Use in Diagnosis. By J. Montgomery Mosher, A.M., M.D., Clinical Professor of Insanity, Neurology, and Electro-therapeutics, Albany Medical College; Attending Specialist in Mental Diseases and Physician to the Out-patient Department for Nervous and Mental Diseases, Albany Hospital. Illustrated. Albany, N. Y.: Brandow Printing Company, Fort Orange Press, 1903.

In this little book of fifty-eight large octavo pages very much is compressed. There is hardly a waste word, and the keynote of the whole treatise is terseness and condensation, and practicality. These tables have, the author tells us, been prepared for the purpose of facilitating electrodiagnosis. They are the result of repeated examinations at the Albany Hospital, which have shown the great advantages of precise anatomical localization over the time-honored charts of von Ziemssen. No other publication has been issued in which the nerve and muscle groups have been classified for this purpose, and no attempt at such description exists in English. The scope of the work may be judged from the principal section headings, namely, the technique of electrodiagnosis; quantitative and qualitative variations in electrical excitability, the mild, medium, and severe degrees and atypical forms of the reaction of degeneration; the myotonic, myasthenic, myoclonic, and neurotonic reactions; electric sensibility; electric resistance, and the motor points. Altogether this work forms an exceedingly convenient reference book.

Social Diseases and Marriage; Social Prophylaxis. By Prince A. Morrow, A.M., M.D., Emeritus Professor of Genitourinary Diseases in the University and Bellevue Hospital Medical College, New York; Surgeon to the City Hospital; Consulting Dermatologist to St. Vincent's Hospital, etc. New York and Philadelphia: Lea Brothers & Co., 1904.

No one will question for a moment the great importance of sexual diseases, as they influence society. Whether all will agree that they should be called social diseases is questionable, so much syphilis being acquired in non-sexual and non-social ways. The relation of gonorrhœa and syphilis to the marriage state cannot be too carefully studied from the side of prophylaxis. It was over twenty years ago the present author appeared as the translator of Fournier's classic work upon this subject, and his interest in the question has been shown in numerous writings since. The present volume, though modeled somewhat after that of Fournier, presents the present-day thought upon these matters, and presents it in a fluent, pleasing style. The work will undoubtedly be largely read by those outside the profession, and whether or not this is the author's expectation, in lay hands much good might be accomplished. There are no illustrations, and few bibliographical references. The chief feature may be said to be the rule of action to be followed by the physician when confronted with the numerous and at times complicated problems connected with the marriage contract when one of the contracting parties may transmit disease to the other, or to offspring. The publishers have done their part in presenting an attractive volume.

A Handbook of Ophthalmic Science and Practice. By Henry E. Juler, F.R.C.S., Ophthalmic Surgeon to St. Mary's Hospital; Consulting Surgeon to the Royal Westminster Ophthalmic Hospital; Consulting Ophthalmic Surgeon to the London Lock Hospitals. With Illustrations. Third Edition. Revised and enlarged. Philadelphia: Lea Brothers & Co., 1904.

Some eleven years have elapsed since the second edition of the author's work appeared, and in this, the third edition, there has been ample opportunity given to add the changes made in ophthalmology during that time. Several hundred pages have been added, and the chapters on The Eyelids, Conjunctiva, Cornea, Uveal Tract, and Optic Nerve and Retina, have practically been rewritten, especial attention to pathology and tumors involving the various structures being given. Injuries of the eye and its parts are considered in a separate chapter. Considerable space is given to illustrating Worth's instruments and to describing his operation for strabismus, which the author strongly advocates. Under the table of contents the term scleritis is happily substituted for sclerotitis. A glossary has been added, and the index is more comprehensive than in the previous editions. The appendix on "Formulæ" is conservatively enlarged, while that on "Testing Vision for Service of Army and Navy Applicants" is added. Still another appendix of half-tone plates, illustrating "The Normal and Pathological Histology of the Eye," is given.

Studies in Heterogenesis. By H. Charlton Bastian, M.A., M.D., London, F.R.S., Fellow of the Royal College of Physicians of London, Hon. Fellow of the Royal College of Physicians of Ireland, Hon. M.D. Royal University of Ireland; Corresponding Member of the Royal Academy of Medicine of Turin, and of the Medicochirurgical Society of Bologna; Emeritus Professor of the Principles and Practice of Medicine and of Clinical Medicine in the University College, London; Consulting Physician to University College Hospital, and to the National Hospital for the Paralyzed and Epileptic. With 815 illustrations from photographs. London: Williams & Norgate, 1903.

This work is a collection of the studies of the author with respect to the heterogenetic origin of lower organisms. It consists of a detailed description of numerous experiments along these lines, together with argumentation relative to their import. The book is divided into four parts, which include twenty-six chapters. Beginning with the transformation of the contents of confervoid and other vegetal cells and organisms into amœbæ, actinophrys, monads, peranemata or monad cysts, the subject is followed in logical order up to the origin of bacteria and their allies by heterogenesis. For several years the views of the author, who believes in the de novo origin of microorganisms and the transmission of one species into another, have been well known. They have never received recognition. To consider here in detail the facts which controvert the author's opinions, would encroach upon the reader's patience, but in general it may be said that the day is past when the *de novo* origin of microorganisms deserves serious consideration at the hands of competent workers. It does not seem as though the present volume was likely to further the acceptance of the author's views, since its essential purport is not other than has previously emanated from the same quarter. However this may be, in many respects the book forms interesting reading for those who are at work in biology, whether or not they are able to concur in the sentiments expressed.

The Treatment of Neurasthenia. By A. Proust, M.D., Professeur à la Faculté de Médecine de Paris, and Gilbert Ballet, M.D., Professeur agrégé à la Faculté de Médecine de Paris. Translated by Peter Campbell Smith. L.R.C.P., L.R.C.S., Edinburgh; L.F.P.S., Glasgow. New York: Edward I Pelton, 1903.

This little book presents a graphic and concise exposition of our present knowledge of neurasthenia. The subject is treated in a thoroughly practical manner indicating broad experience and precision or observation on the part of the authors. The classification of the various clinical types of neurasthenia, and the details in the treatment are vividly and lucidly explained.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, Held February 25, 1904.

A. DUDLEY PALMER, M.D., CHAIRMAN.

Fibromata of the Uterus.—Dr. HERMANN J. BOLDT presented several specimens of this nature. The first was one of myofibroma uteri with cystic degeneration, in a woman of thirty-six years. The growth was removed by abdominal hysterectomy, but the patient died in thirty-four hours, apparently from secondary shock.

The second specimen was one of a very large tumor, which had filled the pelvis, giving rise to obstinate constipation from pressure on the rectum, and to excruciating pain in the pelvis, back, and thighs. Because of her suffering the woman had become a morphine *habitue*. Beginning on the third day after the operation, her daily allowance of morphine was gradually reduced, and stopped entirely on the twelfth day. She was now free from all the symptoms which the tumor had caused and had no further desire for narcotics.

The third specimen was one of myofibromatous uterus removed by vaginal hysterectomy. The diseased uterus in this case had given rise to menorrhagia, and intense bearing-down pain during the intervals of menstruation. The patient was a woman forty-eight years old. The growths in this case were so small that under ordinary circumstances one would not expect them to cause sufficiently severe symptoms to require medical advice, much less a radical surgical operation.

A fourth specimen was one of submucous myoma, removed by abdominal hysterectomy from a patient who had been normally delivered four months previously.

Large Ovarian Cystoma.—Dr. BOLDT presented another specimen which he had removed from a woman fifty-four years old. The tumor had been present for several years. Three months ago she experienced a sharp pain in her abdomen; this increased in intensity and a physician was sent for who ordered flaxseed-meal poultices. She remained in bed for nearly four weeks, and since then had been up only part of the time. The abdomen was sensitive to pressure, and the patient suffered from obstinate constipation. The temperature varied from 101° to 102.5° F. A diagnosis of ovarian tumor with a twisted pedicle was made, and confirmed on operation. After the extensive adhesions attaching the tumor to the parietal peritoneum had been separated, it was seen that the pedicle had partly sloughed off. The walls of the tumor were very friable, making the enucleation of the growth tedious. The only reason to account for a non-fatal termination from septic peritonitis was that seemingly the collateral circulation between the adhesions of the tumor and the peritoneum sufficed to prevent complete gangrene of the sac wall. The patient developed bronchopneumonia on the second day after the operation, but eventually made a good recovery.

Supravaginal Hysterectomy for Fibroids in a Pregnant Uterus.—Dr. HIRAM N. VINEBERG showed this specimen, which he said was a good illustration of the fact that pregnancy at times occurred under the most unfavorable conditions. The patient was a woman, thirty-four years old, who had been married seven months when he first saw her, and was then between two and one-half and three months pregnant. She complained of some hemorrhage for the past two or three days, and considerable pain. Upon examination, he made out a large uterus, with a growth which was located largely in the cervix. It was impossible to introduce any dilating instrument into the cervix. The patient had some symptoms of sepsis, with a temperature of 101 and a pulse of 110. A supravaginal hysterectomy was done and the patient made an uneventful recovery.

A Case of Transposition of the Heart and Abdominal Aorta.—The Chairman, Dr. A. PALMER DUDLEY, exhibited an overgrown girl of nineteen years who was operated on by him for catarrhal appendicitis. An examination of the patient previous to the operation revealed the fact that the heart was located to the right of the sternum. In the course of the operation for the removal of the appendix, the speaker said he took the opportunity to trace the course of the abdominal aorta and found that it descended to the right side of the vertebral column, and bifurcated on that side. A pelvic examination revealed an infantile uterus and ovaries.

Bilateral Papillo-carcinomata of the Ovaries, with Metastases.—Dr. CHARLES H. PECK presented this patient and showed the specimen removed. The patient was a widow, forty-eight years old, who was admitted to the French Hospital on January 9, 1904. About a year ago she began to suffer from pain in her back and legs after long standing. Subsequently she had anorexia, and last summer she was troubled with diarrhœa and swelling of the abdomen, the latter symptom developing gradually. Since September the swelling of the abdomen had increased more rapidly and was accompanied by swelling of the feet. About two weeks previous to her admission the abdomen was so tense that tapping was resorted to and several quarts of fluid withdrawn. Temporary relief followed, but the fluid soon re-accumulated. Examination showed the abdomen distended with fluid. By vaginal examination a mass could be felt to the left of the uterus, but its outlines were not distinct. There was a soft, blowing systolic heart murmur; pulmonary sounds were normal; the urine showed no evidence of a kidney lesion. The patient was somewhat emaciated; otherwise her condition was fair. The possibility of cirrhosis of the liver, with ascites, was considered, but the presence of the pelvic mass led Dr. Peck to advise an exploratory incision. The operation was done on January 12. A short median incision was made below the umbilicus: through this several quarts of clear fluid were evacuated and the presence of large papillomatous masses in the pelvis demonstrated. Two large papillomatous masses, which bled freely on manipulation, filled the pelvis on each side. There were many metastatic deposits on the omentum, one of which was firmly adherent to a loop of small intestine. The entire omentum lay to the right of the median line, adherent in many places to coils of small intestine and below to the pelvic organs and parietes. It was ligated, separated from its adhesions, divided just below the transverse colon and excised. Each papillomatous mass was then excised with the corresponding ovary and tube. There were many small nodules on the parietal peritoneum which could not be wholly removed: small nodules were also left in the stump of the omentum. The main tumor masses were large, cauliflower-like growths, friable, and very vascular. The patient made an uneventful recovery from the operation. A pathological examination of the growths was made by Dr. James Ewing, who reported that they were adenocarcinomata.

Sterility.—This was the subject of discussion announced for the evening.

Sterility Due to the Male.—Dr. EGBERT H. GRANDIN, in this paper, emphasized the importance of gonorrhœa and syphilis as etiological factors in the production of sterility and entered a vigorous protest against present educational methods by which young men were kept in ignorance of the widespread dangers attending the contraction of these diseases. Gonorrhœa was responsible not alone for sterility, but also for many cases of pelvic disease in women and blindness in children. Man was responsible for race suicide in its true sense: in fully 45 per cent. of the cases of sterility in women, the man was the responsible party. With syphilis, while a woman might conceive, she as a rule miscarried, which practically amounted to sterility. The laity failed to realize and physicians did not lay suffi-

cient stress on the preponderant influence of the rôle played by men in the etiology of sterility in women. In every case of sterility, the semen of the male should be examined, because, although a man might be able to copulate, he might be incapable of impregnation. In from 5 to 8 per cent., sterility was due to the fact that the man was sterile, in that his semen did not contain spermatozoa, although he possessed the power to perform the sexual act. Every young man should be instructed as to the risk he ran when he contracted gonorrhœa or syphilis, and the possible risk he carried to the woman whom he married. By proper educational methods, the operating gynecologist would be deprived of nearly 60 per cent. of his work, while on the other hand the human race would be immeasurably benefited. In concluding his paper, Dr. Grandin said that from the present standpoint, man was not the boasted lord of creation, but the exterminator of his species, and of all the animal creation, he showed the least regard for his mate, in that he often implanted into her system a disease which rendered her sterile.

Sterility from Vaginal Causes.—Dr. JAMES N. WEST said that a division of sterility in women into causes due to derangement of any particular parts of the system of generation was to a certain extent arbitrary and impossible, since such derangements graded insensibly from one part to another. Still, a study of the subject in this way had its advantages, in that it concentrated the attention upon details which might otherwise be lightly considered. The part which the vagina took in the physiology of reproduction was that of the chief organ of copulation in the female: its function was to produce the ejaculation of semen from the male and retain it in a healthy condition in such proximity to the cervix that it might readily find access to its canal. The causes that interfered with its function were congenital, pathological, traumatic, and psychical. Congenital causes: Among the congenital causes the reader discussed pseudo-hermaphroditism; congenital absence of the vagina; vaginal septa and bands and double vagina; congenital atresia; unusual changes due to congenital malformations; persistent hymen and imperforate hymen. Pathological causes: These the author considered the most frequent and necessarily the most important causes of sterility due to the vagina. Among them he mentioned new growths; carcinoma of the cervix; sarcoma; vaginal cysts; fibroids in the uterus or cervix occupying the vagina; syphilitic growths; inflammatory conditions resulting in abnormal secretions inimical to the life of spermatozoa. Traumatic causes: Among these he considered vesicovaginal fistula as one of the most striking. Complete procidentia was usually accompanied by sterility, but destruction of the hymeneum or the presence of a cystocele or rectocele seemed to have little influence in that direction. Atresia of the vagina due to the disease or trauma might act as a bar to normal insemination; the same was true of vaginismus, due to injury or disease. Psychological causes: The writer said it had been fairly demonstrated in a limited number of cases by good observers that incompatibility was a cause of sterility. Under this heading might also be included many cases of vaginismus in which the distaste for the sexual act produced a reflex contraction of the sphincter muscles of the vagina of such violence as to prove an effectual bar to copulation. In the treatment of congenital malformations of the vagina when the other organs were normal, Dr. West thought we were justified in resorting to any reasonable surgical measure for correcting it. The treatment of pathological conditions was suggested by the nature of the cause. In the case of new growths they should be removed, but when of malignant character, conception should be guarded against. When the sterility was due to an excessive and acrid secretion of acid mucus, it might be relieved by the judicious use of antiseptics and local applications, among which the very best was nitrate of silver. Local applications of alcohol sometimes seemed to have a very beneficial effect. The relief of sterility due to traumatic causes offered a wide field of usefulness, and operations for the relief of procidentia, cystocele, rectocele, lacerations, and vesicovaginal fistula at once suggested themselves. When the sterility was really due to psychological causes the physician could offer practically no relief. Finally, each case should be carefully considered on its own merits, its etiology thoroughly established, and a definite plan of treatment mapped out and persisted in until relief was obtained.

Sterility Due to Abnormal Conditions of the Uterus.—Dr. HIRAM N. VINEBERG said that sterility due to the uterus must be classified as primary and secondary. The first was that form in which the patient had never conceived. Secondary sterility was that form in which the patient had borne one or more children, but the last pregnancy and consequent delivery or other processes had induced such changes in the uterus that the woman was unable to conceive subsequently. The most frequent cause of primary sterility was the various degrees of arrest of development of the uterus. Gynecologists found no more difficult problem to solve than the determination in a given case whether the sterility be due to a uterus that was not sufficiently developed. Furthermore, it called for a great deal of experience in bimanual examination to be able to say definitely that the uterus was not of the size corresponding to full development. Still, in the vast majority of cases, one could distinguish a uterus that was so far below the normal as to be the cause of sterility. The reader said that in his experience, the most frequent form of arrest of development giving rise to sterility was that which resulted in a small uterus, not much more than half the size of the normal organ, with the cervix acutely anteflexed upon the body. In those cases, both the cervix and the body were proportionately small. Menstruation, as a rule, set in late, in the seventeenth or eighteenth year, was rather scanty, attended with or without pain and was usually regular until marriage, after which it became irregular, and in the course of two or more years, perhaps, ceased entirely. Such cases were, as a rule, hopeless. He knew of no form of treatment that would benefit them, and he recalled several cases in which great harm had been done by the so-called treatment for developing the uterus. The next most frequent variety was that commonly known as the "infantile uterus," with a long cervix and a very small body, rather acutely anteflexed upon the cervix. Dilatation, and the insertion of a stem pessary for a week or longer, sometimes was attended with a cure in these cases. The prognosis was generally good if the patient was still comparatively young. The third variety was that which was generally described as "congenital retroversion." In these cases both the cervix and body were comparatively long and slender, and seemed to lie in the same axis. The body was retroverted to the first or second degree and considerably to the left of the median line. In these the arrest of development seemed to involve the ligaments, especially the broad ligaments, as well as the uterus. It was this form that baffled most surgical procedures to remedy the existing displacement, owing to the poorly developed and short broad ligaments. The other common forms of malformation on the basis of arrest of development that were usually attended with sterility were (1) a peculiar formation of the vaginal portion known as "conical cervix," and (2) the occurrence of a very minute os externum, known as the "pin-hole os." The former condition was very characteristic and easily recognized, and the results of treatment were usually good if the remainder of the uterus was fully developed. In the latter condition the prognosis was good if the os externum was the only abnormality. Mere stretching was seldom sufficient, some plastic surgery usually being called for. Malpositions of the uterus in the nullipara might exist from other causes than arrest of

development. Pathological anteflexion of the uterus, not of developmental origin was not an uncommon condition and was prone to be attended with sterility. Of the other uterine conditions that might be the cause of primary sterility, endometritis of gonorrhœal or other origin deserved more than passing notice. An endometritis so pronounced as to be a barrier to conception was readily recognized. As a rule, a thorough curettage, together with a cauterization of the erosions that were usually found surrounding the external os, and the maintenance of drainage for a week or longer would effect a cure. The speaker said he thought that endometritis of gonorrhœal origin had been given undue weight as an etiological factor in barrenness. In the treatment of these cases, curettage should be followed by an application of a 20 per cent. solution of silver nitrate to the whole uterine canal, and the cavity then packed with iodoform gauze. It might be necessary to repeat the treatment several times. Acute gonorrhœal endometritis must not be tampered with. Fibromyomata of the uterus were the only growths the reader considered as a cause of sterility. Other growths he thought were such rare etiological factors that they did not merit discussion. Fibroid growths were uncertain factors in the causation of sterility: conception sometimes occurred in a uterus studded with them, while on the other hand a small, single growth might be so situated as to prove an impassable obstruction to the spermatozoa. In speaking of secondary sterility, Dr. Vineberg said the most frequent conditions of the uterus giving rise to it were (1) chronic metritis, and (2) very deep lacerations of the cervix. Other conditions requiring a passing notice were permanent hyperinvolution and atresia of the uterus following a rough curettage during the puerperal period, or a too vigorous curettage with or without the application of a caustic to the endometrium at a non-puerperal period.

Sterility Due to Tubal and Ovarian Conditions.—Dr. J. Riddle Goffe said that from the standpoint of location, the causes of sterility in women might be divided into two classes, namely, the extraperitoneal and the intraperitoneal. After a brief review of the physiology of ovulation and fecundation, the speaker said that the various pathological conditions that obstructed the progress of the ovum from the ovary into the uterus could be properly considered under three heads: (1) Those that related exclusively to the ovary; (2) those that related exclusively to the tube, and (3) those in which the ovary and tube were mutually involved. The ovary might be absent or in a rudimentary state, a most fatal condition for fertility. Complete absence of both ovaries was one of the rarest conditions: the absence of one ovary was not so unusual. The rudimentary condition, in which the organ was devoid of function, was occasionaly found. The most common affections, however, were those that resulted from inflammation, such as atrophy, cirrhosis, and cystic degeneration. When atrophy of the ovary occurred in women during the period of functional activity, it became pathologic. This premature atrophy had also been recognized as the result of alcoholism, syphilis, rheumatism and the acute exanthemata. Cirrhosis of the ovary was usually a process consequent upon an acute oophoritis. It was a form of chronic hyperplasia of the connective stroma, by which the follicles were compressed and eventually destroyed, the ovary being transformed into a mass of connective tissue. This condition not only caused sterility, but was usually attended with severe ovarian pain. As an antithesis to this we had hypertrophy of the ovary. This was usually recognized as the result of former inflammation or chronic congestion. This might affect the Graafian follicles, thus producing a large cystic ovary, or it might confine itself to the stroma, thus forming the first stage of the cirrhotic condition. As the result of more extensive inflammation, the ovary might be surrounded by plastic exudate and adhesions. This condition precluded the performance of its functions. As in the ovary, so in the tube we might have rudimentary development and congenital anomalies. In some instances the tube was found to be impervious, a solid cord throughout a certain portion of its course, or the fimbriated end might be imperforate. The most frequent pathological conditions, however, that were the cause of sterility were catarrhal, gonorrhœal, and septic salpingitis. These inflammations resulted in contorting the tube, or they might destroy the epithelial lining of the tube and so deprive it of its function in facilitating the passage of the ovum. Or agglutination might take place between the walls of the tube, causing permanent obstruction. The most common condition was that in which the fimbriæ, due to the inflammatory process, became agglutinated and the patency of the tube absolutely destroyed. These fimbriæ might even be completely inverted, leaving the end blunt and round—the so-called club-shaped tube. Cases of atrophy of the ovary were beyond the pale of surgical interference. In those cases attention must be paid to the nutrition, not only of the local condition, but also of the patient at large. Local treatment and electricity were of doubtful value, and the speaker said he had more confidence in exercise, especially bicycling and horseback riding. The cirrhotic ovary was more or less amenable to the same line of treatment, although whenever either of these processes was well advanced, it was most difficult to prevent its progress. Hypertrophied and cystic ovaries could only be relieved by surgical interference, and in all these operations the speaker favored conservative methods. Cases of pyosalpinx usually presented themselves not so much on account of the sterility as on account of the symptoms from which they suffered. Primarily, in these cases, the object was to relieve the individual suffering; indirectly to restore or produce a condition in which impregnation might be possible. Just what the scope and limitation of subsequent conservative work upon the tube might be was still awaiting the decision of further experience. It was the duty of every operator, however, to leave at least a portion of one tube in a child-bearing woman, so far as her condition permitted. When adhesions existed, they should be broken up and the organs set free. The interior of the tube should be explored to insure its patency, its freedom from obstructing poisonous material or dried particles of desiccated pus. This could be done by flushing out the tube with normal saline solution or passing a delicate silver probe loaded with antiseptics, such as carbolic acid or the tincture of iodine. When the fimbriæ were inverted it became a simple matter, under a saline douche, to massage the tubes, rotate them between the fingers and by gradually milking them out from the horn of the uterus to their extremity, gradually unfold the fimbriæ and restore the ampulla to its normal condition. This was far better than amputating the tube.

Dr. Herman L. Collyer said it was his practice to examine the semen in every case of sterility, and he had found that in at least 50 per cent. of those cases the men were impotent; some wholly, others partially. The total impotence was usually the result of gonorrhœal infection, while the partial impotence was often due to sexual excesses producing such a depletion of the seminal fluid that only immature cells were found in the semen. He thought that in some instances sterility was due to a lack of affinity between husband and wife.

Dr. Philander A. Harris said he thought the general practitioner could cure fully half of the *curable* cases of sterility. Many cases were curable by simple dilatation of the cervix uteri, the operation to be repeated as often as was deemed necessary. The speaker also mentioned congenital closure of both tubes as a cause of sterility: that congenital closure of one tube was possibly quite common.

Dr. S. W. Bandler said he thought that gonorrhœa was by far the most frequent cause of the various pathological changes that were mentioned by Dr. Goffe. In the vast majority of instances, gonorrhœa in woman was not recognized by the patient herself, by her husband, or by

he physician. In its chronic form, the disease gave most no symptoms, and still it might injure the ciliated pithelium of the tube to such an extent as to prevent the assage of the ovum into the uterus.

Dr. JAMES N. WEST emphasized the question of prophyxis in gonorrhœa. The disease was not only responsible r many cases of sterility, but for many deaths. Every ysician should do his utmost to prevent the spread of s evil. Medical teachers especially should bring home their students the importance of recognizing gonorrhœa the male, and a firm stand should be taken to prevent spread of the disease by marriage.

Dr. GALLANT referred to early masturbation and the ulting loss of sexual vigor and premature ejaculation as ible factors in the production of sterility.

Dr. VINEBERG said that if semen was merely placed on vulva, impregnation might follow. In dealing with ility due to congenital defects of the tubes, the speaker d that he did not think the outlook was very hopeful. me of those cases it was impossible to introduce even finest probe into the tube, and no sort of plastic operan would prove effective. Dr. Vineberg said he would advise any woman to submit to so serious an operaunless there were some other indications than steril- Opening the abdomen means a mortality, to say the t, of one per cent.

Dr. DUDLEY said he was heartily in accord with the sents expressed by Dr. Grandin, although the latter had n a stand that we could not work up to. It took e than the course of a natural life to reform a sex. Dudley said he had seen a number of cases of absence e vagina, and five cases of double vagina: three of the r cases he had seen pregnant, and one of them he had ined twice. The character of the vaginal secretion a very important factor in the production of sterility, must be compatible with that of the male, and the aker said he had succeeded in having quite a number pparently sterile women become fruitful by having the ina injected, at intervals, with a weak solution of rbonate of soda. To show that incompatibility might the cause of sterility, Dr. Dudley cited a case in which a band and wife lived together for twenty years without ing children. They then separated, and each of them rried again. The wife had children by her second hus-d, and the husband had children by his second wife. regard to the passage of the ovum from the ovary into uterus, the speaker said he did not think the tube was only factor in its progression, but that an additional very important factor were the constant intraabdom- movements incident to the act of breathing. In rd to the question of the removal of the tube for extrarine pregnancy, Dr. Dudley said he thought the pendun was swinging toward a more conservative method of ating those cases. After removing the products of conption, he saw no reason why the tube itself should be moved. Even if a second abdominal section subseently necessary for a recurrence of the same condition, would be easier than the first.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

At a stated meeting, held March 2, Dr. Solomon Solis hen and Dr. Randle C. Rosenberger read a paper en-ed "Preliminary Report of a Case of Enlarged Spleen d Liver, with Blood-changes Resembling Those of ti's Disease, Apparently Due to Malaria." They reted the case of a fairly well-developed Italian girl, said be only fourteen years old, but apparently older, o presented enlargement of the spleen and liver, with rked reduction in the number of red cells and percentage hæmoglobin, and no material change in the number or portion of leucocytes. There was reason to suspect alarial infection, but plasmodia could not be found in the lood until after the administration of quinine, when hyline and pigmented, spherical, and ovoid, free and intracellular, parasites, apparently of estivoautumnal type, made their appearance. Hemorrhage occurred from several mucous surfaces. Improvement in the blood-state and reduction in the size of the liver and the spleen took place under treatment, which, in addition to quinine, included arsenic and ergot, as well as ten-minute exposures twice weekly to the *x*-rays. Dr. J. Dutton Steele read a paper entitled "Additional Observations on Retroperitoneal Sarcoma." He dealt altogether with ninety-six cases of the disease, in part collected from the literature and including several under his own observation. The condition, while not common, is likewise not rare. Its onset is insidious and its course rapid. In addition to the emaciation and cachexia that develop in the progress of the disease, the principal symptoms are due to pressure, and they will vary in accordance with the situation of the new growth and the viscera with which it is related. The tumor may undergo degeneration and be the seat of hemorrhage, and thus come to simulate a cyst. The only hopeful treatment is surgical, a successful result having been secured in a small number of cases by this means. Dr. John H. Musser and Dr. Josephus T. Ullom read a paper entitled "A Case of Status Lymphaticus." They reported the case of a pallid boy, about five years old, with translucent skin and visible veins, who, previously well, was seized with intense dyspnœa, together with symptoms of profound shock, death taking place in a short time from cardiovascular failure. On physical examination there were dulness over the upper portion of the sternum, irregular areas of impaired resonance over both lungs and loud bubbling and gurgling râles. Post-mortem examination disclosed, in addition to a large, persistent thymus gland, evidences of a mucopurulent laryngotracheitis, bronchitis, and disseminated bronchopneumonia. Dr. Wm. G. Spiller read a paper entitled "Points of Resemblance between Paralysis Agitans and Arthritis Deformans." He dwelt more especially upon the rigidity of the spine and the extremities, the deformities of the former, the ulnar deflection of the hands, the flexions and extensions of the phalanges. He referred to a case in which the rigidity and the deformities were strongly suggestive of deforming arthritis, although the tremor was equally suggestive of paralysis agitans. After death the lesions of the former condition were wanting, and the absence of definitive histologic changes permitted a diagnosis of the latter.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

At a stated meeting, held March 9, Dr. J. F. Schamberg discussed "The Cutaneous Manifestations of Syphilis," illustrating his remarks with lantern-slide demonstrations. He stated that the color of syphilitic lesions of the skin, which is usually described as coppery or as ham-like, is not to be depended upon, as often they are entirely without redness, while other affections of the skin may present such an appearance. Polymorphism of the lesions is a distinctive feature of the syphilitic cutaneous manifestations. Further, the secondary lesions of the skin are generally symmetrical and superficial, the tertiary lesions deep-seated and irregular in distribution, with a tendency to be circumscribed or localized. In the diagnosis, consideration must, of course, be given to the history, the presence or the absence of other evidences of syphilis, and sometimes to the therapeutic test of administering mercury and iodine. Illustrations were shown of various types of syphilitic lesions and also of a number of conditions simulating syphilis. Difficulties in diagnosis may arise in relation to smallpox, psoriasis, epithelioma, acne, and lupus. Dr. J. M. Swan read a paper entitled "Visceral Syphilis." He considered especially the invasion of the lungs, the stomach, the liver, and the kidneys. In any of these viscera the morbid process may result in the formation of gummata or of interstitial fibroid hyperplasia. The symptoms may resemble those of other disorders of the same organs, and the diagnosis will have to be based upon a history of

infection, upon the presence of other characteristic lesions, and upon subsidence of the symptoms under active antisyphilitic treatment. Several illustrative cases were cited. Dr. C. W. Burr presented a communication entitled "Syphilis of the Nervous System." He stated that there are no symptoms distinctive of this disease as occurring in the brain and spinal cord, but that their irregularity and their multiplicity are characteristic. Cranial nerves are often involved, but multiple neuritis of syphilitic origin he deemed rare, if it occur at all. A condition of neurasthenia at times develops i the syphilitic patient, and may require especial attention. The symptoms of syphilis of the nervous system do not set in abruptly, and they may be temporary. Some form of oculomotor paralysis is often an early symptom. Especial attention was directed to syphilis of the vertebræ, which may closely simulate tuberculosis spondylitis. It is of the utmost importance to recognize so-called pseudoparesis dementia, which is due to syphilitic disease of brain and meninges, as this disorder is susceptible of marked improvement if not absolute cure, whereas true paretic dementia is incurable. A similar statement is applicable to other syphilitic affections of the nervous system. Dr. H. M. Christian read a paper on "The Treatment of Syphilis." He expressed the belief that secondary syphilis is wholly and entirely curable, while tertiary syphilis must be considered incurable. He pointed out the difficulty encountered at times in making a diagnosis as between chancer and chancroid, and the wisdom, accordingly, of awaiting the appearance of cutaneous manifestations before instituting treatment for syphilis. When the diagnosis has been definitely established, some form of mercury should be administered, by the mouth, if possible and there be no urgency; through the skin, by inunction or hypodermic injection, in accordance with the severity of the symptoms and the gravity of the conditions presented. The general health of the patient should be carefully looked after. Mercurial treatment should be systematically continued for eighteen months, after which iodine in some form should be administered for an additional six months. Large doses of either drug are, as a rule, not necessary, sufficient only being given to obtain the desired therapeutic results. By this mode of treatment cure should be effected in about 75 per cent. of cases.

Pittsburg Academy of Medicine.

At the regular meeting held March 8, 1904, the President, Dr. Ewing W. Day, in the chair, Dr. John W. Boyce read the paper of the evening on "Myocardial Changes from the Clinical Side." He said that myocarditis had never received the attention to which it was entitled, especially as compared with disease of the endocardium. In fact, even in valvular disease, the condition of the myocardium was the most important element. To illustrate how well valvular lesion might be tolerated, he cited a number of cases, including one in which death occurred, apparently of old age, the patient having had a mitral regurgitation a large part of her life. Clinically it is not possible to draw the numerous distinctions that are noted pathologically, the important question always being whether or no any organic disease is present. Among symptoms a characteristic facies, a loss of general energy, and pain behind the sternum were noted. Physical signs mentioned were, in the pulse, character; in the heart, sounds; lack of quality or abnormal rhythm. Occasionally a mitral regurgitant murmur is present, due to lack of muscular tone. The distinctive points in three cases were related, one being without symptoms, another resembling gastritis, and a third neurasthenia. The paper concluded with a plea for the minute clinical study of such cases, and the application of the knowledge so gained, to weakness of the circulation wherever it occurred, particularly in the course of acute infections. Dr. Eaton referred to a case in the Massachusetts General Hospital, during the service of Dr. Whittier, of a child aged twelve years, with indefinite chest symptoms, who had a history of scarlatina to which the myocardial affection was traced. He has not since seen such cases frequently in private practice, but thinks it well to bear these things in mind. Dr. Pettit thought that our tendency was to overlook causes other than rheumatism for heart troubles. He thought scarlatina was frequently a factor. He reported a case of a minister whom he had frequently examined for a number of years before his death. Three years ago this man contracted la grippe previous to which time no heart trouble existed, but following la grippe, increasing cardiac symptoms were noted, death being due to myocardial changes. Dr. Patterson referred to excessively weak heart associated with influenza. He was not certain whether it was due to toxæmia or not; but thought that in cases in which after health was apparently established, and the heart remained weak, that a myocardial change had taken place. He reported one case, a woman, who after an attack of grip, had a typical myocarditis. He thought that the heart should always be closely watched in influenza, and especially this year, for, though the cases seemed mild yet the heart was often profoundly affected.

Dr. Arbuthnot thought that too much attention had been paid to the endocardium, or, rather, too little to the myocardium. Dr. Montgomery reported a case diagnosed as tuberculous pericarditis. Family history negative. Patient suddenly developed malarial symptoms with chills and fever of four weeks' duration. The patient was emaciated, appetite good. Face sallow with brown spots, almost a leucoderma. Heart seemed slightly dilated; apex beat forcible, low in location, in ninth or tenth intercostal space, and had a splashing sound. The symptoms were not progressive. The patient quit work, went to Florida, and has not been heard from. He asked the opinion of Dr. Boyce and the Fellows as to diagnosis, and especially as to excessive downward displacement of the apex beat. Dr. Boyce said that the forcible, diffuse apex beat and distinct heart sounds refuted the presence of fluid in the pericardium. He did not see any basis for suspecting a tuberculous factor in the case. A rapid tuberculosis is usual when there is a history of sudden onset with chills and fever at the outset; therefore the fact of this patient getting better afterward instead of worse, was against tubercle. Then again the sudden onset of the attack was against valvular disease. He said he would suspect for ulcerative endocarditis with subsequent development of aneurysm of heart. He thought we should analyze our weak pulse into heart and peripheral causes. In cases of myocardial changes, he thought there were some good unchanged fibers that would hypertrophy. In regard to scarlatina he did not wish to lessen the importance of endocardial lesions, but thought usually the muscle fibers were strong.

Dr. Patterson reported a case of an elderly man who had been treated with methylene blue for forty-two weeks by an irregular practitioner. The man died of malignant disease. For some time previous to death the bladder was washed out, and in it were found crystals of methylene blue, varying in size from granules to size of pea. He wished the opinion of the Fellows on the chemistry of this case. Dr. Eaton suggested the possibility of a chemical combination with uric acid.

St. Louis Medical Society.

At the meeting of this society on February 27 a "Report from the Committee on Public Health and Legislation" was presented. The question of the milk supply was taken up and a resolution adopted opposing the ordinance recently introduced in the House of Delegates to take the place of the present law on milk supply. The City Chemist. Mr. Bernays, read a report which showed the quality of milk had improved since the present law has been in force. The law provided for a minimum amount

fat constituent of the milk at 3 per cent., and the port showed that from 55 per cent. to 75 per cent. of e samples examined contained more than 3 per cent. fat. The report also showed that no deposits (dirt, c.) were now found in samples and that coloring matter d preservatives had been eliminated entirely. Dr. bert Merrell of the Board of Health said there were tween seven and eight thousand cows in the city kept in -called dairies under conditions useless to describe. der the present law the conditions had greatly im-oved, and if nothing else had been accomplished than e results as shown by the report of the City Chemist, is alone would justify the support. Another feature the present law was the temperature clause which required at all milk should be delivered to the consumer at a tem-rature not over 50° F., and the samples examined in-ated that less than 10 per cent. of the milk was sold at a mperature above 50° F. The most reliable preserva-e was the promptest possible refrigeration of the milk er it was drawn from the cow and the maintenance of a mperature not over 50° F. Dr. Merrell stated that the dinance recently introduced was solely to permit all sorts sophistication of that questionable fluid called milk. e did not know who drew up the proposed law, but ought it was drawn up by the attorney for the Dairy-en's Association. Dr. Bernays said the ordinance ferred to contained no reference to the fat constituent the milk, and that even if it was watered until it con-ined less than 2.8 per cent. of fat it would be necessary prove that the vendor knew it e so watered, and also that he w it was sold for consumption a food by families, neither of ch facts could be proven. In opinion the ordinance would rd no protection whatever.

On the question of garbage re-oval, the following resolution was opted: "In view of th ineffective d inadequate method by private ntract, as proved by past experi-ce in this city, this society would gest a trial performance of this rk by a carefully regulated nicipal service before recourse is again had to the stem of removal by private contract."

Another ordinance recently introduced in the House of legates was a subject of discussion. This was an ordi-nce providing for a maximum salary of $10,000 per r each for the Comptroller, the Water, Sewer, and eet Commissioners, while the salary of the Health mmissioner was to be only $5,000. The society adopted olutions stating that the public health interests were cond to none in importance and demanded for their oper administration a degree of skill, training, and ability al to those of any other department of municipal vernment, and that the developments and advances protective medicine and sanitary knowledge for the ving of health and life had placed the members on a entific footing unsurpassed by any other, and justified demand for compensation commensurate with the ghtful claims of any other learned profession or scien-ic calling, and deemed unfair the discrimination in salary mpensation against the Health Department as com-ared with the legal, fiscal, and engineering departments.

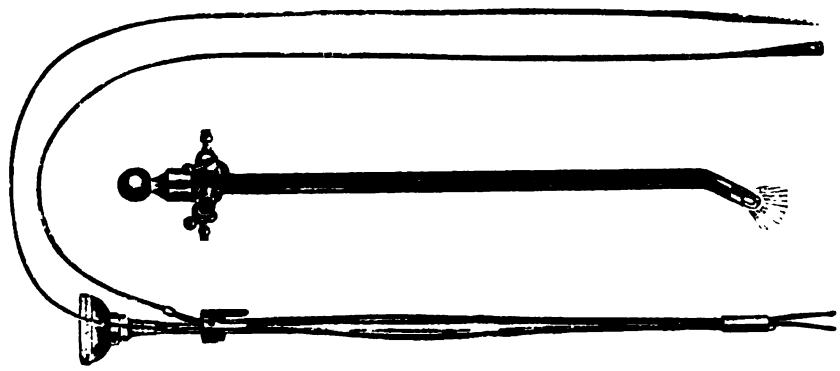
Hospital Fees at Harvard.—A rule has just been assed at Harvard providing that students in the ambridge departments of the university, namely, he college and Scientific School, shall pay $4 each ear for the maintenance of the Stillman Infirmary. tudents in the other departments of the university re not compelled to pay the, fee but can do so if hey wish. The fee gives any student the right to tay in the hospital as long as he is sick.

New Instruments.

A SIMPLIFIED IRRIGATING CYSTOSCOPE FOR OBSERVATION AND URETER CATHETERISM.*

By FOLLEN CABOT, M.D.,
NEW YORK.
VISITING PHYSICIAN, CITY HOSPITAL; ATTENDING GENITOURINARY SURGEON, PRESBYTERIAN HOSPITAL DISPENSARY; INSTRUCTOR IN ENDOSCOPY AND CYSTOSCOPY, N. Y. POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

After considerable clinical experience with various cystoscopes, particularly the direct-view type of instrument, I have devised the instrument I am about to demonstrate clinically before the society. My chief aim in devising this instrument has been to make it as simple as possible, and yet without sacrificing any of its usefulness. In carrying out this idea, I have, I believe, sacrificed no essential parts and have added something, I hope, in the way of a very practical and easily handled direct view cystoscope for irrigation, observation, and ureter catheterism. The sheath of the instrument, as can be seen, is somewhat oval in outline, is of the calibre 24 French, and is very easily introduced into the male bladder. As in the Brenner cystoscope, one telescope only is used for both observation and ureter catheterism. Like the Brown instrument, it is arranged for catheterism of both ureters at the same time. Owing to the ovoid form of the sheath, room is saved, and



permits of a larger telescope for ureter catheterism than in the Brown instrument. This larger telescope gives a sufficiently good field also for observation. In this way it makes a change of tubes unnecessary. The ureters are more easily found, and without change of telescopes we are in a position to catheterize them immediately. This is an important matter, as I have by considerable experience found. The catheters, which should be twenty to thirty inches long and black at the ureter ends, lie in the bottom of the lumen of the sheath, and are held in position by the telescopic tube above and the sheath below and on the sides. No separate chambers being used except at point of entrance for a half-inch. The catheters are carried to the end of the telescope and supported there by a bridge undivided and one-half inch long. This gives a point of fixation in introducting the catheters into the ureters. The absence of separate chambers for the catheters has served the purpose of making the instrument very easy to clean and somewhat simpler, but most important of all it permits of the easy withdrawal of the cystoscope, leaving the catheters in the ureters. It is done, as I shall demonstrate to the society, in the following manner:

After the catheters have been introduced into the ureters 4–6 inches, the telescope is withdrawn from the sheath for about three-quarters of an inch. This movement permits us to grasp the exposed

*Demonstrated at a meeting of the Harvard Medical Society of New York.

catheters with the left hand and with the right pull the telescope the rest of the way out. At the end of the telescope we come to the bridge. Here we lose half an inch, then completely withdraw the telescope. We now have thrown our two catheters into the lumen of the sheath. The sheath is now easily withdrawn as we feed the catheters into its lumen. The catheters now alone remain, one in each ureter, protruding from the urethra. We can in this way collect as much urine as we wish, leaving the catheters in place several hours if necessary. The importance of removing the instrument in some cases is considerable, making the discomfort to the patient so much less. In fact, many patients cannot tolerate the cystoscope long enough to allow us to collect sufficient urine for examination.

Before introducting the cystoscope we should always test the light; then after attaching rubber tubes 6–8 inches long on each irrigation cock, we put the obdurator in place, introduce the instrument very gently, then, by the use of a 3½ piston syringe, fill the bladder through the irrigating attachment. A warm boric-acid solution, about 2 per cent., is the best. The telescope is now put in position with the catheters in place, and after it has been screwed in place the light is turned on. If necessary we can now add more warm boric acid solution. We should, if possible, use from 4 to 6 ounces of fluid, but much less can be employed with success. Air in certain cases may be used in place of fluid for distending the bladder.

In conclusion I may say that this cystoscope is extremely simple, is easily introduced, can be used in male or female, is easily cleaned, is very moderate in price, and fulfils the conditions I have spoken of very well. The Wappler Electric Controller Co. of New York are the manufacturers. The lamps are cold, and are therefore free from any danger of burning the bladder or urethra.

129 East Thirty-first Street.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Jessner's dermatologische Vorträge. Heft 1; Haarschwunds, Heft 12: Syphilide; 11 Teil: Therapie. C. Kabitzsch, Würzburg, Germany.

System of Physiologic Therapeutics, Volume VII. By Drs. John K. Mitchell and Luther Halsey Gulick. Edited by Dr. Solomon Solis Cohen. 8vo, 420 pages, illustrated, muslin. P. Blakiston's Sons & Co., Philadelphia, Pa.

Éléments de Pathologie et de Clinique Chirurgicales. Par le Dr. Léon Moynac. Huitième edition, Tomes Premier, Deuxième et Troisième. 8vo, 1 to 624, 1 to 585 and 1 to 648 pages, illustrated. G. Steinheil, Paris, France.

Atlas and Epitome of Operative Gynecology. By Dr. Oskar Schäpper. 8vo, 138 pages, illustrated, muslin. W. B. Saunders & Co., New York. Price, $3.00.

Diseases of the Nervous System. By Dr. H. Oppenheim. 8vo, 953 pages. Illustrated. Muslin. J. B. Lippincott Company, Philadelphia.

Royal Society: Reports of the Sleeping-sickness Commission. No. 4. By Lieut.-Col. David Bruce, Dr. David Nabarro, and Capt. E. D. W. Greig. 8vo, 86 pages, illustrated. Harrison & Sons, London. Price, 6s. and 6d.

Obstetrics for Nurses. By Dr. Joseph B. De Lee. 8vo, 460 pages, illustrated, muslin. W. B. Saunders & Co., New York. Price, $2.50.

Transactions of the American Dermatological Association. By Dr. Chas. J. White. 8vo, 213 pages. Illustrated. The Grafton Press, New York.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending March 19, 1904:

	Cases.	Deaths.
Measles	1454	35
Diphtheria and croup	406	40
Scarlet fever	491	28
Smallpox	...	1
Varicella	102	...
Tuberculosis	457	209
Typhoid fever	29	9
Cerebrospinal meningitis	...	16

Lumbago.—Sir W. Gowers suggests that diaphoresis should be resorted to early; also hot fomentations and rest is very essential. Massage and electricity should not be used at first; when used, a very mild Faradic current is the best form. A saline in the morning is very important. Salicylates have little influence; the best drugs are nitrous ether, citrate of lithium, and colchicum in the early stages. In very severe cases daily injections of cocaine are useful.—*British Medical Journal.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S Marine Hospital Service, during the week ended March 19, 1904:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
California, San Francisco	Feb.	21–28	5	..
District of Columbia, Washington	Mar.	5–12	2	..
Florida, Jacksonville	Mar.	5–12	2	..
Illinois, Belleville	Feb.	26–Mar. 12	2	..
Chicago	Mar.	5–12	1	..
Danville	Mar.	5–12	1	..
Galesburg	Mar.	5–12	1	..
Maine, Madawaska region	Feb.	27–Mar. 5	11	..
Maryland, Baltimore	Mar.	5–12	2	..
Michigan, Detroit	Mar.	5–12	1	..
Missouri, Saint Louis	Mar.	5–12	11	..
New Hampshire, Manchester	Mar.	5–12	5	..
New Jersey, Camden	Mar.	5–12	2	1
New York, Buffalo	Mar.	5–12	4	..
New York	Mar.	5–12	5	..
Ohio, Cincinnati	Feb.	26–Mar. 11	7	1
Dayton	Mar.	5–12	2	1
Toledo	Mar.	5–12	1	..
Pennsylvania, Johnstown	Mar.	5–12	1	..
McKeesport	Mar.	5–12	1	..
Philadelphia	Mar.	5–12	48	6
Pittsburgh	Mar.	5–12	2	1 import
South Carolina, Charleston	Mar.	5–12	1	..
Greenville	Mar.	5–12	9	..
Tennessee, Nashville	Mar.	5–12	12	..
Wisconsin, Milwaukee	Mar.	5–12	3	..

SMALLPOX—FOREIGN.

Austria, Prague	Feb.	20–27	9	..
Belgium, Antwerp	Feb.	14–21	7	4
Canada, Ontario, 24 localities	Jan.	1–31	103	..
Quebec	Mar.	5–12	3	..
France, Marseilles	Feb.	1–29	..	2
Paris	Feb.	20–27	38	8
Great Britain, Edinburgh	Feb.	20–27	16	13
Glasgow	Feb.	26–Mar. 4	30	2
Hull	Feb.	20–27	6	..
Leith	Feb.	20–27	3	..
London	Feb.	20–27	5	..
New-Castle-on-Tyne	Feb.	20–27	5	..
Nottingham	Feb.	20–27	14	..
India, Bombay	Feb.	9–16	..	5
Karachi	Feb.	7–14	5	1
Italy, Palermo	Feb.	20–27	1	..
Malta	Feb.	13–20	1	1
Mexico, La Cananea	Mar.	9	Present.	
Magdalena	Mar.	9	8	..
Torreon	Feb.	24	Epidemic.	
Netherlands, Amsterdam	Feb.	20–Mar. 5	2	..
Russia, Moscow	Feb.	13–20	8	1
Odessa	Feb.	13–20	2	..
St. Petersburg	Feb.	13–27	17	5
Spain, Barcelona	Feb.	1–29	..	7
Santander	Feb.	22–29	4	1
Turkey, Constantinople	Feb.	21–28	..	5

YELLOW FEVER—UNITED STATES.

Texas, Laredo	Mar.	14	1	..

It is not yet determined whether this case is imported or not. All precautions taken.

YELLOW FEVER—FOREIGN.

Mexico, Merida	Feb.	28–Mar. 5	1	2

CHOLERA.

India, Calcutta	Feb.	6–13	..	19
Madras	Feb.	6–13	..	1

PLAGUE—FOREIGN.

California, Concord	Feb.	20	..	1 death.
	Bacteriologically confirmed Mar. 12			
Egypt, Alexandria	Jan.	30–Feb. 13	1	..
India, Bombay	Feb.	8–16	..	550
Calcutta	Feb.	6–13	..	45
Karachi	Feb.	7–14	69	34

Medical Record

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Original Articles.

HIP AND THIGH AMPUTATIONS FOR SARCOMA OF THE FEMUR.*

BY GEORGE F. SHRADY, M.D.,
NEW YORK.

The well-known malignancy of sarcoma of the femur, for which hip amputation is the only and often ineffectual treatment, invests with peculiar interest the following case of absolute cure of the disease by the simple thigh operation:

The patient, a native of New Brunswick, N. J., was twenty-two years of age when he consulted me in October, 1882, for the treatment of a tumor situated over the inner condyle of the left femur. During the winter before he injured his left knee by accidentally jumping on a snow plow. The pain and swelling from the bruise disappeared after a rest of a few weeks and he suffered no inconvenience until the following August, when a new enlargement on the inside of the joint appeared and was supposed by his attending physician to be due to commencing scrofulous disease. When the patient was admitted to the hospital two months after this diagnosis had been made he presented a well-defined nodular elastic growth in the situation indicated, and firmly attached to the bone. The diagnosis of osteosarcoma was made and amputation at the hip was advised. Not being willing to submit to such a radical measure, he returned home in the hope of obtaining relief from his suffering by other means. He remained away for a month, during which time the growth had increased and the persistent and increasing pain had necessitated the constant use of morphine. He still objected to hip-joint amputation but finally consented to removal of the thigh. In order not to leave the least vestige of doubt as to the character of the tumor, an exploratory incision was made immediately before the operation, when the growth was found to be a subperiosteal spindle-cell sarcoma. The section of the limb was made near the hip as far as possible from the diseased parts.

The specimen was presented to the New York Pathological Society at its meeting December 13, 1882, and showed the usual and characteristic appearances of a subperiosteal growth involving at one point the medullary cavity. At that time, in the course of a discussion on the malignancy of the tumor, I stated that the prognosis of the patient was so grave that I had but little, if any, hope that he would escape a recurrence or a metastasis. Strange to say, however, no subsequent trouble ensued and he is still alive and well, now over twenty-one years after the operation. It seems quite warrantable then to state that the cure is complete, even after simple amputation of the thigh.

Not only is the case unique as to the time which has elapsed since the operation and the fortunate opportunity of verifying the fact, but in some other respects the study of some of its features may, perhaps, bear on the prognosis in similar conditions when ordinarily there would appear to be no hope of ultimately saving life. Recurrence or metastasis is the rule in sarcoma. Why one or other should not occur in a well-developed case such as this one is somewhat of a mystery, and still more strange is it that the disease should be cured short of entire removal of the affected bone. When it is understood that the distribution of the disease is by means of cell elements in the blood current, it is easy to assume that there is some chance for the patient when the original growth is firmly encapsulated and confined to comparatively narrow limits. In support of such a supposition it is amply proven that when once the barrier is broken down extension and metastasis take place with great rapidity. So far, then, this disposition gives the most forcible argument for the early operation. It is quite evident in the present instance that the amputation proved effectual because it happened to be performed at a time when the growth was absolutely localized and circumvallated. Although this may be a reasonable explanation for non-recurrence of the disease, there is, however, never any absolute guarantee against the ready spread even of an early recognized growth, as perfect encapsulation is oftener the exception than the rule in such cases. Still it must be remembered in this connection that there is not so much liability to metastasis in the small spindle-cell sarcoma as in the giant round-cell variety.

Bearing also on this phase of the question it is a well-acknowledged fact that exploratory cuts into these tumors are very apt to be followed by metastases. The reasonable explanation for this is the escape of the free colonies of cells into the freshly opened mouths of the blood-vessels and into the lymph spaces of the contiguous cellular tissues. Such incisions, however, were made in the present case and no harm followed. Obviously the danger of dissemination would be greater in proportion to the time allowed to elapse between the preliminary incision and the subsequent operation. The argument would thus be in favor of the exploration immediately before the operation, as there should be no excuse for a mistaken diagnosis in view of possible loss of opportunities in other directions. The adoption of such a measure has saved many limbs which might otherwise have been ruthlessly sacrificed. On general principles, then, this practice should be the rule at any risk.

The relation of traumatism to sarcoma is quite well established, especially in connection with tumors of the extremities, but why the same kind of injury should occasion the disease in one person and not in another is still somewhat of a problem. This leads us quite naturally to the consideration of the question of hereditary predisposition to neoplastic growths in certain individuals. Although this has not been definitely proven, the question is still open along more than merely conjectural lines.

The embryonic theory of Cohnheim still has its advocates in spite of the more recent one of microbic infection. Neither, however, can hold its own in the face of our present pathological views of malignancy

*Read before the Practitioners' Society, February 5, 1904.

in tumors. Behind all arguments for or against either view it must be assumed that there is a certain susceptibility to neoplasms in some individuals and not in others.

Each cell composing the body must have a vitality of its own whereby its destiny of differentiation and adaptability to systemic requirements is determined. These relations may be disturbed at any time, and a reversion may take place in consequence, the cell elements assuming embryonal qualities and atavic proclivities. When the process is once started there is a riotous disposition to ignore all laws of normal development. What lends force to such a conjecture is the fact that the determining cause of malignancy must be always direct and local.

This is substantially Ribbert's theory of malignancy in tumors and has many points of plausibility. In connection with Weizert he first published his observations in 1895 (*Deutsche medizinische Wochenshrift*), and further elaborated them in the same periodical in December, 1901. It may be called the theory of cell-disassociation, as distinguished from the strictly "organic" relation of cell development.

Among the causes that could give rise to this disturbance, Ribbert mentions simple inflammation, traumatism, and replacement hyperplasia, with of course the admission of some sort of predisposition in the affected tissue. If speculation could be carried farther, we might apply the ion theory of disturbed relations of vital forces in the implicated cells in explaining this misdirected activity. In spite of the ingeniousness of this theory, it must be admitted that it does not account for all the conditions of clinical experience, as by the adoption of the hypothesis as a whole it would be impossible for any patient to be safe from a recurrence of malignancy in any inelective part of the body, even after the original localized growth had been effectually extirpated. Granted a general receptive quality in his tissues, the slightest provocation might start a malignant growth entirely independent of the original trouble. As it is, however, we can, clinically at least, always trace a direct relation of such growths to the primary tumor as if demonstrating a distinct local receptivity in each individual. It is the question of the leaven spreading gradually through the lump after having been started in the given direction.

What appears to be a fundamental objection to the parasitic theory of malignant growths is the claim that a specific infection is capable of instigating an active proliferation of entirely new cell tissue totally different from any other process known to biology. Under all other conditions of infection Nature resents the invasion by leucocytosis, phagocytosis, and the action of the antibodies. By such protective agencies it strives to overcome the complicated local and systemic influences of the attacking poison. The false membrane in diphtheria and the tubercle nodule of consumption are striking instances in point. In both these are the elements of resistance and defence, but not a disposition to produce new tissue capable of propagating itself on its own account.

The law of cell development as applied to normal or even neoplastic tissue growth is strongly opposed to such an hypothesis. The greatest drawback of all is that no parasite has yet been demonstrated to prove any such relations of cause and effect.

Not even in cancer, in which there have been so many attempts to inoculate the disease, has any distinct success crowned the efforts of experimenters. It is true that the cell elements have been transplanted from one animal tissue to that of another, but this was by a species of engrafting rather than by inoculation. The experiments proved, perha that there was in these cases merely a local rec tivity to independent cell action. What more we say while swinging around the circle of conj ture?

Great is the pity, then, that in the present st of our inquiries the parasitic theory has no stronger hold on plausibility, inasmuch as its ab lute substantiation might afford new hope for cure of what is now considered the most formida and intractable of maladies.

To descend, however, from theory to fact, the m interesting point of all connected with the pres case is the cure of the patient in the face of alm overwhelming previous testimony against such possibility.

So far as can be learned by a reasonably exha tive study of statistics, it appears to stand virtu alone as an instance of cure after simple amputat of the thigh. Even in hip amputation the num of recoveries is very small.

Mr. Henry T. Butlin, whose thorough study operative procedures for malignant growths made him the leading authority on the subject, collected sixty-eight hip amputations for sarc of the femur and has been able to find but one that remained well sufficiently long to be con ered cured. In answer to a recent request for further data he writes under date December 1903:

82 HARLEY STREET, LONDON W
DECEMBER 23,

I am much interested in your letter, and shall forward to the publication of the case.

I have not been through the latest literature on periosteal sarcoma of the femur; for I have not had sion to do so, and have been very busy in other direct But, I am sorry to say that the results of amputatio subperiosteal sarcoma of the femur have not, in my e rience, improved in the least since the second edi of the "Operative Surgery of Malignant Disease" published. The last cases which I directly publis so far as I remember, were recorded in the *Practitioner* the year 1896. They were published chiefly for the of the radiographs. All the three young women suff from subperiosteal sarcoma. In two of the three I formed the (thigh?) amputation, while the operation the hip-joint) in the third was performed by Mr. San of Oxford.

I amputated very high above quite moderate circumscribed disease, so far above it, that the inci passed through the bone some two inches or more ab the well-defined upper limit of the tumor in the interi the bone. But, in both these cases, there was quite e recurrence and generalization of the disease. In the th case, where the amputation was performed at the joint, the fatal result was deferred for a much longer ti although the primary disease had existed much longer the extent of the disease necessitated an amputation at hip-joint.

I shall certainly advise amputation at the hip-j when my opinion is asked in a case of this disease.

Your case is the more interesting because the amp tion was performed through the thigh. But, it is so g an exception to the general rule that I am afraid it m not be used as an encouragement to amputate through thigh in similar cases.

Dr. W. B. Coley, who also has given much stu to the subject, especially in connection with the of his toxins for inoperable cases writes:

5 PARK AVENUE, December 11, 190

In reply to your letter of the 10th inst., in regard your case of amputation of the thigh for periosteal coma of femur, well twenty-one years afterward, I wo say that the only cases of probable cure of sarcoma of femur known to me, are the following:

1. Case of sarcoma of the lower end of the fem operated upon by Dr. D. H. Agnew, sixteen years ago (h joint amputation). Patient is still well.

2. Case of osteosarcoma of the femur—amputation the hip-joint by Dr. Wm. T. Bull, at the New York H pital, followed by severe infection of the stump—probab streptococcus. Patient well six years afterward.

3. Periosteal sarcoma of the lower end of femur, case Dr. J. D. Rushmore of Brooklyn. Patient, a girl irteen years of age, whom I saw in consultation and vised amputation at the hip-joint. The case was well en last seen, five years after operation.
4. Osteosarcoma of the femur. Amputation at the -joint performed by Dr. W. L. Robinson of Danville, ., in 1898; the mixed toxins given as prophylactic er operation. Patient remained well for over three rs; then had a recurrence in the iliac fossa, which ppeared under renewed toxin treatment. The patient s well when last heard from.
5. Case of Dr. A. P. Gerster of New York. The ient, a girl of about twenty, was considered beyond putation four years ago and was treated with the mixed ins with entire recovery. The patient is well at present. roscopical examination in this case was made by Dr. ndlebaum and confirmed by Dr. T. M. Prudden, the ase being pronounced typical giant-celled sarcoma.
I have performed hip-joint amputation in seven cases, e times for sarcoma of the femur, twice for sarcoma he thigh. The only case that has remained well over e years is a sarcoma of the thigh. In this case the ns were used.

Dr. Frederic S. Dennis (*Medical News*, January 1888), who has also collected large number of tistics and has performed several hip amputa- s for femoral sarcoma, reports no recoveries.
Dr. John A. Wyeth (*Journal of the American Medical ociation*, May 18, 1901), in a paper on "Hip-joint putations," has tabulated 267 cases performed by method. Of these 131 were for sarcoma of the ur with only five test recoveries exceeding the e years' limit of non-recurrence.
he whole number of successful hip cases that re- ed well three years and more after the opera- amounts to barely eleven. Weir and Griffith one free for over three years, Freeman and ley 1 each for 4 years, Rushmore 1 for 5 s, W. T. Bull and Shropshire 1 each for 6 s, Phillips and Dugan 1 each for 7 years, Sherman 9 years, and D. Hayes Agnew 1 for 16 years. lo not include in these the cases of Robinson and ter as reported by Coley, inasmuch as in one s was a recurrence and in the other no amputa- was possible, the ultimate cures, according to y, being due to to the use of the toxins.
the theory of dissemination of sarcoma is at all ble it should have a bearing on the kind of opera- that should be performed. On general princi- it follows that so long as the disease is limited given locality the removal of the affected part that is necessary to ensure a cure. Contrari- when metastasis occurs no operative procedure any benefit. Also when a tumor is situated on xtremity amputation should give the best pos- guarantee of thorough extirpation of local dis- , provided the parts through which the section is e are unaffected. There are, in fact, no other anations for recoveries after a single operation. ay be surgical heresy to ask why a thigh ampu- n under such favorable circumstances should be as successful as the one so generally advised he hip, but the question is not without its sig- ance.
t does not prove because hip amputation may e been successful in eradicating the disease that ething short of it would not do as well. Other- hip amputation would be uniformly successful. we know is not the case, recurrence taking place st as frequently in them as in the thigh amputa- s. An explanation for the latter conditions ht be offered on the ground that after the medul- y cavity of the bone becomes invaded there is no re chance for one operation than the other.
ut this is not so plausible as at first sight it might n to be. It cannot be proved that the marrow the principal medium of neoplastic cell dissemina- n. On the contrary the extension of disease in the medullary cavity of a bone is a comparatively slow process even in central sarcomata. Nature makes every effort to wall in the growth by adventitious material and even throws out extra bulwarks of new bony tissue to that end. Hence the direction of concentric expansion is through the compact bone rather than longitudinally along a comparatively easy and otherwise unresisting course.

A secondary invasion, however, of the medullary cavity by extension of a subperiosteal growth implies destruction of intervening bone and a corresponding infiltration of contiguous soft parts. When this occurs the growth is no longer a local one and general dissemination is inevitable. The mere invasion of the marrow is thus a matter of secondary consideration, as the migrating cell colonies have already taken another route.

It necessarily follows then that the surgeon must always take the chance of operating at the only fortunate time when a thigh amputation might be as successful as one of the hip.

Personally, I am strengthened in this conviction by noticing the frequency with which the metastasis occurs while the stump wound remains free. When there is a local return of the disease it is obvious enough that the original growth was not entirely extirpated, but this fact is in no sense an argument in favor of removing the entire femur or nothing, any more than insisting upon a primary resection of the thoracic wall for mammary cancer, in the fear of recurrence in the contiguous intercostal spaces.

In the majority of instances it is entirely a question of either primary or secondary involvement of the soft parts rather than of the bone, and for obvious reasons is gravely significant of a rapid and uncontrollable dissemination of the disease through the general blood current by other and outside channels. This occurs in hip as well as in thigh operations and for like reasons. In both instances it merely proves that the disease was from the first beyond the point of bone section or that of the disarticulation.

Granting these conditions, it would seem that so far as the point of bone section is concerned the only necessary thing to be accomplished would be to get safely clear of its actually diseased area, as under other circumstances any attempt to be extra-conservative would surely result in a local recurrence from a culpably incomplete operation.

The point of the argument then rests upon the assumption that the bone, although primarily diseased, is not necessarily and in itself the essential cause of systemic infection, and that the failures to cure by amputation of any kind are due mainly to the secondary influences acting upon the general blood current through infiltration of adjacent soft tissues. The rapidity of infection is only paralleled by its hopelessness. When once started it is not a slow process, as in the gradual and progressive infiltration of cancer, but a quick transfer to the nearest filtering organ.

Hence the first lodgment by a very direct route, is usually in the lung, and obviously enough this is the case most frequently in thigh tumors, thus emphasizing their well-recognized and widespread malignancy. But this does not disprove the limitations of danger when the disease is strictly confined to the periosteum or bone. In furtherance of this view no less an authority than Mikulicz goes so far as to advise simple resection in some cases. In one instance in which such an operation was performed by that surgeon on the femur, and in which subsequent amputation was necessary on account of the unserviceable limb, neither end of the affected bone showed any evidence of involve-

ment, but on the other hand there was an entirely new formation of healthy osseous structure. Certainly there was no necessity under such circumstance of removing the entire bone.

Coley (*American Medicine*, January 9, 1904), who is an advocate of hip amputation, quotes this case to offset it with one of Bull's, in which the entire medullary cavity was affected, and in which disarticulation of the affected bone was followed by recovery. But it so happened that the conditions were entirely different and each surgeon did a perfectly proper operation. In both instances the bones only were involved. This, after all, is the main point to be considered in all our cases, and if any studies tend to make us more careful and judicious in the selection of any operative procedure, we are certain to be repaid in the end for the time spent and the trouble taken. I am not to be understood as opposing hip disarticulation for sarcoma on general principles, but as attempting to show why simple thigh amputation may sometimes succeed. Also that there are few, if any, objections against the thigh amputation which may not apply to the complete removal of the femur. In other words, I have endeavored to explain why my patient recovered in spite of an overwhelming probability to the contrary.

THE DIAGNOSIS OF THORACIC ANEURYSM.*

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ANEURYSM is a more or less circumscribed dilatation of an artery, as distinguished from the uniform widening of an artery, which results from sclerosis. It may occur in the course of any artery in the body. Hence aneurysms may vary in size from the microscopic, or barely visible, to the large aortic tumors which take up a large part of the thorax and abdomen. Excluding the very small, or so-called miliary aneurysms, aneurysm in general is a rare affection. My personal conviction is that it is not so rare as has been stated by Whittaker,[1] *i.e.* that in a million of men there may be one aneurysm. Its rarity in Continental Europe may be due to the fact that the same strenuous life is not forced upon the people there as by the keen competition existing in these United States. As a rule, the wards of Bellevue Hospital, with 850 beds, contain at least one case of aortic aneurysm. During sixteen years' service as surgeon of police, I have encountered but two cases, notwithstanding the fact that the pathogeny of aneurysm is closely related to that of arteriosclerosis, and that cases of the latter disease are frequent, on account of the irregular hours, inordinate appetites, and continuous mental strain under which police officials exist. The essential etiological factor in aortic aneurysm is some diseased condition of the vessel wall. This diseased condition is most frequently an arteriosclerosis, caused by syphilis. When this condition exists during middle life of the patient, and during the stage of primary degeneration and weakness of the media, before compensatory thickening of the intima has taken place, any sudden physical strain, a sneeze, a cough, or sudden exertion in lifting or moving, may be the starting point of aneurysm. It is only the infrequency of conjunction of these causes that accounts for the rarity of aneurysm. The atheroma of old age does not favor its production. The development of aneurysm, after a sudden physical strain, may be so insidious that months may elapse before definite physical signs are manifest.

*Read before the Celtic Medical Society, December 22, 1903.

The marked influence of syphilis in causation been recognized from the earliest times, but is pr ably overrated. Its reputation in causing the gr number of cases in the English Army receive correction when Barwell showed that aneurysm thirteen and one-half times more frequent in army than in the navy.[2] It is inconceivable that relative morality in the two arms of the service i 13½ to 1, although it must be conceded that opp tunities for the acquirement of syphilis occur m frequently to Tommy Atkins than to his brot who goes down to the sea in ships.

Next to syphilis, alcohol is the most freq cause of the arterial disease which leads to aneury It has been shown that during the temperance sade in Ireland the number of hospital case aneurysm decidedly decreased, to increase a when it was over. Gout and rheumatism are potent factors in producing arterial degenerat Osler[3] points out that there are many cases in wh no definite cause can be made out, but in which individual shows a tendency to arterial dise probably from defective quality of the arterial ti which he has inherited.

The symptomatology of thoracic aneurysm i variable that its recognition may be one of easiest problems of clinical medicine, or it may b indefinite and obscure as to defeat the most sk diagnostician. The phenomena produced ma divided into two groups: (1) The direct sympt which are confined to the limits of the tumor i and which are termed the physical signs. (2) indirect symptoms, due to mechanical pressur the parts surrounding the tumor. But each g of symptoms is always latent for a time, and s times latent for a long time. Pain is the most pr inent, persistent and characteristic symptom. may be light or excruciating, paroxysmal or sistent, and has diagnostic value when unus persistent or severe. At the beginning it is us mistaken for intercostal neuralgia, or pleurod or rheumatism; but a noteworthy point is that pain is increased by exercise, coughing or snee mental excitement, or anything which increase activity of the circulation, or raises the b pressure. If the aneurysmal sac develops "ce fugally," that is toward the surface of the chest, appears earlier, is more constant, more neuralg character. It will also be intensified by any po which permits the sac to gravitate or press strongly upon the irritated and painful nerve.

Many cases begin with palpitation, disturbed action being of frequent occurrence throughou whole course of the affection, although organic diac disease is the exception and not the rule. sure signs may be very numerous and variabl the aneurysm encroaches upon contiguous struct The most constant of these signs is brachial ne gia, due to pressure on the brachial plexus. Ho ness or aphonia may result from implication o left recurrent laryngeal nerve. Pressure up bronchus or upon the trachea produces dysp often accompanied by loud stridulous breathing by harshness and a metallic quality of the v Dyspnœa also results from pressure on the nerv the larynx and may be constant, paroxysma spasmodic. Extreme pressure on the lung may rise to all the signs of solidification. Distenti the cervical veins, and œdema of the face, neck upper extremities may indicate pressure upo superior vena cava or innominate vein. Com sion upon the inferior vena cava would be indi by distention of the abdominal veins. Dyspl may be caused by pressure on the œsophagus. T the aneurysm is on the concave side of the a

ssure on the pulmonary artery produces severe pnœa, systolic pulmonic murmur, and accentud second pulmonic sound. Pressure upon the racic duct is relatively rare. Pressure upon ghboring bones causes erosion, absorption, and disation. Myosis and other pupillary abnormalities significant, but not pathognomonic of aneurysm. he direct symptoms, or physical signs, relate first he tumor itself. This is soft, yielding, and may metimes be emptied by pressure when accessible ernally. Expansile pulsation may be felt in it, on all sides of it. A peculiar purring thrill is characteristic. On auscultation a bruit, which been likened to "the passage of water through pipes of a fountain," may be heard. Any change he heart structure belongs to complications rather to aneurysm, but some dision of the heart apex is l, from the pressure of the rysm at the base. The pulse be retarded at the wrist, or ced in volume up to disearance in the radial or car- on one side, or diminished rce. These differences be- most distinct when the arm d up vertically from the body, hey may be observable only he aid of the sphygmograph. pulse, taken by itself, does however, contribute very ive evidence of an aneurysm. inspection of the chest then, ave dislocation of the heart , pulsating tumor, later eroof bones. Palpation appreci- more distinctly the change in beat, expansile character of tion, and characteristic thrill. heal tugging may be felt in y cases, but is not pathogomic and may be entirely misng. Percussion shows dul- directly over the aneurysm, absence of dulness does not ude aneurysm, as the tumor be so deep-seated as not to h the surface at all. Auscul- n reveals the characteristic it, but not in all cases. Some- es the normal heart sounds be heard distinctly in places re they are usually inaudible eeble. A fundamental rule in examination of a suspected of aneurysm is to auscultate r every inch of the thorax, nt and back, always remember that aneurysms do not always duce acoustic phenomena. In e cases a bruit can be heard only when the bell he stethoscope is held between the patient's teeth, murmur being transmitted through the column ir in the trachea. Another important point is rough inspection of the chest, front and back.[8] The diagnosis is determined by the recognition of sative conditions, the symptoms, and the physiexamination, remembering that it is not justifia- to assume the existence of aneurysm in the ence of expansile pulsation. Any tumor lying oss an artery will have pulsation communicated it, but the pulsation will not be expansile. Aneum of the ascending part of the arch of the aorta es the most distinct physical signs, pressure signs ing more distinct when the descending portion is affected. Aspiration of the tumor may be required as a final test, in some cases. The value of the x-ray in diagnosis is considerable.[8] Some aneurysms can be more positively demonstrated in this way than by any other.[9] In the two cases presented this evening, skiagraphs show very clearly the location and size of the tumors. As a possible means of early diagnosis Wm. Porter of St. Louis[4] advocates the passage of an œsophageal tube distended with water and connected with an outside U tube in which distinct vibrations can be seen and estimated. The danger of this method would seem to outweigh its advantages. Dr. A. Symons Eccles[6] calls attention to the frequency of a sensation of dread, faintness, or giddiness when the head was thrown back, as in shaving, and which he attributes to increased tension on

Fig. 1—View from behind. Case I.

the thoracic vessels. I have personally verified the accuracy of this observation as an early sign of thoracic aneurysm, in three cases, long before its existence could be demonstrated by physical signs.

In the differential diagnosis, it must be remembered that there are other thoracic conditions which produce groups of symptoms closely resembling those of aneurysm. The most frequent and important are: (1) Solid intrathoracic growth, such as carcinoma or sarcoma; (2) abscess or tumor of the mediastinum; (3) pulsating empyema. Malignant tumors grow more rapidly than aneurysms, are accompanied with more pronounced emaciation, and loss of strength, and their pulsation is not expansive in character. These tumors have not the erosive

properties of aneurysm. In addition, we may have the history of antecedent tumor elsewhere, or induration of neighboring lymph nodes. Mediastinal abscess is apt to be of sudden invasion, pain is an early symptom, and fever is likely to be present early. Leucocyte count will also be of service. Pulsating empyema in immediate contiguity to the heart may be determined by introduction of very fine needle.

Other conditions in the aortic area, such as aortic regurgitation with dilatation of arch, aortic stenosis, hypertrophy of the heart, may all be differentiated by careful reading of the physical signs. Mediastinal solid tumors are generally mistaken for aneurysm, although they do not furnish the characteristic thrill. But one of the mistaken notions of clinical

FIG. 2—View from in front. Case II.

medicine is that aneurysm will invariably furnish thrill and murmur. E. Gebauer[6] puts on record a case in which all symptoms, signs, and *x*-ray examination pointed to aneurysm, but post-mortem study showed a round ulcerating carcinoma of the œsophagus with a communicating abscess cavity adherent to the posterior wall of the aorta. P. Hamplen[7] lays especial stress on the value of tracheal stenosis as pointing strongly toward aneurysm of the arch or trunk of the aorta, rather than to mediastinal tumor.

The prognosis is always grave, but not necessarily fatal, as cure may result from obliteration of the sac by layers of coagulated blood. The aim of treatment is, to secure this coagulation, by retarding the circulation and lowering the blood-pressure. Unfortunately, this happy result is not often attained either by nature or art. The injections of gelatin from which so much was hoped, have been found by most observers to be not very useful and, at the present time, their use has been abandoned in hospitals generally. At the present time, absolute rest in bed, limitation of food and drink, and the administration of iodides in fair but not large doses will accomplish all that can be hoped. My personal opinion is that 15 or 20-grain doses of potassium iodide, given three times a day, are as efficacious in larger quantities, in this disease. Surgical procedures which have been employed, such as filipuncture, needling, electrolysis, ligature, and compression, do not promise much in thoracic aneurysm. This is not strange when one considers the pathology of the disease.

No better illustration of the fact that the sword of Damocles is suspended over the heads of these patients can be given than the fact that two days before this meeting, a man who had promised to attend, went to church as usual, came home, expectorated two cupfuls of blood and was dead in twenty minutes. His history was as follows:

CASE I.—Partick B., thirty-five years old, single, freight-handler by occupation; uses alcohol very moderately; denies all venereal diseases. No evidence of syphilis, gout, or rheumatism. While guiding a loaded coal-scoop into the hold of a vessel, it swerved and threatened to crush him against a stanchion. By bracing himself he managed to stop its swing, but felt the muscular strain for some time after. Nine months ago, he was treated for cough and chest pains, under diagnoses of bronchitis and muscular rheumatism.

On October 12, 1903, he consulted me for the same symptoms. Physical examination: slight heaving of upper part of sternum. Apex beat one inch outside and one inch below nipple line. On the back, pulsating tumor between the vertebral border and scapula and spinal column, as shown in accompanying skiagram made by Dr. Buzby, *x*-rayist of the New York Hospital. Palpation shows expansile character of pulsation, and characteristic thrill. No tracheal tugging. No marked changes in radial or carotid pulse. Auscultation negative. No pressure signs in lungs, œsophagus, larynx, or eyes. Unilateral sweating of left side of face. Patient was sent into the wards of the New York Hospital, but declined to remain longer than three weeks, as his pain and cough had been relieved by rest. In this case, the pathogeny was an outside cause, *i.e.* trauma. The diagnosis was clear and apparent by inspection only. The termination was unexpected.

CASE II.—Joseph B., thirty-eight years, married policeman; drinks freely. No venereal history nor evidence of past infection. Never had gout or rheumatism. Reported sick, the day after election day, on account of hoarseness, cough, and sub

nal pain, all of which he attributed to being on
r for twenty-one consecutive hours. Insists
he was perfectly well up to that time. Physical
nination: Inspection shows labored breathing
mpanied by audible stridor aggravated by
ing around the room, and by dysphonia and
y cough. No bulging of chest wall. The right
of the chest is retracted and perceptibly smaller
its fellow. Dislocation of heart apex down-
l and to left, but not "two hearts beating in the
t at the same time." Expression anxious.
ls regular and equal. Palpation reveals marked
uality of radial pulses. No tracheal tugging.
ussion produces dulness over upper third of
um, and the normal note over both lungs in
t and behind. Auscultation does not detect any
t, even when the bell of the stethoscope is held
e mouth. The heart sounds are heard distinctly
tolerably loud in the left supraspinous fossa.
x-ray picture, by Dr. Buzby, shows the location
ize of the tumor, and completes the diagnosis of
rysm of the transverse arch of the aorta.

contrast with the preceding case, the pathogeny
was an intrinsic cause, to wit: arteriosclerosis,
bly dependent upon alcoholism. The diag-
could be inferred from the pressure signs, and
d by the *x*-ray examination. The course has
steadily progressive.

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AST TWENTY-NINTH STREET.

MODERN TREATMENT OF DACRYOCYSTITIS.*

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extreme conservative attitude which is still
n by a great number of surgeons, in the treat-
t of catarrhal affections of the lacrymal sac, has
me to express my own, as well as to emphasize
pinion of those who favor a more rational and
al treatment of this class of cases. The lacry-
sac, located as it is at the lower and inner angle
e orbit, in the lacrymal groove, serves for the
tion of the tears after they leave the conjunc-
It represents the upper dilated extremity of
nasal duct. Just where the nasal duct begins
the sac terminates, we find the narrowest por-
of this canal. It is here that we most often
with the stricture, which causes such serious
ble in the sac. We have, in this location, when
sed, a source of infection which proves itself
ble of doing great damage to the eye, in some
s accomplishing its actual destruction. The
llest defect on the surface of the cornea, like an
ion, heals rapidly if the eye is bandaged for
nty-four hours. Should a blenorrhœa of the sac
present, at once it becomes infiltrated with in-
ious material, and the cornea suffers more or less
ruction with permanent damage to the eyesight.
t the contents of such a sac is capable of produc-

*Read before the Manhattan Medical and Surgical ciety.

ing an inflammatory reaction is often shown by a co-existing catarrh of the conjunctiva and the lids. In three-fourths of the cases known as "hypopyon keratitis," in which the eyesight has been more or less destroyed, dacryostenosis has been the cause of the infection in the cornea (Haab). In the majority of cases a blenorrhœa of the sac is primarily produced by a stenosis of the nasal duct. This stenosis is at first merely the expression of a swelling or engorgement of the numerous veins lying beneath the mucous membrane of the ducts. As these veins are continuous with those beneath the mucous membrane of the inferior meatus and inferior turbinated bone, any congestion or catarrhal condition of the nose, in this neighborhood, will produce the same condition in the duct. Such a closure means a stagnation of accumulated tears within the sac; decomposition rapidly follows, and in a short time the contents may become highly virulent. Unless relief is offered, the mucous membrane becomes irritated, a catarrhal condition develops, and the contents, which at first were fluid and grayish in appearance, now become mixed with pus elements, and the picture of a typical blenorrhœa is established. If still neglected, the disease advances. The nature of the secretion, which at first was purulent, now changes and becomes mucous and viscid in character. Finally the mucous membrane being entirely destroyed, the secretion ceases altogether. The sac now presents a condition of atony due to a loss of elasticity in its walls, and has the appearance of a cyst filled with a clear fluid. In addition, we have the chronic blepharoconjunctivitis as a constant source of danger to the cornea. A patient suffering with blenorrhœa of the sac may at any time develop a phlegmonous dacryocystitis, or rather an acute purulent inflammation of the connective tissue surrounding the sac. This should not always be attributed to caries of the lacrymal bone, as is often done, or secondarily to ethmoidal sinusitis, which rarely, after all, occasions such a condition. That it may occur is not to be disputed. The stenosis of the nasal duct, which is primarily due to a congestion of the mucous membrane, gradually develops into a true membranous or cicatricial stricture, which is not easily overcome. In addition to the acute and chronic catarrhs of the nose, which are usually the cause of these strictures, fractures, exostoses, or even neoplasms may also obstruct this duct in such a manner as to occasion its closure. Tuberculous and syphilitic lesions in this neighborhood may occasion a similar condition.

The chief symptom produced by a blenorrhœa of the lacrymal sac is the constant overflow of tears over the lids on to the cheek. Especially annoying is this when the patient is exposed to sudden changes of temperature, or to a dusty or smoky atmosphere. Another disagreeable symptom is that the tears are apt to accumulate in the space between the lower lid and the eyeball, so that when the patient gazes downward, the cornea being bathed in this fluid, causes the rays of light to be unequally refracted, and the result is a confused optical picture. In addition, at times we notice a swelling over the lacrymal sac due to the accumulation of tears, etc. On pressure, they may be evacuated through the canaliculi on to the conjunctiva, or through the duct into the nose. In cases of acute purulent dacryocystitis we meet with all the symptoms of a violent phlegmonous inflammation, terminating, if not promptly treated, in the formation of fistulæ.

The question which I wish especially to discuss in this paper is, what is the best treatment to pursue to abate in the quickest manner possible a condition which is attended by such serious damage to the eye?

In the past years all sorts of ideas and suggestions have been offered as to the best way to eradicate this condition. I believe the following plan best adapted for the treatment of these cases:

As soon as one's suspicion is aroused that a stenosis of the lacrymal duct exists, dilate the puncta of the inferior canaliculus, with a conical-shaped sound, in order to introduce the nozzle of an Anel's syringe. Should this not be possible, simply slit up the inferior canaliculus and the introduction is now an easy matter. Inject a sterile physiological salt solution into the sac, and observe the direction which the fluid takes. If the stenosis is not very marked, almost all the fluid will pass into the nose, only a small portion appearing at the puncta above. If very much contracted, then only a small portion will appear in the nose, and the greater part in the eye. If the stricture is complete none will pass into the nose. Now examine the nose carefully and note the condition. If in doubt, cocainize the inferior meatus, to ascertain whether this closure or constriction is due to a simple engorgement, or to actual hypertrophy of the parts. If an atrophic catarrh is found, the stricture is undoubtedly of a cicatricial nature. This has been my uniform experience.

If the case is of short duration and only a partial stenosis is present, a proper treatment of the nose, together with massage and syringing of the sac, will in a short time bring about a cure. In order to determine the nature of the stricture, I employ the olive-shaped bougie of Kuhnt.[1] In order not to do any damage to the mucous membrane of the sac, it is best to slit up the inferior canaliculus, and now, according to the method of Kuhnt, at once ascertain the condition of the nasal duct. If there is a true organic stricture of not too long a duration, and the contents of the sac are not purulent, I resort to a method of relief which Passow[2] of Berlin has taught us. This consists in a removal of the anterior portion of the inferior turbinated bone, its lacrymal process, together with the inferior turbinated crest on the superior maxillary bone, thus laying bare the membranous canal of the nasal duct. The nasal duct is then slit open up to the neck of the sac. The entire operation is accomplished intranasally, under cocaine in one or two sittings. This is the extent of my conservative policy when stenosis exists. If the patient and physician possess an abundance of patience, syringing, massage, and sounds may be employed for the severer cases. Some patients may recover under such treatment, but relapses will be frequent, and the risk of a corneal infection must be borne in mind. It sometimes happens that in the newly born infant we meet with a congenital atresia of the duct, giving rise to a dacryocystoblenorrhœa. Here a slitting of the canaliculus and very careful probing, together with massage and syringing, brings about a cure.[3]

The question now arises if the above treatment is of no avail, what should be done with these patients and also in the more chronic cases?

Those who favor extirpation have established for themselves certain indications, which I think at the present day can no longer be set aside. These indications are: (1) In fistula of the lacrymal sac after long-continued suppuration (acute cases excepted). (2) In chronic blenorrhœa of the sac, with or without ectasia. (3) In chronic catarrh of the sac with an organic stricture. (4) In chronic blenorrhœa when disease of the bone with caries is present. (5) In relatively fresh cases of blenorrhœa, under the following conditions: (*a*) In ulcus serpens when the healing is very much favored by an immediate extirpation of the sac; (*b*) when an operation for cataract or glaucoma is contemplated; in fresh injuries of the cornea. (6) Tuberculosis the sac.

In regard to the best way of destroying this we should not allow ourselves to be persuaded employ either the actual cautery or chemi reagents. They mean long-continued treatme they are uncertain, and furthermore leave a which is ugly and unyielding.

The operation of removing the sac complet is to-day, in experienced hands, a simple proced In the majority of cases no general anæsthesi necessary. The entire extirpation can be d under the influence of cocaine and adrenalin, without the slightest discomfort to the patien

Platner[4] deserves the credit of having been first one to practise extirpation of the lacrymal He was followed by Berlin and Gärtner.[5] T surgeons, however, did not succeed in persua many to follow in their footsteps, due undoubt to the difficulty in their technique. The inci which they made was carried directly thro the sac. This method, experience has taught, makes the operation exceedingly tedious difficult to perform. The operation as perfor to-day differs only in slight degrees as perfor by the various surgeons. A typical operation some slight modifications from the Schreiber Axenfeld method is the following one:

Make an incision, half moon-shaped in form and one-half centimeters in length, and about half a centimeter from the inner canthus of the The incision is begun just above the internal p bral ligaments. At first it passes only through skin and subcutaneous tissue. The edges of wound are now held apart by means of a Mue speculum. This answers the purpose of a retra and assists very materially in controlling the he rhage. Should the hemorrhage be very pro then the use of the Axenfeld speculum, which h apart the upper and lower edges of the wound, be of great assistance. Now cut through the layer of muscle, then through the fibrous cap and one comes directly upon the wall of the Often it may not be possible to distinguish bet these various layers, especially in old chronic c in which adhesions have already formed, from an tension of the process through the walls of the If at all possible, and this can usually be acc plished if one is careful, do not open the sac, soiling of the wound with the contents of such a may produce an infection, and thus delay heal The sac is now carefully dissected out, with a da ing forceps and dull-pointed scissors. First inner wall is separated from the groove with the point of the scissors, then the sac is cut off al from the canaliculi and the posterior wall is detac Now, holding the sac firmly at its upper end, external wall is separated and the sac cut off c to the beginning of the nasal duct. If the sac been entirely removed, there will be left a perfe smooth cavity representing the lacrymal groo With a small curette establish a communication the nose, through the nasal duct. This serves the slight drainage of the wound, which is necess Now close the wound with three or four sutures, a found necessary. Place upon the sutured woun small roll of iodoform gauze, over this several lay of plain gauze, and then a firm pressure banda After two or three days the dressing is changed, a by the seventh day the healing is complete in typical normal case. After three weeks it is almo impossible to detect the area where the operative vasion had been made. Of course we shall meet wi cases in which it is not always possible to remove t

: *toto*, and in which it must be taken out piece-
One must be most careful in these cases to
1 for each little portion of the sac. If only a
portion remains behind, the wound will not
A discharge will make itself apparent either
: puncta or into the nose. A good procedure
low, which is practised by Czermak,[6] just be-
xtirpating what you believe to be the sac, is,
ss a Bowman sound through the slit inferior
culus, and in this way determine the exact
on of the entrance of the canaliculi into the
e exact position of the sac, and its termination
: nasal duct.
h a little skill and experience one soon learns
form this operation, which has proven itself to
such great value, for the preservation of sight
se afflicted individuals. Statistics have proven
d a doubt that extirpation of the sac for the
indications will positively diminish the num-
: corneal infections. How can one expect to
ny wound if a constant source of infection
in its neighborhood and is not destroyed.
s just what is constantly taking place, when an
or erosion on the cornea exists in the presence
lacryocystitis. It is not sufficient to cauterize
uncta, any more than it is to close down the
es on board of a ship, when there is burning
1 below, and calmly think that you have put
e fire.
int says, very rightly, it is no longer a question
opponents whether the operation is admissible,
imply the recognition or non-recognition of
n indications.
t may to a certain extent be curable in the
o-do patient, may not be the case with the poor
ngman, who, day in and day out, is exposed to
ty and contaminated atmosphere. The un-
nty in regard to prognosis of a conservative
ent; the stubbornness of the primary
e, the long-continued and painful treatment
ounds, the frequent relapses, causes the indi-
l finally to lose all confidence and patience.
nhardt,[7] in 1842, suggested extirpation of the
land, as a substitution for extirpation of the
He was followed in this practice by V. Wecker[8]
. C. Lawrence. One might just as well, says
g, expect to cure a stricture of the urethra by
ating a kidney, in order to diminish the secre-
f the urine.
egard to the after-effects, there appears to be
thing in favor of extirpation and nothing to say
t it. So far as the epiphora is concerned, this
not annoy the patient, except at certain times,
, for instance, he is exposed to sudden changes
mperature. We must remember that extirpa-
f the sac is not done for the purpose of correct-
he epiphora, but to remove from the eye a
rous source of infection. If the epiphora
s very annoying we simply remove the acces-
lacrymal gland, or even the lacrymal gland itself,
h at once remedies this condition. This will
some surgeons were inclined to think at first,
any xerosis of the cornea or dryness of the eye.
conjunctiva still contains enough mucous glands
ep the eye in a moist condition.
enfeldt,[9] in a recent communication, firmly
es and advocates, that for workingmen who are
ring with a chronic dacryocystitis, it is a crime
to extirpate the sac as a prophylactic measure.
st say, taking all things into consideration, that
st heartily endorse such a procedure. In these
the infection is not always brought about by
finger of the patient, or by the presence of a
gn body, but by a co-existing catarrh of the con-
tiva induced by a dacryocystitis.

It seems to me, therefore, if we wish to follow the rules of strict asepsis and antisepsis in the surgery of the eye, we must do in this region of the body as the surgeon has taught us to do in other portions of the body. If a source of infection exists in the body, and especially so if near a wound, take the greatest pains to destroy thoroughly that source in the quickest manner possible. Axenfeldt has proven, through the investigations of Plaut and V. Zelewski,[10] that a few weeks after extirpation of the sac a culture made from the conjunctiva is relatively free from infection.

On the continent, the number of surgeons who formerly opposed this operation is constantly growing less. I feel, therefore, although I may not have presented anything entirely new to your notice, nevertheless, if I succeed in persuading some of my conservative colleagues to treat this class of cases in a more radical way, I have accomplished the purpose of this paper.

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THYMIC TRACHEOSTENOSIS, WITH REPORT OF A FATAL CASE.*

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The term thymic tracheostenosis is used advisedly, differentiating as it does, a condition caused by pressure of an hypertrophied thymus gland upon the trachea, from an enlargement of the gland downward, and causing death by interference with the circulation. In the former case the symptoms are those of an obstruction to the passage of air in and out of the lungs and usually results in asphyxiation, while in the latter death results very suddenly from syncope. It is to the former class that the case which I report herewith belongs, and it is to this condition that I wish to call attention more especially.

My reasons for treating of this subject are two: (1) The cases are sufficiently rare to be of special interest, and should be reported; and (2) I believe that many sudden deaths among infants, attributed to some other cause, are in reality due to hypertrophy of the thymus.

The cause of simple thymic enlargement is unknown. Most of the patients are poorly nourished and rachitic, and often there is a general enlargement of the lymphatic glands—the so-called "Status Lymphaticus."

There seems to be a reciprocal relation between the thymus and the spleen, as in several cases when the thymus has been found very large the spleen has been rudimentary or absent, and *vice versa* when the thymus was congenitally absent the spleen was very large.

Microscopical examination shows merely an hyperplasia of the normal elements of the gland. When death results from syncope, it is caused by

*Read before the Society of Alumni of Bellevue Hospital.

an enlargement of the gland downward, and its pressure upon the great vessels at the base of the heart, mainly the pulmonary artery. In these cases the end is very sudden, the diagnosis probably never being made beforehand.

Sudden death among infants is not at all uncommon; the child may be found dead in its crib; it may die from so-called laryngeal stridor; it may succumb suddenly during a prolonged fit of crying; death may result during the administration of an anæsthetic, and frequently, I believe, under such circumstances, death is attributed to some innocent cause, when the *fons et origo mali* lies in the thymus gland.

After seeing my first case of hypertrophy of the thymus, I have come to realize how naturally this condition might escape the notice of even an expert diagnostician. By some it is said that death results from pressure on the pneumogastric. This, I believe, is not the case, for it seems to me that pressure upon this nerve would show some of the symptoms of interference with its normal function; that is, its inhibitory influence over the heart would be stimulated by moderate pressure, or removed entirely by very great pressure. I did not observe this in my case, nor have I been able to find such symptoms described elsewhere.

Many writers deny that an enlarged thymus can produce sufficient pressure on the trachea to cause asphyxia; but I believe that they reach this conclusion because at the autopsy the trachea has been removed in the usual way, and consequently the relations are destroyed, and any encroachment upon the lumen of the tube which may have existed has been obliterated by the elasticity of its walls when relieved from pressure. A transverse section should be made through the organs *in situ*, and the tube examined by reflected light for any modification in its coliber.

When we come to consider the following data, and remember what slight resistance the trachea of an infant offers to external pressure, there should remain in our minds no doubt upon this question. The thymus at birth weighs about half an ounce; it increases in size up to the second year, when it begins to diminish and has disappeared at puberty. It is 5 cm. long, 3½ cm. in breadth, and 8 mm. in thickness. In front it is in relation below with the manubrium sterni, and in the neck with the origins of the sternothyroid and sternohyoid muscles. Behind it lies the trachea, and below it rests upon the pericardium, being separated from the great vessels by the thoracic fascia. When naturally largest it extends into the neck frequently as far as the isthmus of the thyroid. At the point where the trachea emerges from the thorax, the vertebral column, which here bends forward, offers an unyielding point of resistance, so that the enlarging gland, supported anteriorly by the sternum, presses the trachea back and flattens it against the upper dorsal vertebræ. The distance from the manubrium sterni to the vertebral column is only 2 to 3 cm. up to the second year.

In tracheostenosis the enlargement of the gland is chiefly in an anteroposterior direction, when much depends upon the size of the upper thoracic opening, and especially its anteroposterior diameter. The positions of the head would influence pressure on the trachea at this point, for when it is thrown backward this would be increased, and *vice versa*.

The symptoms produced are those of a mechanical obstruction to the respiration. The patient is usually poorly nourished or rachitic. There is an inspiratory and expiratory stridor and cyanosis is extreme. Laryngeal stridor may be a prominent symptom. Glöcker reports three cases in which symptom was prominent, and in which the au showed that death was due to thymic enlarge

The treatment is usually unsatisfactory. however, reported a case in which he opene mediastinum, drew the gland forward and st it to the tissue over the sternum. The patie relieved at once and recovered. Spontaneo of simple, enlarged thymus occurs in six to months, and is due to increase in the size thorax and development of the rings of the t rather than to a diminution in the size of the

In reporting the following case I regre my inability to obtain permission for an a prevents my entering as fully into the det the case as I would like. The diagnosis of trophy of the thymus was made when trache was performed, and was subsequently co by exploring the local conditions through t larged tracheotomy wound after death.

M. B., female, age five weeks, was brou the Manhattan Eye and Ear Hospital on th noon of October 13.

Family history is good, mother and father Americans, are strong and healthy with no tary record of malignant, specific, or tube disease. They have two children living, t whom are strong and healthy. One child w born several years ago—its death being due t ine inertia.

The patient was very small, weighing o or six pounds, poorly nourished, and sufferi extreme dyspnœa, throwing her head ba and sidewise in her efforts to breathe—c was marked, and there was a puffiness the eyes which extended far down on the Both inspiration and expiration were atten stridor—air entered and was expelled throu nose as well as the mouth.

The child's condition dated from the ti birth, and had been steadily getting worse. had not gained any in weight, but had pro lost some, though she was breast-fed and the seemed to be suitable, as she had never ha stomach or bowel disturbance, and had neve convulsions. She could sleep about fifteen mi at a time, but only in an upright posture. could not nurse continuously; she could cry h but at such times became more cyanosed.

Physical examination of the chest showed retraction of the intercostal spaces, of th sternal and supraclavicular notches, and rec of the epigastrium at each inspiration. The stridulent noise made in the trachea obscur other auscultatory sounds.

Examination of the nasopharynx and ph revealed no cause for the condition, there present no adenoids, foreign body, or oth struction to respiration, observable by the methods of examination.

As the child's condition was urgent, an imm tracheotomy was decided upon.

During the administration of the anæ (ether) the breathing stopped several times a tificial respiration and oxygen had to be use

In performing the operation, which was atte rather low down, a mass of glandular tissu encountered, and the trachea was pushed so fa that the incision into it was made just bel cricoid cartilage. When the tube was intro at first there seemed to be some relief, but th was kept open the stridor remained, the dy was still great, and the child died from as about thirty-six hours after the tube was intro The respirations ranged from 25 to 35, and th

rom 120 to 130; the temperature a short time be-ore death rose to 106¾°. This, I believe, was due o an acute congestive pneumonia.

On enlarging the tracheotomy wound after death, removed the larynx, which I offer for your ispection; it is interesting merely as the normal rgan of a child five weeks old, and as demonstrating ie fact that no obstruction to the respiration isted at this point. Investigating further, I dis-vered that an enormously hypertrophied thymus and filled the upper thoracic opening, pressing the achea back against the vertebral column, and ttending upward in the neck as high as the larynx.

A study of this case leads me to make the fol-wing observations and suggestions:

1. In all cases of laryngeal stridor it should be termined whether or not the thymus is enlarged.

2. On account of surgical shock being badly rne by infants, and especially those in this con-tion, if the symptoms are *not* urgent, postural eatment should be tried, and if, in any position the head and neck, relief is afforded, that position ould be maintained by suitable apparatus until ture has effected a cure by enlargement of the orax, strengthening the tracheal rings, and diminu-n in the size of the gland.

3. Intubation, tracheotomy, ahd artificial respi-tion do no good.

4. The surgical procedure of opening the medi-num, bringing forward the gland and stitching to the tissue over the sternum, should be per-med immediately if there is danger from asphyxia.

West Fiftieth Street.

THE KOLLMANN FIVE-GLASS TEST.

By GEORGE THEODORE MUNDORFF, M.D.,
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HILE the writer is disposed to accept in the main e correctness of the now universal custom among genitourinary specialists of making urethroscopic aminations in nearly every case of urethral ease, he believes that there is a certain propor-n of cases which does not permit of such ex-ination; for instance, cases of suspected tuber-lous disease of the bladder or prostate, acute thritis, stricture, abnormally small meatus, etc. should be remembered, too, that not all patients ffering from genitourinary disorders seek the ll of the specialist, but it is the general prac-ioner whom they consult and trust for relief. e object of this paper is to call attention to a thod first introduced by Arthur Kollmann of ipzig, and which is known as the "Five-glass t." Kollmann employs this method as an ad-ional aid to urethroscopy in clearing up obscure es of urethral disease. Some five years ago, ile attending Kollmann's clinic as a "mitarbeiter," e writer was permitted to make a series of ob-vations regarding the value of this procedure a diagnostic measure, and it is now his desire publish the histories of a few cases occurring in ivate practice in which this method proved of eat assistance in reaching a correct diagnosis.

Scientific urethroscopy requires long study. A rtain amount of constant practice is necessary interpret the nature of the lesions as revealed by e urethroscope, and not all practitioners possess ethroscopes, nor have they the time to devote order to attain the proficiency required of the ecialist. The method about to be described simple and, for all practical purposes, efficient. is not recommended as an equal of urethroscopy, t as an aid to the general practitioner. The equisite articles are as follows: a syringe of about ix ounces capacity, a hard rubber catheter, and five ordinary urine glasses. The catheter should be one having its eye as near to the point as possible, otherwise errors are likely to occur. This will be explained later more in detail. The principle of the operation is simply the thorough cleansing of the anterior urethra, and then allowing the patient to urinate into three glasses. The advantage of this method over the old Thompson two- and three-glass test is obvious. We are certain that the anterior urethra has been freed from shreds and mucus, and that any of these elements appearing in the urine must come from a point behind the external sphincter.

Modus operandi: The patient is instructed to call at the office early in the morning and to retain the night's urine until the physician has thoroughly cleansed the anterior urethra. After cleaning the meatus with some antiseptic solution, the physician introduces the catheter up to the external sphincter, care being taken not to force it beyond this point. Steadying the catheter in this position by grasping the penis with the left hand and holding the catheter by the forefinger and thumb of the same hand, the physician attaches the syringe filled with a mild boric-acid solution, and gently forces the fluid into the urethra. The returning fluid is allowed to fall into a urine glass held by the patient. The physician examines this and notes the presence of shreds and mucus. After detaching the syringe, it is again filled and the irrigation repeated. All the solution returning from the urethra is poured into one glass and is known as No. 1. The irrigation is continued until no more shreds are found in the irrigating fluid. Ten to fifteen irrigations may be necessary before this result is reached. When the physician is certain that he has removed all shreds present in the anterior urethra, he allows the fluid returning from the last injection to remain in the glass held by the patient, and designates this as No. 2, or the "control glass." The catheter is then withdrawn and the patient is permitted to urinate into the remaining three glasses, numbered respectively, three, four, and five. Glass No. 3 should always be regarded as doubtful, since it is possible that some shreds in the anterior urethra did escape the irrigation. Shreds in glasses No. 4 or 5 signify pathological changes in the posterior urethra, bladder, and possibly kidneys.

A convenient schedule in preserving results of such examinations is appended herewith:

	I	II or control	III	IV	V
Normal	shreds or clear	clear	clear	clear	clear
Anterior urethritis	shreds	cle r	clear	clear	clear
Anterior urethritis	shreds	clear	shreds	clear	clear
Ant. and Posterior urethritis	shreds	clear	shreds	shreds	shreds or clear
Posterior urethritis	shreds or clear	clear	shreds	shreds	shreds or clear

Possessing such schedule, the physician need but note below each column the conditions found, thereby having at a glance the result of the test.

Possible errors: As pointed out by Wossidlo (Die Gonorrhoe des Mannes und ihre Komplication, Berlin, 1903), a tight meatus may interfere with the proper performance of the test, by hindering the return flow of the irrigating fluid, and thus forcing it through the external sphincter. Of course, under such conditions, the results are worthless. Attention has been called to the absolute necessity of employing a catheter with its eye situated as near to the tip as possible. This is imperative, otherwise there would be an area of the urethra—that portion extending from the spincter to a point corresponding to the situation of the catheter's eye—that would not receive the play of the irrigating fluid. For this reason, it is a good plan to turn the

catheter with each injection, in order that no part of the urethra escape the injected fluid.

The test is completed by making microscopical examinations of the morphological elements found in the irrigating fluid and in the urine. Shreds from the anterior urethra are composed of long twisted threads or rolls of epithelial cells, pus cells, and mucus. These epithelial cells are usually of the flat variety. The pus cells may or may not contain gonococci. Filaments from the posterior urethra are simply particles of the secretion which are contained in the ducts of the prostate gland, and which have been pressed out by the contraction of the muscular tissue; they are somewhat shorter and thicker than those from the anterior urethra, and usually sink rapidly to the bottom of the glass. Epithelial cells from the posterior urethra are of the transitional type, and are difficult to differentiate from those of the bladder. The epithelium of the bladder resembles in its character that of the ureter, namely, transitional stratified. According to Bizzozera, the type of the cells from the pelvis of the kidney, ureters, and bladder are identical. These cells are usually smaller than those from the anterior urethra, are of a polygonal or elliptical shape, and contain a large nucleus. The protoplasm is markedly granular. Von Jaksch differentiates their origin as follows: small numbers speak for the ureter; moderate numbers, and lying like the tiles of a roof, indicate the presence of a pyelitis, while large groups of cells signify bladder desquamation. He adds, however, that this method should not be regarded as an absolute guide in diagnosis, but should be considered with other symptoms. Blood cells in one or the other glass will indicate from what part of the urethra or bladder, hemorrhage ensues.

The following three cases, taken at random from my private case-book, attest the value of this method:

Case I.—S. H., æt. thirty, single, shipping clerk, came to me January 7, 1900, for treatment. He related the following history: On September 1, 1899, five days after exposure, he detected an urethral discharge. His physician ordered injections of a solution of permanganate of potash and some internal medication. At the end of five weeks, the discharge ceased, but reappeared about a month later. The old treatment was resumed and continued for several weeks, and, the discharge having ceased, the patient was regarded as cured, notwithstanding the persistence of a glairy discharge. When he came under my observation the status was as follows: Urethral discharge containing few pus cells, no gonococci. Prostate slightly enlarged and moderately sensitive. Urine contained numerous shreds, a few of which were examined, and found to contain pus cells, epithelial cells, no gonococci. The patient was ordered to call again the next morning, and was directed to retain the night's urine. Kollmann's test: Ten irrigations were necessary to clear the anterior urethra of shreds. Glass No. 3 contained one shred, Nos. 4 and 5 none. Microscopical examination of these shreds proved desquamation occurring in the anterior urethra. Treatment: Regular dilatations with Kollmann's anterior dilator, and occasional irrigations of the anterior urethra with a 1-1000 silver nitrate solution. Patient cured in eight weeks.

Case II.—G. B., æt. forty, called to see me during the latter part of 1900 with the following history. The first of several attacks of specific urethritis occurred in 1895, and two years later the patient began to experience difficulty in micturating. The difficulty increased until 1898, when, after an attack of retention, he consulted a physician, and was treated for stricture. This was followed by relief for two years, but after that the old symptoms of stricture returned, increasing up to the time of his call at my office. Status: Strictura urethræ, four inches from meatus, admitting only a No. 7 French bougie. It is long, dense, and is readily felt by the finger. The patient passes water spasmodically; urine contained shreds. Treatment: stricture divided by means of Kollmann's urethrotome. Subsequent to this, regular dilatations made. At the end of three months it was possible to introduce a No. 25 French sound. Urine still continued to contain shreds. A Kollmann's five-glass test was made, the result of which showed a chronic posterior urethritis. Posterior dilatations were made with the curved dilator. Regular instillations with a solution of nitrate of silver were made into the posterior urethra, and the patient discharged cured six months after his first visit at the office.

Case III.—L. M., æt. twenty-five, single, came to me on the morning of July 1, 1899, complaining of a severe hemorrhage from the urethra. He was bleeding profusely and confessed to having indulged in excessive coitus the night before. He did not notice the bleeding until a short time before calling at the office. Treatment: a good-sized catheter was introduced into the bladder, and retained there with a moderately tight bandage wrapped around the penis. Salol in five-grain tablets were ordered to be taken six times a day. The patient was put to bed. At the end of four eight hours the catheter was removed, cleansed, reintroduced. Two days later it was again withdrawn. There being no more bleeding, it was reintroduced, but the patient was directed to call again in a few days. Several days later the patient presented himself at the office and complained of passing bloody urine. He was told to return the next morning, and instructed to retain the night's urine. This he did, and I found on examination a slight amount of blood issuing from the meatus. This may have been sufficient to indicate the site of hemorrhage as being situated anterior to the external sphincter. The Kollmann test was tried nevertheless, and proved conclusively that such was really the case, since the urine passed after thorough cleansing of the anterior urethra was free from blood. A week's rest in bed, cold applications, to the parts, and allowing the soft rubber catheter to remain in the urethra for several days at a time, relieved the patient. Sounds were passed occasionally and the patient discharged about two weeks after the receipt of his injury.

In conclusion, the writer desires to express his gratitude to Dr. Arthur Kollmann for the permission to make in his clinic a series of observations regarding the value of this diagnostic measure, and which have prompted the publication of this article.

304 Second Avenue.

Intestinal Exclusion.—According to Hartmann, indications are: The relief or cure of (1) strictures new growths of the intestine; (2) chronic inflammatory lesions which it is hoped to cure by diverting the fæces so giving rest to the inflamed part; (3) artificial anus fecal fistula; (4) fecal fistula secondary to abscess; intestinovaginal fistula; (6) chronic intussusception; congenital obliteration of the bowel (rarely practical (8) severe and intractable colitis. The forms of operation may be: (1) Enteroanastomosis or short circuit (2) Operations in which the diseased portion is completely excluded by section of the bowel above and below disease. (3) Operations in which only one section is re —*Gazette des Hôpitaux.*

ANTISTREPTOCOCCIC SERUM IN THE TREATMENT OF SMALLPOX.

By ALFRED C. SMITH, M.D.,
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I WISH to call the attention of the profession to the successful use of antistreptoccic serum in

FIG. 1.

treating a series of cases of smallpox within the last three months, as follows:

CASES I and II.—Two boys, aged respectively three and fourteen years. The older had been unsuccessfully vaccinated and the younger had never been vaccinated.

I could not find the time of exposure, as there had been a case or two, next door, for several weeks. They were both in the initial fever of smallpox at the date of the first visit.

The eruption appeared two days later, September 28, and the following morning injected each with a full dose (20 c.c.) of antistreptococcic serum, repeating the dose the next morning, with the result that the fever subsided; the eruption came out well in both cases, the older being the confluent form, following the characteristic stages of macula, papula, vesicle, to the point of umbilication. Then, instead of the loathsome pustule, with its attendant secondary fever and the serious consequences of septic absorption, a complete cessation of symptoms and no pus formation, with a rapid drying of the vesicles, with an almost perfectly smooth skin resulting, there being no pits and the superficial redness of the skin cleared rapidly and the cases were released from quarantine in seventeen days.

Two doses of serum (20 c.c.) were administered in each case (see the illustrations, taken at height of vesication and ten days later, showing superficial scars but no pits).

In the house at the time of the outbreak there were three susceptible persons, all of whom were protected by immediate vaccination, successfully performed.

CASE III.—Colored woman, aged forty-two. Called November 1 to find the initial period had been in progress for the past six days, and the papules were well formed on the hands and face in large numbers. Injected the serum, repeating the dose the following day, to have full vesication follow, but no pustulation nor secondary fever, and a rapid desiccation of the diseased cuticle and healing without any pitting, with perfect recovery at the end of twelve days, with release from quarantine on the fifteenth day of treatment.

CASES IV and V.—Babe, ten months, and boy, four years, taken at the same time, November 23. I used the serum at once. The eruption appeared the following day, one discrete, the other confluent, one of the worst that I have treated in a series of ninety-one cases, having a hemorrhagic tendency. After vesication was complete, there was at once a diminution of the swelling, no pustulation, and at the end of ten days the crusts were loose and the greater part of the skin had peeled off, as the entire cutaneous surface was involved, yet not the slightest indication of lung or kidney involvement, which was expected.

CASE VI.—Colored girl, aged eleven years. I was called December 13 to find the eruption well out in the papular stage, with four susceptible persons in contact with the patient, all of whom were successfully vaccinated at once. The patient received a 20 c.c. dose of serum, repeating in eighteen hours, to have the vesicles form two days later, which were shrunken flat in forty-eight hours after vesication was complete, without the

FIG. 2.

least pus formation three days after the serum injection. The only crusts were on the nose, where the sebaceous follicles were involved.

At the end of fourteen days the body surface was clean and smooth, covered with the superficial scars, but no pitting. The eruption was pro-

nounced, and where the garter encircled the leg the vesicle extended entirely around.

The other medicinal treatment used was only mild laxatives of calomel et sodium bicarbonate with sponge baths of 1-4000 bichloride mercury solution, with hot bath of the same when desquamation was ripe. Used no masks nor emollient protectors, yet had no pitting, nor did we have itching to any marked degree. I have seen in these cases none of the general debility that followed the disease in former cases in which the treatment was by the usual drugs and antiseptic washes, though the same has been successful, as I had only one death in a series of eighty-three cases, but in most I have noted tedious convalescence and affected health following recovery. Thus by the serum treatment we have a shortening of the duration of the disease, absence of the secondary fever, lack of absorption of septic products by prevention of pus formation, no pitting, no marked debility, less suffering, and much less danger of lung and kidney involvement, with a much more rapid convalescence.

In conclusion, I will say that it is to be regretted that the profession is so slow to give the patients the benefit of these life- and suffering-saving means that science has placed at its disposal. One great mistake made in the administration of any of the serums, is too long delay and insufficient quantity used. Use it early and in sufficient quantities to command a complete neutralization of the toxins it has to counteract.

IMPORTANCE OF TREATMENT IN THE EARLY STAGES OF ARTERIAL DEGENERATION.

By LOUIS FAUGÈRES BISHOP, A.M., M.D.,
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The term degeneration of the arteries is a better term than arteritis, arteriosclerosis, or endarteritis, because it is less definite and can be made to include functional as well as material vices. This condition is the result of the many causes which act in opposition to the tendency of life to go on without loss of quality or impairment of power—in other words, it is the failure of repair and the failure in the action of the mechanism for the automatic correction of irregularities in the circulation.

The light thrown upon this condition by pathology is extremely unsatisfactory because we often find a most extreme arterial sclerosis without marked symptoms, and we find marked symptoms with hardly appreciable physical changes. The degeneration of function is more striking during life than degeneration of tissue. So long as we have to deal then with living people, the perfection or otherwise of the processes of life is the important element. This element is entirely beyond the view of the microscopist.

The failure of circulation may be due to functional causes as much as to a condition represented by appreciable structural change. The teaching of modern science has been too much in the direction that phenomena can be wholly explained by structure. This is not true of the working mechanism of the human organism, nor indeed is it true of even mechanical things.

I was much struck recently by a description of his own case as given by a gentleman who has achieved success in life through the able manner in which he has managed a railroad. He is suffering from a cardiac circulatory failure and said: "I think I am like one of the old engines on my railroad—about ready for the scrap-heap. You may be able to patch me up and keep me going for a little while, but you cannot make me new again." He said that when an engine first came out of the shop it could do two hundred miles a day and at the end be just as good as at the start. After a while there would be a little leak in one of the valves and it would have to go to the shop to be repaired. Later on another valve would leak and then there would be trouble with the fire-box. When this once began, though each time the engine came out of the shop it would appear to be all right, it would always be going back again, and at the end of a hundred miles one might always expect something to be wrong. He said further: "I employ a master mechanic to overhaul the engines every morning, and in this way we manage to keep them going, even though they are old; but there always comes a time when repairs do not pay, and then they are sent to the scrap-heap." This was a simile more true than pleasant.

There is something about a piece of machinery that has borne the stress of hard usage that is very like the behavior of the human body under the same conditions. It pays in the long run to buy new machinery, and it would certainly pay to get a new body if that were possible. A new automobile can be managed and kept running by one of little experience, but to keep an old one running requires the knowledge of an expert.

Machinery can be replaced, but for the human being there is only one body as far as we know, so we must make the best of it. For this reason the study of the repair of the failing human organism and the discovery of all those methods by which it may be kept smoothly running are well worth our best efforts.

The human organism is a much better machine than any invented by man. It has within itself arrangements for the repair or concealment of the earlier manifestations of many serious affections. In a way this is a disadvantage, because the earlier signs of degeneration are only to be detected by the trained perception of a skilful observer. This is particularly true of the circulation. The earliest sign is an irregularity of tension in the arteries and this goes on to a pretty constant high arterial tension. The inherent forces conceal the defect whenever they can and bring about a compensatory hypertrophy of the heart.

This is the time when it is a pleasure and satisfaction to the physician to step in and by proper régime and treatment regulate the arterial disorder and the causes which are leading to it. Once in a while there is a patient who will submit to regulation before the appearance of conscious symptoms. The great majority of such cases have come under my care only at the stage when the hypertrophied heart, having wearied of the burden of maintaining the high arterial tension, has become feeble and probably dilated. Such was the case of the patient who compared his state to that of the broken-down motor. He presented the picture of cardiac failure—the heart dilated, with blowing murmurs, a feeble and irregular pulse, shortness of breath on the slightest exertion, albuminuria, and anæmia. It was a case in which medical aid was sought only after the reparative powers of the body had exhausted themselves. Two, or even one year earlier, the process might have been checked, so that the scrap-heap's day would have been much longer postponed.

To make an estimate, which must be purely a guess, the expectation of life is in inverse proportion to the postponement of treatment after the earliest signs of irregularities of arterial tension due to the changes of degeneration.

54 West Fifty-fifth Street.

LAPAROTOMIES ON ONE PATIENT.

By HOWARD CRUTCHER, M.D.,
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ING SURGEON TO THE CHICAGO & ALTON RAILWAY COMPANY.

)4 Mrs. B., American, aged twenty-nine years, ɔd, no children, with a history of gonorrhœa yphilis, sent her husband for me, with the ge that she was suffering terribly with inflam- n of the womb and bowels, and requested come at once. I got to her bed side about o'clock in the afternoon and found pretty efined indications of a pelvic abscess. While ıg the examination, whether from my fault , I distinctly felt the mass collapse, and urged ımediate operation. Two hours later, on ıg the abdomen, the pus from an enormous abscess was found to have been well distri- over the peritoneal cavity. Abundant flush- ree drainage, and a very unfavorable prog- were promptly given.

ı got well, but some months later developed a ıl hernia, which she wanted removed. The l operation was carried out without incident y of note, and the hernia was cured.

'.a year or so I lost sight of the patient, ne day received word that the uterus and ı were again the seat of inflammatory troubles, ı prompt call was requested. This time an bted appendicitis was found, with symptoms rforation. An immediate operation was med, a gangrenous appendix with two per- ns removed, and the abdomen drained. I to say that on account of the old tubal dis- I opened the abdomen in the median line, g that I was not altogether right in my diag- as to the appendix. She promptly got well.

1896 she came to my office with the startling that she was "growing a tumor." I per- d her to give the tumor a chance for a time, she did. Some months later she returned that she had been taking some form of absent ent from some quack, and that she feared hing more direct was now demanded. After nation I agreed with her. Another median n, the removal of a three-pound ovarian and the careful closure of the abdomen were atures of this operation. I may say that the ovary had been removed at the time of the operation. This time she made the usual recovery.

1898, following the nerve-racking newspaper s of that eventful year, Mrs. B. developed r tumor. Before making an examination I her that I was at some loss to recall any tissue which a tumor could grow. Examination nly disclosed a growth of some character in lvis. Operation was deferred for a time, but ondition growing worse, I opened the abdo- for the fifth time, and found two diffuse intra- entous cysts, each very extensive, and not ting of proper removal. The left cyst con- dark-colored fluid resembling black coffee, s the right gave out clear, limpid fluid with- trace of coloring. About forty ounces came each side. The cyst walls were stitched to ritoneum, and the cavities were well packed gauze. The cysts were obliterated by this ent and the patient soon got on her feet.

ut a year following the fifth operation she returned with another ventral hernia. No er! Of course she was firmly determined to it cured by operation. I told her that I had ed never to perform half a dozen laparoto- on one patient; that the town was full of am- us operators, and that she must seek other services than mine. I learned later that she had returned to the ranks of the faith healers, who promptly convinced her that she was free from all bodily ailments, which of course rendered further operative measures unnecessary.

COLUMBUS MEMORIAL BUILDING.

OUR RURAL WATER SUPPLIES.

A WORD FOR THE THOUGHTFUL.

By HARVEY B. BASHORE, M.D.,
WEST FAIRVIEW, PA.

THERE has been a great revival lately in regard to public water supplies, and cities are spending immense sums in the construction of sanitary water works. All this is very desirable, but there is another water supply—that of the rural population—which has been receiving scarcely any thought or attention. Though this rural population may seem rather insignificant, yet it comprises, according to the last census, just about 70 per cent. of our people—varying from 20 per cent. in some of the New England States to 95 per cent. in some of the Western States. In other words, something like 40,000,000 of people in the United States simply take the water most available in an economic way—the sanitary availability in these instances being an unknown factor.

Though these rural drinking waters come from many different sources, individual wells, springs, and small streams scattered through the country, it has been found that they are very similar in one respect, namely, in their utter unreliability for furnishing a suitable drinking water. Whether we take it in Canada or in Florida, in Pennsylvania or in California, this unfitness of the rural drinking water is a striking feature.

Unfit, you say, yet our fathers drank this very water and lived to a good old age. But we must not forget that every year of habitation increases in a geometrical ratio the dangers of soil pollution surrounding that habitation, and though our fathers did drink a pure water, there surely comes a time when we cannot do so from the same well or spring, unless proper precautions have been taken to keep the water undefiled. These, to be sure, are broad assertions, and in view of such the sanitary skeptic may well question the *seeming* health of the rural population.

Though the mortality statistics in the country are very meager, we yet have enough to show that the country population is not as healthy as it seems, and while in every place the rural death rate is lower than the urban death rates, yet the lowering in the country has not been as great as in the cities, and in some localities the rural annual death rate is actually increasing, other conditions, of course, remaining the same.

When we come to examine the typhoid statistics we find that while the death rate of other diseases is generally much lower in the country districts than in the great cities, the prevalence of typhoid fever in the country is almost always equal to, if not greater than, that in the adjoining cities. In several instances reported, the rural typhoid rate is even ten times greater than the urban rate in the same district. With a scattered population such as exists in the country, facts like these are often overlooked and unsuspected until attention is called by actual records.

We have been hearing for a number of years of the deadly scourge of typhoid fever that has been ravaging the city of Philadelphia, and enough has been written about it to pay for good-sized water works. Such is the case when statistics are kept and published.

Now shift the scene to one of the beautiful valleys of Central Pennsylvania, made up entirely of a rural population, with only one hundred (100) inhabitants to a square mile—a region of fine farms, wild mountains and woods, a place of country residences and picnic groves, and this ideal happy valley, than which it is hard to imagine a better, has had just as much typhoid fever, in proportion to population, as the great city itself; yet no one suspected that such a condition existed, and even now the inhabitants themselves would scarcely believe it, but the record is a true one, and I believe that many other places would show results not a whit better if the real facts were only known.

The worst part of the story is that there is no remedy easily available for this condition. In the urban supplies there are only a few sources at the most, and the municipal government can readily control the conditions affecting the water supply of its citizens, if it so desires; but what of the remedy when the sources of supply are numbered by the thousands? It would take an army of chemists and a mint of money to give the same supervision to the country well that we give to the metropolitan supply.

The only remedy at present seems to be in the rapid education of the people to the point that each citizen will learn what pure water is, how to obtain it, and how to keep it pure, and this rests mainly with the medical profession and with the press. A thankless task it may seem—a crusade for pure water in the country, yet the glory in achievement in saving lives and human suffering would well repay the labor.

A RADIOGRAPHIC SURPRISE.

By W. I. LeFEVRE, M.D.,
CLEVELAND, OHIO.

The patient, a young woman, was sent to me by Dr. Romig of East Cleveland to have a radiograph taken to locate a needle which she had run into

her foot when a child. For several years past she had suffered pain in the foot, this at times being so severe she could scarcely walk. It seemed to be growing gradually worse, so she determined to have the needle removed. Upon developing the plate, however, a distinct osteoncus was discovered at the exact point of pain, the needle being embedd a short distance away. The plate also showed second exostosis upon the lower side of the fi metatarsal bone. The tumors were removed.

Foreign Medical Practitioners in Italy.—The questio the legal status of holders of foreign degrees or diplo who wish to practise in Italy came again before the It Legislature in December. Dr. Santini, the leading s in the recent agitation to preserve Italy for the Itali asked a question on the subject. Signor Giolitti, the M ister of the Interior, said the existing law allowed for doctors to practise their profession in Italy when they called in to advise in special cases, or when they under the charge of foreign patients exclusively. If such p titioners attended Italian patients, that was an a which the Government would do its best to supp With regard to reciprocity he promised without dela enter into negotiations on the matter with such fo countries as did not grant equivalent privileges to It practitioners. He added, however, that foreign p tioners were not sufficiently numerous in Italy to their competition a serious matter for Italian grad Signor Orlando, Minister of Public Instruction, state he would admit to the examinations of the Italian ties only foreign practitioners who had pursued studies in universities of good repute, recognized medical faculties and the Superior Council of Instruction.—*British Medical Journal.*

Contribution to the Study of Natural Immuni Turro presents the following conclusions: (1) Ovis the product of the solution of the yolk of the hen's the white of the same. In a period of from twenty to a month, it acquires in vitro a bacteriolytic po great that it digests the fourth part of its weight culture of Bacillus anthracis without exhausting its ac which is preserved for a second or third digestion. The subcutaneous injection of from 5 to 10 gr. of ovi in a number of rabbits, repeated on three conse days, and the inoculation on the fourth day of a d pustule virus, hastens the death of the animal; b injection of 5 gr. to a kilogram at one time, and the lation of virus 10 or 12 days after the injection, r the death of the rabbits from nine to seventeen days. The intravenous injection of 5 gr. of oviserum dilute 45 gr. of distilled water determines the same effects. mata of 10 gr. of oviserum in 40 gr. of water reta onset of bacteriæmia according to the condition in they have been absorbed. (4) The doses of 5 gr. of rum to a kilogram of rabbit suffice to bring abo delay indicated; a larger dose does not augment it; 50 retard the death from five to nine days; 1 gr. do produce a clearly appreciable effect. (5) When th mal functions of the rabbit injected with 5 gr. of ovi are disturbed during the period of physiological which exists between the injection and the inoculat the virus, the immunizing action of the oviserum dec or is annulled. The immunizing action of the ovi does not manifest itself till the time that it is assim by the organized plasma. Its bacteriolytic power, by means of a physiological synthesis to that of the a which the plasma has contained since birth, seems the cause of the great resistance that the rabbits ac to the pustule virus. (7) The splenic pulp macerat one per cent. saline solution brings about in the ra effects analogous to those of the oviserum. (8) The i tion of 50 gr. of saline solution of 7.50 per cent. to a gram of rabbit (and inoculation of a drop of pustule v at the end of twenty-four hours) retards the death of rabbits from ten to fourteen hours. The injection of gr. and the inoculation of the virus at the end of twe four hours determines an extraordinary phenomenon. rabbits do not die of bacteriæmia. The action of saline solution is fleeting; it disappears in from on three days.—*Archives Latines de Médecine et de Biol*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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LATE EFFECTS OF TYPHOID FEVER ON THE HEART AND VESSELS.

R. W. S. THAYER, Associate Professor of Medicine in the Johns Hopkins University, has published in the American Journal of the Medical Sciences, for March, a series of observations made by him, being part of a study of the cardiac and vascular complications and sequels of the cases of typhoid fever treated in the past fourteen years in the clinic of Professor Osler, in Johns Hopkins Hospital. These observations, although not quite complete, have been carefully and even elaborately worked out, and give a clear idea of the condition of the heart after typhoid fever.

Dr. Thayer summarizes the result of his studies as follows: (1) The average systolic blood-pressure in these old typhoids was appreciably higher than in control observations upon healthy individuals. (2) The higher average of the blood-pressure was constant in every decade. (3) In many instances among the old typhoids the blood-pressure exceeded appreciably the limit of what is usually regarded as normal. (4) The radial arteries in the old typhoids were palpable in a proportion nearly three times as great as that found in control observations upon supposedly healthy individuals who had never had any disease. (5) The average size of the heart was greater among the old typhoids than in the same cases at the time of admission to the hospital. The difference held good also when the cases were classed according to age by decades. (6) Cardiac murmurs were heard with considerably greater frequency among the old typhoids and in the same cases during the attacks. (7) In eight cases in which, on discharge from the hospital, the heart was consider normal, subsequent examination revealed hypertrophy, with mitral insufficiency. One case showed a possible mitral stenosis; one an aortic insufficiency; one a picture general arteriosclerosis, with hypertension. (8) In one case an aortic diastolic murmur was present four months after discharge, but had disappeared five months later. (9) Those patients whose pulse during the disease was remarkably rapid or irregular, showed, in general, on later examination, a blood-pressure above the common average for the old typhoids. In other respects, however, their condition differed but little from the general run of cases. (10) Those cases in which a systolic murmur at the apex of the heart was observed during the attack showed later an increase in the blood-pressure and in the size of the heart, as compared both with the mean of the observations made upon the same cases on admission to the hospital, and with the general average for the old typhoids.

Nearly one-quarter of those cases in which during the attack, systolic apical murmurs were detected, showed, on later examination, evidences of organic heart disease. Indeed, the majority of all the cases of organic cardiac lesions among the one hundred and eighty-three old typhoids came from this small group of thirty-one cases.

The infrequency of endocarditis as a complication after typhoid fever was a marked feature in Dr. Thayer's studies, only three of such cases having been observed in nearly one hundred necropsies at the Johns Hopkins Hospital.

The writer thinks that the influence of infectious diseases in general on the production of the more insidious endarteritic changes in the aorta and other vessels is a matter to which scarcely sufficient attention has been directed. "In brief," says Dr. Thayer, "there is much which goes to suggest that acute infections, and typhoid fever among them, play an important part in the etiology of arteriosclerosis. Some observers who have especially studied this question believe that after acute rheumatism, typhoid fever is the infectious disease most frequently resulting in changes in the heart and vessels. Dr. Thayer concludes a most instructive paper with the expression of the opinion that the result of his observations upon one hundred and eighty-three old typhoids will go to show that this disease is an active element in the etiology of a considerable number of cases of cardiac hypertrophy and dilatation, coming on sometimes early in life, as well as an important factor in the production of those vascular changes which Cazalis has happily called "*la rouille de la vie.*"

The deductions to be drawn from Dr. Thayer's paper certainly seem to favor the theory that the late effects of typhoid fever on the heart and vessels are very considerable, and there would seem to be grounds for the belief that with the exception of rheumatism, typhoid fever, of all the infectious maladies, exerts the most harmful influence upon the heart. The result of Dr. Thayer's further observations will be watched with much interest.

THE CONDITION OF THE UPPER AIR-PASSAGES BEFORE AND AFTER INTUBATION OF THE LARYNX.

DR. LOUIS FISCHER writes in the *Archives of Pediatrics* for February, on the above subject. A series of children that were operated upon several years ago were examined for the purpose of this study. The first series were patients at the Willard Parker Hospital, and the cases cover the years of 1896 to 1900. The children admitted to this hospital belong mainly to the laboring class of people. The cases dealt with by the author were ten in number, of which eight required one intubation, one three intubations and one four intubations. At the time that the writer examined these cases, one intubated seven years ago has had no illness since. Four intubated six years ago are in good health to-day. (One case remained entirely well, one had enlarged cervical lymph nodes, one had pneumonia one year later, one had pneumonia and paralysis and five years later had a second attack

of diphtheria but no laryngeal stenosis.) Five cases intubated three years ago are in good condition to-day. (Three had measles and bronchitis after recovery, one has not had a day's illness since intubation, one case had a mild attack of croup two years after intubation but did not require reintubation.) Rachitis seems to predispose to laryngeal stenosis, eight cases out of the ten reported in the series showed some form of rickets.

As to the condition of the throat, the writer observed that in all of the cases of this series some form of chronic tonsillar or pharyngeal condition was found. Adenoids were seen in two of the cases. Whether or no the hypertrophied tonsils seen in these cases were present at the time of intubation is not known. The fact that eight cases out of ten still showed enlarged tonsils, and one case, making nine cases, reported having had a tonsillotomy performed, proves that hypertrophied tonsils must have menaced the children's health before the intubation.

According to some authorities post-diphtheritic stenosis is a somewhat frequent sequel of intubation, but others state that they have seldom or never met this post-diphtheritic condition.

The second series of cases examined by Dr. Fischer were those intubated in private practice. Twenty-three cases were reported. The average length of time the tube was worn in the above twenty-three cases was 9½ days or 228 hours. Rachitis was very frequently encountered. None of the cases had a normal throat at the time of the intubation. Adenoid vegetations, enlarged tonsils, and chronic rhinopharyngitis were met with in almost every case. Absolutely normal conditions prevailed in the majority of sixteen cases. Laryngitis, lasting many months, was encountered in four cases.

Dr. Fischer disagrees with the late Dr. O'Dwyer as to the cause of postdiphtheritic stenosis of the larynx. The former maintained that the condition was the fault either of the operator or of the instruments. Dr. Fischer thinks that this view is proved to be wrong, at least in the average case, by the pathology of the condition. The writer is in accord with the opinions expressed by Dr. Emil Köhl at Zurich, in 1884, when he demonstrated most conclusively that not the least frequent cause of the difficulty is a chronic hypertrophic, subglottic laryngitis, a chronic thickening of the soft parts between the vocal cords and the lower border of the cricoid cartilage. Another and more frequent cause of stenosis was shown to be granulations and cicatrices in the neighborhood of the tracheal wound or cannula.

The conclusions arrived at by Dr. Fischer were as follows: "All the children in both these series that recovered had been breast-fed. This form of feeding must have had an important bearing on their bony development as well as their muscular structure. No chronic cough which could be attributed to the wearing of the tube was encountered. . . . Comparing an equal number of children who never suffered with diphtheria, nor were intubated, of the same age and development, it was found that they suffered with pneumonia and other infectious diseases in the same proportion as children in the writer's series of cases. This would seem to be a splendid argument in favor of intubation, as it shows two important points: First. The tolerance of the larynx to a tube for many weeks. Second. That a proper fitting tube constructed of rubber leaves no evidence of chronic inflammation directly traceable to the tube. . . . In spite of the fact that the large majority in the first series, as well as in the second, were decidedly rachitic, no deformity of the chest due to imperfect oxygenization could be attributed to the effects of the intubation tube. . . . It is safe to presume that chronic throat disease invites infection, and in the opinion of Dr. Fischer there is a direct relationship between the seed and the soil. If children's throats are in a normal condition, then the risk of infection is reduced to a minimum."

FURTHER REPORT ON SLEEPING SICKNESS IN UGANDA.

Lieut. Col. David Bruce, R.A.M.C., F.R.S., Dr. David Nabarro, and Captain E. D. W. Greig, I.M.S., were sent out to Uganda by the British Royal Society and the Indian Government, for the purpose of continuing the investigation of sleeping sickness, begun by Drs. Low, Castellani, and Christy in 1902. The report of the first named investigator has been published recently.

The report brings forward evidence to show (1) That sleeping sickness is caused by the entrance into the blood and cerebrospinal fluid of a species of trypanosoma. (2) That this species is probably that discovered by Forde and described by Dutton from the West Coast of Africa, and called by him Trypanosoma Gambiense. (3) That the so-called cases of trypanosoma fever, described from the West Coast, may be and probably are, cases of sleeping sickness in the earliest stages. (4) That monkeys are susceptible to sleeping sickness, and show the same symptoms, and run the same course, when the trypanosomes injected are derived from cases of so-called trypanosoma fever, or from the cerebrospinal fluid of cases of sleeping sickness. (5) That dogs and rats are partially susceptible, but that guinea-pigs, donkeys, oxen, goats, and sheep, up to the present, have shown themselves absolutely refractory. (6) That the trypanosomes are transmitted from the sick to the healthy by a species of tsetse-fly, Glossina palpalis, and by it alone. (7) That the distribution of sleeping sickness and Glossina palpalis correspond. (8) That sleeping sickness is, in short, a human tsetse-fly disease.

As is known, Dr. Castellani was the first to find trypanosomes in the cerebrospinal fluid of cases of sleeping sickness, due to his introduction of the method of centrifuging the cerebrospinal fluid in search for his streptococcus. This method at once put the latest investigators on the right track and led to the rapid and easy elucidation of this hitherto mysterious disease.

The following facts were discovered by the commission: (1) That cerebrospinal fluid of every case of sleeping sickness taken by lumbar puncture during life contains trypanosomes. (2) That trypanosomes occur in the cerebrospinal fluid of cases of sleeping sickness in other districts than Uganda. (3) That the cerebrospinal fluid taken by lumbar puncture from cases of disease other than sleeping sickness do not contain trypanosomes. (4) That

e peripheral blood of all cases of sleeping sickness so contains trypanosomes.

With regard to the connection between the -called trypanosoma fever and sleeping sickness e commission states that the symptoms of e two complaints are different. Trypanosoma ver appears to cause little or no inconvenience to ose harboring the parasite, whereas in sleeping kness the disease is a well-marked one and is variably fatal.

As to whether the blood of the general population, side and outside the sleeping-sickness area, contain ypanosomes, it was found from an examination of hty natives from the sleeping-sickness area that a rcentage of 28.7 had trypanosomes in their blood, hile those examined outside this area were not thus fected. The distribution of sleeping sickness was wn to coincide closely with the presence of the ossina palpalis.

The Glossina palpalis was found to be able to con- the trypanosoma from sleeping-sickness cases to althy animals. Five experiments to elucidate s point were made upon monkeys, with the result t the Glossina palpalis conveyed trypanosomes m sleeping-sickness cases to healthy monkeys up at least forty-eight hours after feeding.

On the whole, then the commission are justified in e statement that sleeping sickness is conveyed to man beings by the agency of the Uganda tsetse-. Perhaps further and more elaborate experi- nts will be needed ere this conclusion is generally cepted, but the evidence already available points rly to the Glossina palpalis as the conveyer of eping sickness to the human race in Uganda.

Blackwater Fever.

There are yet many diseases of which compara- ely little is known, and blackwater fever may classed among this number. Indeed, the aladies which prevail solely or mainly in tropical untries are only now beginning to be thoroughly vestigated. As the human race increases, and e lands of the temperate climes can no longer pport their vast multitudes, the tropics are ght to hold the surplus population. Thus as come about, that of late tropical diseases have n made the subject of careful study, for until far re knowledge of the means of prevention and ccessful treatment of these affections has been ned than is at present the case, those who make ir homes in the lands of the torrid zone, carry to a at extent their lives in their hands.

An editorial in the *Journal of the Royal British edical Corps*, for March, treats of blackwater ver, with reference to researches recently carried t by Messrs. Daniels, Christopher, and Stephens, which several interesting points regarding this adly complaint are mentioned. Attention is wn to the fact, as regards its geographical tribution, that where blackwater fever occurs alaria, and usually the so-called tropical variety, also endemic. The white race is peculiarly ceptible to the disease. Daniels defines the alady as "an acute hæmolysis of sudden onset, ort duration, and spontaneous cessation." He o thinks that the death rate has been overstated; om his own observations he puts it down at mewhat over 20 per cent. The three main uses are suppression of urine, cardiac failure, and yperpyrexia. The same writer, referring to treat- ent, states that in his opinion unless malarial parasites are found quinine should not be given. Sternberg's treatment for yellow fever (frequent doses of bicarbonate of soda and minute quantities of perchloride of mercury) seemed to yield good results.

As to the etiology of hæmoglobinuria, although the view is generally accepted that there is some connection between malaria and blackwater fever, the exact relationship has not yet been quite satisfactorily determined. Daniels points out that in British Central Africa, and in West Africa, similar anopheles are found, and these are not found in other countries. He suggests that possibly the different hosts may in some way modify the parasite.

Respecting the relation of the disease to quinine, Daniels notes that cases occur in which no quinine has been taken, that there is no relation between the time at which the quinine is taken and the onset of the disease, nor, between the quantity taken and the severity and duration of the attack.

Christoper and Stephens made some observations on the tonicity of the blood in blackwater fever and malaria. Their results showed that the blood in blackwater fever has a low tonicity, *i.e.* is resistant to hæmolysis, which they think may be explained by assuming that all the high tonicity corpuscles have already been destroyed. In malarial subjects there is usually a high tonicity. The blood of convalescents from blackwater fever resembles that of convalescents from malaria. The native's blood frequently showed a remarkably low tonicity. Hæmoglobinuric urine, and serum from a hæmoglobinuric patient had no hæmolytic action on the observer's blood. In vitro no difference could be detected between the patient's and the investigator's bloods as regards the solvent action of solution of quinine. The investigators suggest the possibility of the lethal action of quinine on the parasites setting free a large quantity of toxins and so causing the blackwater special parasite. Up to the present, however, no one has found any parasite special to the disease.

The views of Daniels, Christopher, and Stephens, respecting the connection between blackwater fever and quinine, conflict with those of Koch and some other observers. There is, however, ample reasons to believe that the conclusions arrived at by the British investigators are entitled to as much consideration as those of Professor Koch and his followers.

Diet in Diabetes.

Suitable diet is considered as important a factor in the treatment of diabetes as is the administration of drugs. The fact has been for some time recognized by the medical profession, that abstinence from all articles of food which may be converted into glucose, causes a marked decrease in the quantity of glucose in a diabetic patient's urine, and in every respect tends to an improvement in the condition of the majority of those afflicted with diabetes.

Sir James Sawyer of Birmingham in the *British Medical Journal*, March 5, points out that until the researches of Mossé two years ago, it was the therapeutic rule to withhold potatoes in saccharine diabetes. Mossé's researches led him to conclude that potatoes, far from being harmful, form a useful and beneficial food in glycosuria, and that they are capable of being substituted for ordinary wheaten bread in daily proportions sufficient to maintain the alimentary ratio—that is to say, in the proportion of two and one-half to three of potatoes for one of bread. Mossé found that a

daily ingestion of potatoes in quantities of from 1000 to 1500 grams caused, roughly, from 2 pounds to 3 pounds avoirdupois diminution of the glycosuria, quick relief of thirst, and general improvement in the patient. The reason for this beneficial action of potatoes in the feeding of diabetic persons is, according to Mossé, because the salts contained in potatoes are chiefly those of potash, and potash exerts a retarding influence on the progress of diabetes.

Sir James Sawyer states that his own experience in practice during the past two years is confirmatory of Mossé's conclusions, and he goes on to declare that in his opinion the beneficial results of Mossé's discovery and teaching as to the use of potatoes as a food in diabetes might well be carried much further in the dietetics of diabetics, than in merely the free allowance of properly cooked potatoes in a dietary. The writer proposes that the therapeutic difficulty as to the prohibition of ordinary bread for a diabetic may be met advantageously by making bread, cakes, and biscuits for diabetics by using the "flour" of properly cooked potatoes instead of the flour of grain. Sawyer's dietary for diabetics is as follows: May eat butcher's meat of all kinds, excepting liver, pork, ham, bacon, poultry, game, potatoes steamed in their "skins." Fish, oysters, crabs, lobsters animal soups, not thickened excepting by potatoes, mutton broth, beef-tea. Bran and potato bread or biscuits, potatoe cakes, eggs, cream, butter, cheese, greens, watercress, mustard and cress, lettuce, mushrooms, nuts, jelly or custard, unsweetened.

May not eat any bread or biscuts but those made of bran and potato, sugar, asparagus, broccoli, cauliflower, carrots, parsnips, French beans, peas, turnips, arrow root, macaroni, rice, sago, tapioca, vermicelli, pastry, excepting potato cakes, puddings, fruit, fresh and preserved.

May drink water tea, coffee, soda-water, claret, hock, spirits and water, unsweetened; bitter ale, very sparingly; milk, very sparingly.

May not drink cocoa, chocolate, champagne, porter, stout, home-made wines, liquors, cider, sweet wines and ale.

At one time the diabetic was greatly restricted in diet, but owing to the new views, promulgated first by Mossé, the sufferer from the disease has a wide choice of food and need no longer live a life of rigid self-denial. This more generous régime of living is to his physical advantage.

Bovine and Human Tuberculosis.

The February number of the *Maryland Medical Journal* is devoted to a consideration of tuberculosis viewed from several standpoints. The recent tuberculosis Exposition in Baltimore was the *raison d'être* of this issue, and provided the subject matter for the various articles contained therein. Whilst all the papers are written by well-known men, that by Ravenel, on bovine and animal tuberculosis, is, perhaps, under the present circumstances, the most interesting. Dr. Mazyck P. Ravenel has long been known as an opponent of Koch's theory that tuberculosis of man and tuberculosis of cattle are so different in their nature that it is impossible to transmit human tuberculosis to cattle. The writer approaches the subject from three standpoints—first, direct experimental transmission of tuberculosis from man to animals; second, clinical evidence of its transmission from animals to man; and third, theoretical considerations. The first point has been directly proved more than once, and thus may be briefly dismissed.

The second phase of the subject has never been experimentally proved directly, but accidental inoculation has taken place, some of which cases have ended in general infection, followed by death. Dr. Ravenel himself has had four such cases come under his observation, and in addition to these, quotes similar cases reported by Krause, Troje, Sprouk and Hofnagle, Lassar, Tschering, Pfeiffer, Kurt Maller, De Long, Joseph and Trautman.

The second consideration under this head is inoculation by ingestion. With regard to strict proof of this mode of infection very little evidence can be adduced, although there are many cases in which the evidence is very direct and very strong. Post-mortem evidence respecting infection by these means somewhat contradictory. In England a general average of primary intestinal tuberculosis is given of something over 25 per cent. Heller of Kiel, who while he found only 1.43 per cent. of primary intestinal tuberculosis, found but 37.8 per cent. in which the principal lesion was in the intestine, the mesenteric gland or the abdominal organs, "So that," says the writer, "we may conclude that all of these cases were of intestinal infection." Furthermore Professor Hueppe of Germany states that the percentage of primary intestinal tuberculosis in Germany varies from 25 to 30 per cent. The figures on this point in America indicate a much smaller percentage of primary intestinal infection. "Perhaps however," says Dr. Ravenel, "the strongest evidence we have of the infection of human beings by the bovine tubercle bacillus is the finding of bovine tubercle bacilli in the intestines of children who have died of intestinal tuberculosis."

The writer is of the opinion that the finding of the bovine tubercle bacillus in the intestinal tract of children, is by itself a proof that bovine tuberculosis is a factor in the spread of the disease in the human race, and he further believes that we are justified in saying that bovine tuberculosis is transmitted to the human race, chiefly to infants, in a certain proportion of instances, and is, therefore, a menace to human health.

Sunshine and Fresh Air vs. the Finsen Ultraviolet Rays and the Röntgen Rays in Tuberculosis of the Joints and Bones.

Dr. De Forest Willard read a paper with the title at the last meeting of the American Medical Association. The author argued that despite the fact of the Finsen ultraviolet rays and the Röntgen rays having undoubtedly an inhibiting effect on the progress of tuberculosis of the joints and bones, yet that the most powerful agents in our possession for the inhibition and destruction of the tubercle bacilli are sunlight and fresh air and abundant nourishment. Dr. Willard said: "The sun's rays are undoubtedly more helpful than any artificial rays, just as natural waters compounded by the chemistry of the Ruler of the universe differ very decidedly from the waters artificially compounded by the chemistry of man. While, experimentally, the strongest sunlight in summer takes more than an hour to kill bacteria, yet the ultimate influence is undoubtedly more beneficial than artificial contrivances." The author, after reviewing and discussing at some length the various methods of utilizing artificial light in the treatment of tuberculosis of the bones and joints, states the following as his conclusions: "(1) Sunlight, fresh air and good food, together with fixation and protection of the affected joint, are the most important agents in the contest with tuberculous infection. (2) Direct exposure to the rays of the sun is essential, and al

ospitals should be provided with solaria or sun orches and roof gardens. (3) Patients lying in ed should have the diseased joints exposed to the irect rays of the sun, their heads and eyes being rotected by green glasses or shades. The joints ay be covered with blue, so as to secure easiest assage of the ultraviolet actinic rays, and local edications rich in iodine may be also employed if esired. (4) Tent life on the hospital grounds, or etter, in the open pine forest, can be successfully nployed through both summer and winter. (5) natoria should be established for tuberculosis of he hard tissues, as well as of the soft. (6) The ncentration of the sun's rays by lenses, as sug-sted by Butler, Finsen and others, is of positive nefit in bactericidal influence. As final curative ents, however, the direct sun's rays are most ective. Electrical rays can be used when sun-ht is lacking. (7) The Röntgen rays in the boratory have an inhibitory power on the tubercle cilli, and may prove useful in restraining the owth of these microorganisms in living tissues.

The actinic rays and the *x*-rays are both apparently helpful in the fight with tuberculosis, but eral years will be required to determine accurately ir effect. They should be employed not to ersede, but to antedate and to supplement rative procedures, to assist the mechanical tection of the joint, and to increase the general rapeutic measures employed."

Dr. Willard's views are certainly based on sound mmon sense. For any form of tuberculosis, sun-t, fresh air, and good living are by far the most ctive curative remedies known. Other forms of atment may aid in restoring the consumptive to lth, but the main factors in bringing about this ult must always be nature's own work.

Professional Prevarication.

The *Columbus Medical Journal*, February, con-ns a paper on the above subject, which was deliv-d in the form of a toast by Dr. Harry A. March Canton, Ohio, at the banquet of the Canton dical Society on January 8. The writer declaims inst the old-established custom of medical men telling the truth, the whole truth, and nothing t the truth, concerning their patients.

Professional prevarication, he thinks, is very ch in evidence when physicians are in the position expert witnesses—they lean, albeit, it may be, ost unconsciously to the side on which they are ined.

The most universal custom is, however, that of ing a patient that he or she is much more ill than ally the case. Still more reprehensible, thinks March, is the custom of teaching every girl ering womanhood that she is suffering with rine or ovarian trouble, thus guiding her into the nues of hysteria and neurasthenia.

The writer also falls foul of the deceit frequently ctised, of hiding from a patient for any length of e, his real condition. Dr. March believes it to be physician's duty—his absolute duty—to tell truth to the patient, that climate and diet all needful aids may be secured to save from his fate and from his friends, for his tection and for the safety of his dear ones. ain, if a patient be on his deathbed and hope-always, the writer deems it to be the phy-ian's duty to inform him of his true condition, bluntly and cruelly, but tactfully and sym-thetically. The paper ends with these words: The time is past, if indeed, such time ever existed, when a great body of scientific men must descend to petty subterfuge to retain patients and secure dollars. Professional prevarication, like the manacles and chains of the madhouse, is a relic of unscientific and unprofessional barbarism, and tactful truth, the therapeutic agent, the prophylactic agent, for the regeneration of diseased humanity, for the saving of countless lives and the avoidance of indescribable misery."

It may be that Dr. March is right and that the doctor sometimes withholds the truth when it would be more honest and better for the patient to know the real facts of the case. On the other hand, much must be left to the physician's discretion as to what he shall say and what he shall not. As a general rule, however, the physician is always warranted in giving every hopeful view possible to his patient even under most threatening conditions. To the friends of the sick one he is always privileged to give, on the other hand, a necessarily guarded prognosis.

News of the Week.

Union of the State Medical Societies.—Action having been taken for consolidation of the medical profession of the State by both the State bodies, the committee deems it advisable to take the necessary legal steps before the Supreme Court in May. Before doing this it is important that every county society shall take action upon the ratification resolutions, but less than half of the societies have acted. A circular has therefore been sent to each county society urging the members to secure a special meeting of the society during April, and to act in this matter, using the form of resolutions which has been sent to each secretary. All are interested in having no obstacle in the way of perfecting this unification, and it is hoped that speedy ratification will be effected by all the county organizations.

Pathological Exhibit at the St. Louis World's Fair.—There will be a pathological exhibit at the World's Fair in St. Louis under the auspices of the American Medical Association. The exhibit, which will be held in the Palace of Education in a gallery over the East main entrance, will be of wide scope, covering the field of general pathology and bacteriology. The president of the association has appointed the following Exhibit Committee to take charge of the work: *Executive Members:* Ludwig Hektoen, Chicago; A. J. Ochsner, Chicago; W. A. Evans, Chicago; W. T. Eckley, Chicago; L. F. Barker, Chicago. *District Members:* J. N. Hurty, World's Fair; Frank P. Wynn, Indianapolis; Max Herzog, Philippine Islands; V. C. Vaughan, Ann Arbor; W. W. Keen, Philadelphia; J. S. Billings, Jr., New York; Philip King Brown, San Francisco; Ellsworth Smith, Jr., St. Louis; Allan J. Smith, Philadelphia; F. W. Farham, New Orleans; R. M. O'Reilly, U. S. Surgeon-General. Dr. Ellsworth Smith, Jr., who has charge of the St. Louis district, has appointed the following Advisory Committee to assist him in the organization of an exhibit for his district: Y. H. Bond, H. W. Bond, John Young Brown, B. Meade Bolton, Willard Bartlett, N. B. Carson, O. H. Elbrecht, W. E. Fischel, B. M. Hypes, Bransford Lewis, H. W. Loeb, Robert Leudeking, H. G. Mudd, Henry Schwarz, Chas. Shattinger, J. H. Simon, C. A. Snodgrass, Justin Steer, Hugo Summa, Robert Terry, E. F. Tiedemann, and H. Tuholske.

Organized Dental and Medical Professions.—The Chicago Medical Society and the organized dental profession agree that all questions of legislation and larger public policy relating to medical

and dental affairs shall be referred to a committee, to be known as the Committee on Public Relations. This committee is to consist of ten members, five from each profession. It shall have a chairman and a secretary. Any question of public policy or public relation affecting either the medical or dental profession, or of legislation affecting, directly or indirectly, either of them, can be referred to this committee. It will be the duty of the committee carefully to consider these questions. It will have the power to recommend either specific action or general attitude to the societies from which the members come as delegates. There shall be an annual meeting of the committee, at which organization shall be effected and continued. Other than this, the meetings shall be special, and can be called by the president or by any two members. The officers shall be elected for one year. The method of election of the delegates and the length of their service shall be regulated by the societies which they represent.

Loving Cups for Dr. Lefferts.—Prof. George M. Lefferts, who recently resigned the professorship of laryngology in the College of Physicians and Surgeons, delivered his farewell lecture on Monday, March 28. Both his clinical assistants and the fourth-year class took this opportunity to present him with silver loving cups. The handsome cup of the class of 1904 was first presented, the orator being the class president, Mr. G. H. Lathrope. Immediately following occurred the presentation of an artistic cup from the staff of clinical assistants; the incoming professor, William K. Simpson, M.D., making the address. Dr. Lefferts, in reply, referred pleasantly to the fact that, more lucky than Sir Thomas Lipton, he had that day "lifted" two cups. He gave a short history of the clinic, from its foundation in 1875 to the present time. The valuable museum of teaching apparatus he had deeded to the trustees of Columbia, for the free use of the coming generations of medical students. Finally, he said a few words of farewell, first to his assistants and then to the students.

United States Association for the Study of Tuberculosis.—At a well-attended convention, held on March 28 in the hall of the College of Physicians of Philadelphia, under the chairmanship of Dr. Wm. Osler of Baltimore, a resolution was adopted that a committee of five be appointed to effect the organization of the United States Association for the Study of Tuberculosis, and Drs. E. L. Trudeau, George M. Sternberg, W. H. Welch, L. F. Flick, and H. M. Biggs were appointed members of the committee. Dr. Wm. Osler was chosen chairman and Dr. H. Barton Jacobs, secretary for the committee, when it shall meet in connection with the American Medical Association at the annual session in June at Atlantic City. In the absence of Prof. Eduardo Maragliano of Genoa, his paper on the "Specific Therapy of Tuberculosis, and Vaccination against the Disease," was read for him. As a result of clinical and laboratory observations covering a period of thirty-four years, the conclusion was expressed that it is possible to employ a specific therapy against tuberculosis and also to immunize the animal organism against the same disease, and finally that there is good reason to hope for an anti-tuberculous vaccintion for man. The anniversary dinner of The Henry Phipps Institute was given by the staff at the University Club on the evening of the same day. The delegates to the convention were all invited guests of the occasion. Sixty-two persons were present. The feature of the evening was the presentation of a silver pitcher to Dr. Lawrence F. Flick, the Director of the Henry Phipps Institute, by the members of the staff, as a token of their esteem. Mr. Henry Phipp the founder of the institute, made the presentati in the name of the staff.

The Crowded Hospitals.—A census of hospit inmates was made by *Charities* on March 19, a the result showed that the number of availal beds to meet the needs of some disaster, furnishi suddenly a large number of wounded, was smal even than it was eight weeks ago in the middle the winter. In six of the city hospitals, having capacity of 2,590 beds, there were 3,043 patients, 453 more than there were beds for. In fourte private hospitals with a combined capacity 2,856 beds, there were 2,347 patients, leaving vacant beds. Combining these figures we f that in the twenty largest general hospitals in city, having a capacity of 5,446 beds, there w 5,390 patients on March 19, leaving in New Y City but 56 vacant beds. But these statistics of course, misleading, for there were really vacant beds, the 453 bedless patients in the hospitals being put on mattresses on the floor not occupying the vacant beds in the priv hospitals.

New Hospitals for the Insane.—Nearly a mil and a half dollars is now being spent, or is ab to be spent, in some nine different States for buildings for the insane. This is exclusive New York State, where between $600,000 $900,000 is annually expended for this purp It would seem pertinent to inquire whether t might not be an increase in efficiency and decr in cost if the experience of the different St were in some way made available to one anot There is practically the same class of patients t provided for in all cases, and there is little re why buildings which have been found suitabl Massachusetts should not be suitable in Ore The building operations now under way, or ready planned, include entirely new institution Norwich, Conn.; Allentown, Pa.; and Parsons, K and additions to existing buildings at Morrist and Harrisburg, Pa.; Spring Grove and Sykesb Md.; Dunning and Watertown, Ill.; Lyons V Tenn.; Hopkinsville, Ky.; San Jose, Cal.; El Mich.; Las Vegas, New Mexico; Norfolk, Neb., Pineville, La.—*Charities.*

Radium in Blindness.—A recent cable dispat *The Sun* states that Professor Greef, chief of eye clinic at the Berlin University, has stu at the wish of Emperor William, a St. Peters report that blind persons in some cases are abl see objects illuminated by radium rays. Profe Greef found that those whose optic nerve had been destroyed could distinguish objects in f of a screen made fluorescent by radium, but he found that they could distinguish objects on a s transparent screen illuminated by an ordinary l He concluded that the blind cannot hope for slightest help from radium.

Pathological Bulletins of the University of fornia.—Announcement has been made of the tial numbers of a series of Bulletins on Patho from the laboratory of the Medical Departme the University of California, Berkley, under editorship of Dr. Alonzo E. Taylor, head of department of pathology, and director of the He Laboratory in San Francisco. Original wor reported in the quantitative separation of gl lins of hæmolytic serum, with especial referen the carbon dioxide group, and other subjects.

The Red Cross Society.—It is reported fr Washington that several members of the Co gressional Committee appointed to investigate t

American National Red Cross Society are strongly of the opinion that there should be a new organization having absolutely no connection with the present body and that the new Red Cross should receive the sanction of the Government and be under Government supervision. If the committee adopts this recommendation, a resolution will probably be introduced in Congress, authorizing the President to appoint a commission to prepare a scheme of organization for a new society.

Civil-service Examinations will be held on April 9 for the following positions among others: Apothecary in State hospitals and institutions, assistant in entomology in the State Museum, health officer for the town of Coventry, and physicians in State hospitals and institutions of both regular and homœopathic schools, stenographer in State hospitals and institutions. Applications for these examinations must be made on or before April 14. Full particulars of the examinations and blank applications may be obtained by addressing the Chief Examiner of the State Civil Service Commission at Albany.

Dr. Daniel H. Craig.—At its meeting on March 1, 1904, the Massachusetts Medical Society, Suffolk District, Section for Obstetrics and Diseases of Women, elected Dr. Daniel H. Craig as its president. On March 24, 1904, after presenting a paper for their consideration, Dr. Daniel H. Craig was given an honorary membership in the New Hampshire Surgical Club, at its semi-annual session, held at Concord, N. H.

Dr. Jacob E. Schadle of St. Paul, Minn., has been appointed professor of rhinology and laryngology in the College of Medicine and Surgery of the University of Minnesota, Minn., to succeed Dr. Laton, resigned.

East End Hospital.—Councilman Kellogg of Cincinnati has introduced an ordinance to condemn a twenty-five foot lot on Eastern Avenue for the purpose of building an East End Emergency Hospital. This lot is in a railroad and factory district, and is three miles from the nearest hospital.

Gift to Jewish Hospital.—The sum of $5,000 will be given to the New Children's Department of the Jewish Hospital, Cincinnati, by Mr. A. J. Seasongood, and Dr. Sigmond Stark, trustees under the will of Miss Laura Seasongood. One thousand dollars will also be given to the Jewish Home for Incurables. Four thousand dollars has been expended for land adjoining the present hospital site on Burnet Avenue, and this will be used for the erection of new buildings.

The Death Rate in Cincinnati has markedly decreased in the past week, only thirty-two deaths from contagious and infectious diseases were reported to the Health Department last week, twenty-one being from consumption and six from typhoid fever. Measles is rapidly disappearing, only fifty-eight new cases and but one death being reported.

Hospital Fire.—The Delta County Hospital located at Escanaba, Mich., took fire on March 25, and sixty patients were forced to leave the building, many with only scanty clothing. The fire was controlled within an hour.

The Panama Canal Commission, which sailed from New York on March 29, took as sanitary officers Drs. William C. Gorgas and Louis La Garde of the United States Army and Dr. Ross of the Navy.

The Loomis Laboratory.—The Court of Appeals has recently affirmed the judgment of the lower courts in deciding that New York University has no right or title to the lands or properties of the Loomis laboratory at 414 East Twenty-sixth street. The laboratory was founded out of a $100,000 fund contributed by Dr. Alfred L. Loomis in 1887. Its properties are now valued at $200,000.

New Fire Department Surgeons.—Commissioner Hayes of the Fire Department of New York City has announced the appointment as surgeon of the department of Dr. Linnæus J. Hunter for the Boroughs of Manhattan and the Bronx, and Dr. James A. Kennedy for the Boroughs of Brooklyn and Queens. The salary is $2,000 per annum.

Plague in Peru.—United States Minister Dudley cabled the State Department from Lima last week that bubonic plague had broken out in San Pedro, Callao, and Lima.

A Legal Decision on the Pathogenesis of Cancer. Dr. Fred Bangs of San José, Cal., has been sued for $25,000 on the allegation that his treatment of an injured female breast produced a cancerous growth. The question of pathogenesis involved throws a heavy burden on the prosecution.

Guarding Against Trichinosis in Hogs.—The Board of Health of Los Angeles is to be commended for its decision asking that all pork "from hogs fed on the viscera of cattle, sheep, and hogs" be condemned.

Coroner's Red Tape.—Dr. August F. Reinhold of San Francisco died on March 3 of pneumonia. One of the provisions in his will led to some embarrassment. His body was left to science, but as the coroner had ordered an autopsy, none of the colleges desired to accept it. The reason given by the coroner for the necessity of a post-mortem examination was that the last attending physician had not registered.

The Indian Territory Medical Association.—The next annual meeting of this society will be held at Holdenville, I. T., on June 7, 8, and 9. The officers of the association are: *President*, Dr. W. A. Tolleson of Eufaula; *Vice-Presidents*, Drs. David Gardner of Lehigh, and J. W. Gilbert of Roff; *Secretary* and *Treasurer*, Dr. R. J. Crabill of South McAlester.

The Western District (I. T.) Medical Association.—The next semi-annual meeting of this society will be held at Okmulgee, I. T., on April 12 and 13, under the presidency of Dr. W. M. Catt. The secretary and treasurer is Dr. Claude A. Thompson.

The Gastroenterological Association.—The seventh annual meeting of this association will be held at Haddon Hall, Atlantic City, N. J., on June 6 and 7. The sessions will be devoted mainly to a set discussion on gastric ulcer, to be opened by Dr. J. C. Hemmeter of Baltimore. The annual dinner is announced for the first day of the session at 7:30 P.M.

The American Association of Pathologists and Bacteriologists was announced to hold its fourth annual meeting in this city on Friday and Saturday of this week, under the presidency of Dr. Eugene Hodenpyl. Professor Ehrlich was expected to address the society on Friday afternoon.

An Anti-cocaine Law.—The Virginia Legislature has recently passed a law which goes into effect within sixty days, forbidding the sale of cocaine, and no one can buy it except physicians, dentists, and druggists. The present law on the subject is not so stringent. It is said that cocaine addiction is a common vice among the street Arabs of Richmond, and is encouraged by some conscienceless druggists who sell the drug in any quantity to the boys and others without ascertaining the use to which it is put. It is hoped the penalties for violation of this new law will put a stop to this practice.

The Late Dr. Fridenberg.—At the March meeting of the New York Otological Society, the undersigned having been appointed to draft resolutions on the death of Dr. Edward Fridenberg, reported as follows:

Whereas, The death of Dr. Edward Fridenberg has removed one of its original and most earnest members, whose ability and energy had won for him an eminent and honorable position among the members of the medical profession, whose broad education had earned the esteem of his colleagues, and whose kindness and devotion to duty had endeared him to many friends and patients.

Therefore be it resolved, That the New York Otological Society place upon its minutes this expression of loss; that it extend its sympathy to his family in this great sorrow; and that a copy of these resolutions be sent to them and be published in the medical press of this city.

(Signed) CHARLES H. MAY, M.D.,
JOHN L. ADAMS, M.D.

Obituary Notes.—Dr. WILLIAM ALFRED MCCORN died on February 18 of mastoiditis. He was born in Newfield, N. Y., forty-five years ago and was graduated in arts from Cornell, and in medicine from the Medical Department of the University of Buffalo. He was an alienist and had at various times been connected with New York State hospitals for the insane, and with the Kankakee, Ill., Hospital. He left a widow and one daughter.

Dr. JOHN METCALF POLK, the son of Dr. William M. Polk, died of pneumonia at the home of his parents, in this city, on March 29. He was born May 6, 1875, and was graduated from the Sheffield Scientific School of Yale University, receiving the degree of Ph.B. in 1896, and from the Cornell University Medical College in 1899. He served a term as interne in Bellevue Hospital and then took a post-graduate course abroad, chiefly in Vienna. He was instructor in medicine and in physical diagnosis in the Cornell Medical College and was adjunct-assistant physician in Bellevue Hospital.

Dr. DAVID MACKAY, seventy-one years old, died on March 23 at Dallas, Texas. He was born in Glasgow and served on an English warship in the Crimean War as surgeon. In the Civil War he was under Burnside in the Army of the Potomac. Later he was city physician at New Orleans. He was a member of the Board of Pension Examiners, and for six years was surgeon-general of the Grand Army of the Republic of the United States. He was a man of deep research, and noted for wide philanthropy.

Dr. HARRY S. DISSLER of Schoeneck, Lancaster County, Pa., died of acute nephritis in Philadelphia in the Medico-Chirurgical Hospital on March 19, at the age of twenty-two years. He was graduated from the Medico-Chirurgical College in the class of 1903.

Dr. LAWRENCE L. GLOVER died at Haddonfield, N. J., on March 21 at the age of thirty-seven years. He was an assistant surgeon in the Naval Reserve.

Dr. THAD L. JOHNSON died on March 5 at Pomona, Cal., after a lingering illness, at the age of thirty-eight. His father is a practising physician at Riverside.

Dr. ROBERT S. MURPHY of Dublin, Ireland, died on March 5 at Mentone, Cal., in his sixty-fourth year. He came to California six months ago on account of tuberculosis.

Dr. HANS H. BEHR, a native of Koethen, Germany, died at San Francisco, on March 6, at the age of eighty-five. He was a professor in the California College of Pharmacy.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

THE KING'S HOSPITAL FUND—PARLIAMENTARY—MRS GARRETT-ANDERSON—PREVENTION OF CONSUMPTION—INFLUENCE OF ADRENALIN ON METABOLISM—HÆMATOPORPHYRINURIA—WEST-INDIAN DISEASES—HOME OF RECOVERY—WHAT IS A QUACK IN LAW?—HOSPITAL MEETINGS—SIR T. FRASER—SIR S. WILKS—DEATH OF DR. DAVIDSON.

LONDON, March 11, 1904.

THE council of the King's Hospital Fund held its annual meeting on Tuesday, the Prince of Wales, as president, in the chair. The annual subscriptions had increased during the year by £4,000, while the League of Mercy had contributed £2,000 more than in any previous year. The council had resolved to distribute £100,000, which involves drawing on reserves for £18,751; but the money being at the discretion of the council, this action was felt to be justified, having regard to present needs and in full reliance on the continued sympathy and support of the public. Every hospital to which a grant was made was inspected and reported on. The working expenses were less than 2¾ per cent. The fund has now an invested capital of £664,000,255.

The Prince, in moving the adoption of the report, read a letter from one of his personal friends, who wishes to remain anonymous, in which His Royal Highness was offered for the fund by way of gift securities representing £4,600 a year, on condition that £9,332 per annum be provided for by December next. The letter stated that the writer thought that the King's Fund should, as soon as possible, be able to distribute £150,000 a year, and to enable it so to do he proposed to anticipate a provision in his will for the purpose. The writer added that he attached no other condition, but he expressed a hope that no part of the fund subscribed for the relief of the sick poor should be diverted to purposes of medical education. The Prince also delivered a message from the King to the effect that His Majesty's interest in the fund continues unabated.

Yesterday the Prince had another pleasant surprise—a cheque for £250 from the Sunday Concert Society in commemoration of their two hundredth concert. The occasion was determined to be celebrated by a grant from the society's surplus funds "to some charitable purpose of unquestioned public usefulness." The cheque was handed to the Prince of Wales with a request that he would allocate it to such fund or funds as he might decide. As president of the King's Fund, the Prince naturally handed it to that.

The King has quite recovered from the rather severe cold he took at the Cambridge celebration, and which prevented him from going to St. Paul's on Sunday, with the Queen, to celebrate the centenary of the Bible Society.

In the House of Commons the medical members have formed themselves into a committee which will watch over the progress of medical and sanitary proposals much as the Service Committee does over affairs concerning the army and navy. Sir M. Foster will act as honorary secretary of this medical committee, and M.P.'s who are interested in sanitary affairs but are not doctors will be asked to coöperate.

Dr. Farquharson, on Tuesday, in the discussion on the army estimates, congratulated the government on the satisfaction of the medical department, for which Mr. Broderick was to be thanked rather than his successor. But he went on to give a serious warning against wasteful and cheeseparing such as had at times prevailed, and more serious still against the withdrawal of concessions which had at times taken place and always created suspicion and discontent. He further referred with regret to the omission of the medical director-general from the new Army Council—a really dangerous experiment.

Mrs. Garrett-Anderson, honorary secretary of the Imperial Vaccination League, is getting up a manifesto in favor of the revaccination bill introduced to the House of Commons by Sir J. Batty Tuke. The bill provides for revaccination between twelve and thirteen years of age and is down for consideration on April 26, but it is not likely to come on.

Mrs. Anderson is about to retire from the staff of the new hospital for women which she was instrumental in founding thirty-two years ago, and of which the annual meeting was held on Tuesday. The report stated that 612 in patients and 7,629 out had been treated during the year, 387 cases being surgical and 18 ophthalmic. Sir Wm. Broadbent paid a tribute to the work of Mrs. Garrett-Anderson, and accentuated the value of women as doctors. Dr. Cullingworth also spoke.

Yesterday the fifth annual meeting of the National

Association for the Prevention of Consumption was held, the Earl of Derby presiding. His Lordship had evidently been well coached, and made an excellent speech reviewing the year's work. Progress in promoting sanatoria was reported. There are now about seventy in the United Kingdom with 2,760 beds, but most of them are for paying patients. When the King's sanatorium is completed it will add another hundred beds. It has often been proposed to utilize in some way the vacant hospitals erected for smallpox in a panic by the extravagant Asylums Board and sanctioned by the Local Government Board. There are 1,850 beds in these derelict buildings, and it is very unlikely that they will be wanted for smallpox. Why should they remain untenanted? The association would like to have them utilized for tuberculosis, and certainly either this or some other use should be made of them. From the report it seems that the Central Association now has 935 members, and there are twenty branches, bringing the total number up to 2,900. The branches have full control of their own affairs, are in fact independent societies.

Sir Wm. Church, speaking to the report, referred to the unreasonable dread that some persons have of the infectiousness of tuberculosis, especially in the more educated class and those who read the sensational papers. They fancied all they could do was to get at a distance from the bacillus, and so neglected the hygienic measures which would put them in a state to resist the invasion of the microbe. He also advocated the erection of inexpensive buildings for sanatoria instead of expending vast sums on bricks and mortar. The association might very well be invited by local bodies to act as their advisers.

Mr. Malcolm Morris said the association was passing through a financial crisis. Without more money the good work must come to an end. He had sent out 5,000 circulars, but the response to his appeal did not exceed £100.

The Royal Commission on Tuberculosis has been misrepresented in the press as having nearly completed its work. A question in parliament has corrected the statement. The experiments are going on, and it is quite impossible to say when the investigation will be reported on.

At the Pathological Society's meeting last week, Dr. Noel Paton gave an account of a research in which he is engaged on the influence of adrenalin on the nitrogenous metabolism of birds. His object is to settle whether adrenalin produces glycosuria in birds as it does in mammals. It has previously been shown that removal of the pancreas from ducks and pigeons is followed by diabetes, so that this organ cannot play the part it does in dogs in regulating the metabolism of sugar. Dr. Paton has been experimenting on geese, and finds that large doses of adrenalin by subcutaneous injection cause glycosuria as in mammals. Moreover, it produced a marked decrease in the uric acid nitrogen and other bodies precipitated by phosphowolframic acid. Of these about 90 per cent. is uric acid. Further, he finds a distinct decrease in the proportion of ammonia nitrogen, and in one experiment a decrease in the urea nitrogen. It would, therefore, seem that adrenalin interferes with the elaboration in the liver of the end products—uric acid in one case, urea in the other.

At the same meeting Dr. A. E. Garrod reviewed the recorded cases of hæmatoporphyrinuria in which sulphonal had never been taken. The evidence was opposed to the view that excessive hæmolysis was a cause, and pointed rather to perverted hæmoglobin catabolism. Although the slight excess of hæmatoporphyrin often excreted in disease seems to point to diffuse changes in the liver, it cannot at present be stated that the profound disturbance of pigment metabolism which gives rise to the hæmatoporphyrinuria with dark red urine is wholly due to liver disease. Still, serious degenerative changes in the liver have been seen in some fatal cases which seem to have been caused by sulphonal.

Sir Patrick Manson read a paper on Tuesday before the West India committee on "The Disease Problem in the West Indies." Among the diseases prevailing there he mentioned malaria, tuberculosis, dysentery, filariasis, etc. In fact he said all the tropical diseases were there met with. He showed by lantern illustrations the instrumentalities of mosquitoes, flies and other insects, and held that if the knowledge already accumulated can be applied, many of the maladies can be controlled, if not abolished. Tuberculosis will be checked when the negroes have been induced to improve their houses and keep the doors and windows open; malaria, filariasis and yellow fever when people use mosquito nets and suppress puddles; dysentery and anæmia when proper conservancy has been instituted and pure water supplied; excessive infant mortality when negro mothers have been taught how to feed their babies. All these things he held to be within the power of an intelligent sanitation, and he suggested that a well-equipped laboratory should be established in the West Indies, and every boy and girl in the colonial schools taught the leading facts of a rational system of tropical sanitation.

What is a quack? The Lord Chief Justice, in summing up a libel case that has occupied the court most of the week, said it meant "a boastful pretender to medical skill which he does not possess." Certainly that is one sort of quack, but there are others, and I doubt if the word can be restricted to such a definition. His Lordship told the jury it had been for many years decided that to call a medical man a quack is libelous.

The case arose out of a paragraph in *Truth* to the effect that one H. N. Dakhyl, who appends to his name M.D., Paris, and calls himself a specialist for deafness, etc., but of course is not a qualified medical man, happens to be late physician to the notorious Drouet institution—"in other words a quack of the rankest species." It is further presumed by the writer of the paragraph "that he left the Drouet gang in order to carry on a practice of the same class on his own account, and probably he is well qualified to succeed in that particular line." On this a suit for libel was brought against Mr. Labouchere, M.P., the proprietor of *Truth*. The judge told the jury plaintiff was qualified as far as M.D., Paris, goes, "that is to say he was a skilled man." He was also a man that the law allowed to practise here though he was not registered under the medical acts. The subject of foreign medical men practising here did not concern the jury. They must not mix up comment on a matter of public interest with a personal libel. Defendant was properly entitled to comment on such matters, but if in doing so he libeled private individuals he had no protection. The system carried on by the Drouet institution and afterward by plaintiff himself was distinct from his character or competence. Though the jury might think it ungentlemanly and unprofessional to advertise, it was not against the law and "one might have sympathy with a man who was struggling." Defendant was "not entitled to call him a quack because he advertised." The judge had further been struck by some of the evidence as to the danger of treatment by correspondence, "but if it could not be shown that he had done harm, that to a certain extent was an answer." It was for the jury to consider whether the plaintiff was carrying on a practice which no medical man ought to be allowed to conduct. They considered it "to a certain extent," that is about half an hour, and gave the plaintiff damages at £1,000. No doubt there will be an appeal. The whole case illustrates the bungle of our law, which pretends to regulate the profession, but affords it no real protection. The Medical Council has never taken up a proper position but been content to squabble over vested interests until, as happened in this case, it can be shown that, though a man is struck off the Register for the Drouet system, another can follow it with impunity.

A "Home of Recovery" is to be added to London's charitable institutions. The object is to provide a home and surgical care for patients discharged from the hospitals after operations and who need a further period of rest before they are able to resume their occupations. With rare exceptions the convalescent homes hardly meet these cases, and it is proposed to build and endow a home for the purpose. The Earl and Countess of Lytton held a drawing-room meeting in aid of the scheme on Monday, when a distinguished company determined to carry out the plan. Mr. Asquith said the doctors were absolutely unanimous in favor of the scheme and made a feeble joke about "their infinite capacity for honest divergence of opinion on every conceivable problem." What of the lawyer's capacity for divergence, honest or not, provided it be paid for?

Dr. Herbert Snow has sent a letter to the newspapers deprecating a misapprehension of his recent address at the Cancer Hospital. He disclaims being pessimistic, but holds the best schemes of research must fail in the absence of a careful classification of the numerous diseases vaguely called cancer. It is not surprising that reporters should not exactly appreciate the points of an address on such a subject to the subscribers of the hospital.

The thirty-first anniversary of the Medical Society was celebrated on Tuesday evening after the usual manner by a dinner, Dr. deHaviland Hall, president, in the chair, and the fellows present, with the guests, numbering 205.

The City of London Hospital for Diseases of the Chest had its annual meeting yesterday. The income was £10,000 but the expenses were £12,000, and a loan from the bankers had been contracted *pro tem.* Still the committee had recommended the erection of a home for the nurses at a cost of over £3,000. The public it is hoped will come to the rescue of this excellent hospital.

The annual meeting of the Royal Dental was also held yesterday. Money is urgently needed for this institution, which is the great school of dentistry in the Kingdom.

The Ecclesiastical Commissioners own large estates in proximity to the new site for King's College Hospital. They have therefore subscribed £2,500 to the Removal

Fund, as their poorer tenants will naturally benefit from the hospital being so near them.

The King has intimated that he hopes to lay the foundation stone of St. Bartholomew's new building in June or July. The fund for this hospital has passed £50,000.

The King has appointed Sir Thos. Fraser to be one of his honorary physicians in Scotland.

I regret to say that Sir Samuel Wilks has not made good progress during the week.

The death is announced of Dr. Alexander Davidson, consulting physician to the Royal Infirmary, in the rebuilding of which he much assisted. In fact with Sir Mitchell Banks, his colleague, he was quite a leader in that effort as well as in the establishment of University College, Liverpool, now Victoria University, in which he was for some time Professor of Pathology. He graduated at Edinburgh, M.A., M.B., 1863, and M.D., 1874. In the last named year he became a member of the London College of Physicians and was elected Fellow in 1885. He was formerly on the staff of the Northern Hospital and of the Infirmary for Children. He was much interested in nervous diseases, and among his contributions to the subject I may name "Nerve-stretching in Locomotor Ataxia," "Vertigo," and the "Cerebral Manifestations of Lead Poisoning" in the *Liverpool Medico-Chirurgical Journal*, 1881–96; "Syphilitic Disease of the Cerebral Arteries," in the Pathological Transactions, 1877; also various articles in "Quain's Dictionary."

PHYSICIANS PREVENTED USING THE LIBRARY OF THE ACADEMY OF MEDICINE.

To the Editor of the Medical Record:

Sir: Some weeks ago a New York medical weekly published the complaint of an anonymous writer who felt uneasy about the present and future condition of the New York Academy of Medicine because it managed its own affairs. The academy was told that such financial support as it had obtained was afforded because donors expected to contribute for the general medical public; and that those who contemplated giving to the library would hesitate in future. These anonymous suggestions to which nobody cared to reply on account of their being anonymous (I do not care to use a synonym) are also contained in the strikingly similar language of a letter published by Dr. Sam'l G. Tracy in the Medical Record (p. 507). Both (?) writers will be pleased however when they may learn—what can easily be proven—not only that the library of the academy is mainly supported by the dues of the fellows, but also that contributors (not members of the academy) gave their money without any restrictions, merely through their knowledge of the history and the usefulness of the academy.

Dr. Sam'l G. Tracy is not a fellow of the academy; not a member of the Medical Society of the County of New York; not a member of the New York County Medical Association. It is these negative qualities which may enable him to criticise public medical affairs—in his own opinion—in as much as he is so far above and outside them—indeed he may take a bird's eye view of them—but he will admit that the Academy may have something to say for itself, and may have rights of its own.

Academicians have complained for years they could not find access to their own library because every available space was taken up by non-members. The latter class were found to amount to more than 60 per cent. of the readers.

Books were taken home by non-members that were wanted by fellows.

Men in ample circumstances and "in good standing" when requested to join the academy and, like good citizens, aid in the support of the splendid institution would smile or grin. Not they, oh no. They would not think of paying for what the academy gave them and everybody gratis.

We have on file the resignation of a former fellow who told the academy bluntly that he did not mean to pay any longer for what the academy gave away gratis, just as we have on file the sneering letter of another gentleman who resigned because the academy refused to pay him six dollars which nobody owed him.

For many years the academy has been generous to the medical and lay public. It has for the small amount of twenty dollars annually furnished almost unlimited facilities to its members and those who could not or would not contribute to its support. It has built up the second best medical library of the country (one of the best in the world). It has kept it open for everybody until its own fellows complained of being kept out of their own property. Is there any other society, club, or association that is equally liberal?

If in the opinion of our critic we owe everything to him, I may be entitled to ask whether we are not also under obligation to our fellows who pay their dues and dare to make their own rules. These, indeed, have been most generous and worthy of the best feelings of a liberal profession. I may add, that even at present, the council is engaged in framing rules of admission to the library for those who are engaged in literary work, no matter whether they belong to the profession or not.

Dr. Tracy says that "after considerable parley he was allowed to remain when one of the members of the academy insisted upon it." The rule of the library is "silence;" the rule of the employees is obedience to their orders. Dr. Tracy tempted them to break it.

A. Jacobi, Chairman of the Board of Trustees.

To the Editor of the Medical Record:

Sir: I note Dr. Sam'l G. Tracy's letter in the Medical Record complaining that the present rules of the Academy Library do not suit his convenience. As the gentleman is not a member of the Academy of Medicine, I fail to understand on what grounds he is entitled to any privileges whatever. He should rather be thankful for the gratuity he now receives from the academy, namely free use of the library between 9.30 A.M. and 1 P.M. Fellowship in the academy costs $20 a year, and any reputable physician in the city is eligible to fellowship. If Dr. Tracy is busy in his office all the morning he certainly ought to be able to afford to pay the regular dues.

The whole question of the Academy Library boils down to this: If a physician is too busy in the morning to go to the academy, he can certainly afford to pay the dues. If he can't afford the dues, he cannot be very busy, and therefore has plenty of time to avail himself of the privileges of the library at the hours that the fellows gratuitously offer.

Fellow of the Academy.

A NEW BILL TO REGULATE THE PRACTICE OF OSTEOTHERAPY.

To the Editor of the Medical Record:

Sir: A bill has been introduced in the Legislature of the State of New York by Senator Fitzgerald, entitled "An Act to Define and Regulate the Practice of Osteotherapy." It is Senate Bill No. 983, Introductory No. 761, and has been referred to the Committee on Judiciary, of which Hon. Edgar T. Brackett is chairman.

This bill defines "osteotherapy" as follows: "The practice of osteotherapy is defined to be a system, method, or science of healing without the use of drugs or medicine of any kind. It is based upon the proven laws of anatomy and physiology, and comprises scientific and thorough knowledge of the structure and functions of the human mechanism, to apply certain organic laws and natural remedial resources, within the human organism itself, and by means of scientific manipulations and adjustment, assist nature, in harmonious accord with its own mechanical principles, activities and processes, to recover from displacements, derangements, obstructions and pressures, and to regain normal equilibrium of form, action and function, thus restoring to the patient normal health and strength. The word "osteotherapy" is derived from the Greek ("osteon," bone, and "therapeia," nature, healing). The word "osteotherapy" is a correction of the word "osteopathy," which latter means, translated from the Greek ("osteon," bone, and "pathy," suffering) bone suffering. The word "osteotherapy" embraces the science so-called osteopathy, the practice of massage and Swedish movements to its fullest extent, and any one practising the latter sciences, under those or different names, shall come under the jurisdiction of this act."

It is difficult to imagine this as a serious effort to secure legislative enactment, for to read the definition is "to laugh;" but we must assume that the gentleman who introduced the bill was not actuated by a desire to amuse his colleagues. The measure goes on to provide for a board of examiners, appointed by the Regents of the University of the State of New York, for examination and registration fees, and so on. If physicians will write to the members of the Senate Judiciary Committee opposing this bill, its fate will not be long in doubt.

If you will publish this letter together with the inclosed reasons * why "osteopathy" and allied "pathies" should not receive special recognition, it will bring the matter before the profession, and, I believe, aid those who are endeavoring to protect our professional standards. One of the arguments used at the public hearings before our legislature is that other States have enacted laws recognizing the practices of "osteopathy," "optometry," and other peculiar methods of treating disease. I cannot believe that New York will ever enact similar laws unless some better reason than this is ad-

ıced. I do not believe that New York will enact any
s affecting the practice of the healing art unless the
dical profession will endorse them. This opinion is
result of about eight years of more or less intimate
uaintance with our legislators, and, if it is correct,
n, to use the language of the day, it is up to the medical
fession to be alive to its responsibilities.

ASONS WHY OSTEOPATHY, OSTEOTHERAPY, AND OTHER
ECULIAR METHODS OF TREATING DISEASE SHOULD NOT
ECEIVE SPECIAL PRIVILEGES.

'1. There are no methods of counteracting the results
lisease, or of remedying or correcting physical defects,
own to science, which are not known and practised by
lified and competent physicians when such methods
e in themselves any valuable properties.

'2. The practice of medicine, or, to use the more com-
hensive term, the treatment of disease, has not reached
t degree of perfection where it is possible to say with
ctness that a certain remedy is a certain cure under all
ditions. Circumstances modify conditions, and it is
y after weighing all the conditions present in a given
e, and often after consultation with experts in special
s, that the remedy can be selected and properly ap-
d; and even then, under what may seem to be the
t favorable conditions, the results are not always
isfactory. Therefore, the State, recognizing how im-
fect and uncertain the knowledge of the healing art is,
created a standard of proficiency with which all who
e the right to practise this art must comply.
that such practitioners may be able to treat cer-
diseases; not with the idea of creating certain
es of practitioners, but with the single idea that
who hold themselves out as competent to practise
healing art shall have sufficient knowledge to re-
ize and discriminate the various diseases and defects,
to be familiar with and able to apply the known
dies. The State places in the hands of practitioners
the healing art extraordinary discretionary power;
receiving this power from the State these practi-
ers are responsible to nobody but themselves for
conscientious discharge of their duties. It would be
ifestly improper for the law-making powers to confer
ileges such as these on any but the most competent,
der to make them as little a menace to the community
possible.

3. Osteopaths, or osteotherapaths, claim that the
hod they employ is not the practice of medicine. The
on, be he Supreme Court Judge or an ordinary citizen,
o claims that the practice of medicine necessarily im-
s the giving of medicine or drugs, must have a very
ited knowledge of the work of physicians. There are
y physicians who have received the privilege from the
e to practise medicine, and who would deny they were
thing but practitioners of medicine, who rarely resort
rugs in the treatment of the affections they have to
l with. Indeed, it is quite as much the function of the
ical practitioner to give advice as it is to give medi-
; to apply other forms of treatment, as bath, rubbings,
age and manipulations, as it is to apply drugs.
re is an ever-growing tendency to give fewer and fewer
gs in the treatment of disease, but no educated physi-
would be willing to undertake the treatment of any
of disease if he was denied the privilege of giving
s and medicines if they seemed to be indicated, or in-
d to be restricted in his treatment of disease to the em-
yment of any one method. Whether the treatment of
ase is the practice of medicine or not, one thing is cer-
: osteopaths and osteotherapaths desire the privilege
essed by licensed physicians, that of treating diseases.
one disease, or any particular class or type of disease;
y desire the right to undertake the treatment of all
ases, defects and infirmities indiscriminately, as phy-
ans do, except that they are willing to be restricted to
employment of one method of treatment. This, as
ady stated, is in itself sufficient to condemn them as
icating the absence of knowledge of the scientific dis-
veries of the present time. No conscientious and edu-
ed physician would be willing to submit to a restriction
this kind.

"4. The so-called theories of the so-called osteopaths or
teotherapaths, are positively dangerous. For example:
ey have recorded themselves at the hearings before the
gislature of New York and other States as not believing
the contagiousness of certain diseases, as smallpox,
arlet fever, erysipelas, and so on. With this ignorance
ey would not realize the necessity for disinfection, and
ould go directly from attendance on a case of this kind
deliver a pregnant woman, and the result might be
astrous.

"The denial of the value of antitoxins, of vaccination,
d of the necessity for isolation and disinfection, together
th the teaching of doctrines entirely at variance with
cepted scientific facts, stamps these people as positively dangerous to the community. That they should ask the State to create a standard for them less rigid than that with which physicians generally have to comply, is evidence itself that their motive is neither honest nor honorable. If osteopaths, or osteotherapaths, really and honestly believed that they were possessed of a knowledge, or had a method of treating diseases superior to the knowledge or methods of other physicians, they would not constantly endeavor to secure the legal right to employ their methods by compliance with a standard less than that already demanded by the State. The logical course to pursue would be to comply with the existing standard, and then demonstrate the superiority of their methods.

"5. Osteopaths, or osteotherapaths, claim an extraordinary knowledge of anatomy and chemistry. If such a claim is a truthful one, it does not stamp the possessors of such knowledge as competent to practise the healing art. A knowledge of physiology and pathology is even more important and necessary. It will not do to say one does not believe in the accepted views of pathology and etiology unless one has a knowledge of them, and one cannot have a knowledge of these branches unless one has devoted sufficient time to their study to acquire it. If four years of study are necessary to prepare and properly equip physicians, and osteopaths, or osteotherapaths, can secure the legal right to undertake the treatment of disease after only two years of preparation, some other class of practitioners will doubtless appear and urge, with equal reason and justice, that only one year of preparation is necessary to properly fit one to practise their method. It will not do for the State to discriminate; if any standard is necessary at all, it should be made to apply to all alike. Either this must be done, or, in justice to all practitioners of the healing art, all standards should be abolished, and the field thrown open to all comers. The latter course would be best for the doctors, but not so good for the community. The public generally can have but a limited knowledge of what is best in the way of remedies and methods in the treatment of disease. For its own protection the State creates medical laws, and, instead of lessening the requirements of these laws at the request of all sorts of fakirs who may come along, it would be better to make the requirements more rigid, and make the penalty for violation of the common law so severe and so easily enforced that quacks and charlatans of all kinds would keep clear of the State of New York."

FRANK VAN FLEET, M.D.,
Chairman, Committee on Legislation of the Medical Society of the State of New York.

Progress of Medical Science.

The Boston Medical and Surgical Journal, March 10, 1904.

Blood-pressure Observations in Surgical Cases. Report of the Committee on Research for the Division of Surgery, Harvard Medical School, January, 1904.—W. E. Faulkner, for the Boston City Hospital; J. S. Stone, for the Children's Hospital, and F. T. Murphy, for the Massachusetts General Hospital, have exercised a general supervision over this work, and have reported upon the value of the results. The Riva-Rocci sphygmomanometer was employed. The Committee on Surgical Research summarizes the results of this series of observations as follows: The value of the Riva-Rocci apparatus in determining the blood-pressure in surgical patients is limited to a comparatively small number of cases. The conditions of cerebral compression and of surgical shock produce the most marked and definite alterations in the blood-pressure. When these conditions are present, and other confusing causes of alteration in the blood-pressure are eliminated, the value of the blood-pressure determinations, as an indication for or against operation, is increased. Under other circumstances the value of these observations is at present not apparent. The adoption of blood-pressure observations in surgical patients does not at present appear to be necessary as a routine measure.

Journal of the American Medical Association, Mar. 26, 1904.

The X-Ray in Leukæmia.—E. J. Brown reports a case thus treated. His patient was a man of thirty years with the splenomyelogenous form of the disease. Iron and arsenic were given internally, while the rays were applied to the splenic region twice a week. The general condition so improved that after a while the internal remedies were discontinued, while the rays were applied daily to the spleen-ends of the long bones and sternum. After seven months all symptoms of the disease had disappeared. The author gives the results of the blood counts at various stages of the treatment.

The X-Rays in Pseudoleukæmia.—The patient of O. W. Steinward was a girl of fifteen years with the typical con-

ditions of the malady in question. She grew worse on Fowler's solution, and was exposed to the *x*-rays directed to the neck once daily. After three months of treatment, all troublesome symptoms had disappeared and the patient expressed herself as being in the best of health. As treatment progressed, the spleen increased in size. The only explanation the author can offer is that there must have been certain toxic products, liberated through the influence of the *x*-rays, which were at once taken up by the circulation, causing also acute exacerbations of ill feeling following each exposure. This condition of elevated temperature and ill feeling lasted from ten to fourteen hours, and was so severe at times that had it not been for the steady reduction of the size of the glands the treatment would have been abandoned. Six months later all the formerly enlarged glands had shrunk to their normal size but were still hard and fibrous. The general condition was excellent.

Obstruction and Consequent Distention the Cause of Appendicitis.—This proposition is advanced by C. Van Zwalenburg, who bases his views on cases seen in actual practice and on experimental appendicitis in dogs. His conclusions are as follows: (1) Simple infection does not account for the suddenness of the attack nor early severity of the pathological changes in acute appendicitis. (2) The evident interference with the blood supply is best accounted for by an increased intra-appendicular pressure. (3) Simply injecting bacteria into the appendix wili not produce appendicitis unless used in abnormal amounts and virulence. (4) Subperitoneal ligation of the appendix with a simple ligature without distention cannot be made sufficiently permanent to produce a general infection of the appendix, typical of appendicitis in the human being. (5) Experiments in dogs show that hydraulic pressure equal to the arterial tension maintained within the lumen of the appendix for a short time is promptly followed by typical appendicitis. (6) The blood supply in an extremity may be cut off with impunity for hours; but in the appendix the ever-present bacteria at once begin an infection, their entrance into the tissues being facilitated by the opening of normal and traumatic avenues by the very distention which cuts off the circulation. (7) The importance of making a complete diagnosis and prognosis during the first twelve hours of the attack is emphasized. (8) This study suggests the possibility of infections or other lesions being produced in other hollow viscera, especially in the gall-bladder, the stomach and intestines by temporary overdistention.

The Relations of Nature's Provisions for Heart Stimulation and Control to the Use of Cardiac Drugs in Acute Disease.—L. F. Bishop deprecates the use of the term "stimulant" as applied to cardiac remedies. We have but few stimulants in the true sense of the word and these are rarely used. Many drugs so-called are really only regulators. The best stimulants, such as ammonia, ether and amyl nitrite, are poor regulators, while the best regulators, such as digitalis, strophanthus and sodium iodide, are poor stimulants when a quick action is needed. Bishop declares that the misconception of the importance of stimulation as an element in recovery from disease has unquestionably led to much harm. When in a very sick person it is found that the pulse is slow, reflecting only the weakness of the patient, one should rather rejoice than otherwise. Circulatory failure does not, as a rule, take place in this direction. Primary low arterial tension without excessive rapidity is not ordinarily dangerous if let alone. Such a heart may carry on its work successfully, while if injudiciously drugged it may be so exhausted that if the stage of the rapid and feeble heart be reached, there may not be reserve force enough to carry the patient through the disease. Increase in the heart rate in disease tending to dissolution is combated only by measures influencing vitality itself. If in acute disease the patient is to be pulled through, it must be done by measures directed to the restoration of the whole body economy. Hence the value of strychnine, hydrotherapy, nutrition, and above all, of sleep. No matter how interesting the mechanical questions of the circulation may become at such times, the whole man must be treated and not the heart alone.

Medical News, March 26, 1904.

A History of Saliva, Its Physiology, Chemistry, and Pathology.—Harold M. Hays gives an interesting review of the literature on saliva. He then considers its physiological chemistry and pathology. He presents the following conclusions: There are many interesting points in connection with saliva, some of which have been worked out only "in embryo." The work on saliva has broadened its field by means of the wonderful improvement in technique. The examination of saliva may play a decided part in diagnosis when more is known of the subject. The writer is now working on tuberculous saliva. Another line of investigation is in the detection of urea in the saliva in cases of eclampsia.

Sea-bathing in Some Forms of Skin Diseases.—R. Abrahams enumerates the following diseases in which he has seen successful results from sea-bathing: Pityriasis versicolor, herpes tonsurans maculosus et squamosus, chronic eczema, and pruritus senilis. Baths in tanks filled with ocean water have resulted in utter failure to obtain any appreciable results. It must be concluded that bathing in the sea derives additional value from certain factors which the writer believes to be the following: The longer immersion which is possible, because it is more agreeable in the sea; the pounding of the billows which rubs the water into the skin; the exposure to the sun in the intervals of the dips, which dries the solids in the water into the skin; and the rolling on the sand of the beach, which helps to remove scales and other pathological débris from the skin.

Physiological and Clinical Aspects of Hydrotherapy with Special Reference to the Treatment of Psychoses.—R. D. Baker says that primarily the action of water is that of an irritant to the peripheral sensory nerve-endings and in this reflex way affects the circulation, respiration, temperature, tissue change, and secretion. The writer then describes the various methods in use in hydrotherapy, and gives an account of his work in this field among the nervous and insane. He has found the wet pack at 65° F., or the full bath at 65° to 105° F., very useful in excited cases and in insomnia. He classifies his cases as follows: Acute melancholia, acute melancholia with agitation dementia præcox, hysterica, and puerperal insanity. The patients, by this treatment become brighter and more interested in things about them. The physical condition greatly improves, the appetite increases, and with it the body weight. There is improvement in geneal muscular and nerve tone. Hygienic and medicinal measures are also continued at the same time. The various hydriatic measures adopted in a given case will depend upon the disease, the condition of the patient, and the particular result desired. Hydriatic treatment is given with good results in cases of measles, scarlet fever, and pneumonia.

Pneumatic Tourniquets, with Especial Reference to Their Use in Craniotomy.—Harvey Cushing states that the suggestion of an inflatable tourniquet doubtless originated in the use of the distensible armlet of the Riva Rocci blood-pressure apparatus. The writer calls attention to the effect of this armlet in operations on the extremities. The pressure is relatively painless, but the slow distension by shutting off the veins before the arteries causes such an engorgment as to render a clean dissection most difficult. The writer has constructed a similar armlet, broader, of less distensible rubber, and of such quality that it would stand boiling. This is connected with a bicycle pump of sufficient size, so that one or two quick strokes of the piston suffices to fill it. The tourniquet may be adjusted but not blown up until the operation is begun. During the past year, and since the writer has been using this tourniquet, eighteen of a series of craniotomies have been in a situation suitable to its use. A detailed description is then given of the writer's method of cranial osteoplastic resection. He finds this tourniquet most useful in these operations. It is narrow enough to lie well below the inferior area of the motor zone. The local part of the dressing over the wound is applied before the tourniquet is allowed to collapse, and is removed from the head.

New York Medical Journal, March 26, 1904.

The Best Time for Repairs of Laceration of the Cervix.—R. L. Dickinson advises the following course to be followed: (*a*) to suture cervical injuries at the close of labor when they seem to be the cause of post-partum hemorrhage; (*b*) to sew up all cervical tears in the first week in conjunction with the perineal operation when the pelvic floor injury is of such character that a few days' delay is desirable, and (*c*) to restore severe injuries to the cervix from the third to the tenth day after delivery.

The Use of Injections of Sodium Cinnamate in Locomotor Ataxia.—P. Bartholm advises the use of a 10 per cent solution of the drug in sterile water, begins with doses of twenty minims, gradually increased to sixty, and as a rule injects thrice weekly in the interscapular space. His results have been extremely satisfactory. He believes that the remedy benefits the organism in two ways: (1) by promoting appetite and digestion and, consequently, nutrition; (2) by setting up chemical changes in the outlying regions of degeneration, in the cells and connective tissue of the nerve substance.

Physiological Saline Solution; A Review of Some of Its Clinical Uses.—E. P. Palmer describes the preparation of the solution and enumerates as its uses the following: to com-

effects of hemorrhage, relieve shock, stimulate excre- in uræmia and puerperal sepsis, lesser toxæmia in oning from carbonic mon- and di-oxide, chloroform, r, opium and belladonna, to restore the tone of the sys- after severe intestinal fluxes, relieve diabetic coma suppression of urine, and as a local dressing for severe ns. He especially advocates hypodermoclysis, which ays has largely superseded the intravenous method. he former the fluid must first be taken up by the lym- tics and enter the general circulation slowly, the danger dden and forcible stimulation of the heart and sudden ease in the blood-pressure being avoided. There is no re- on following hypodermoclysis when done under strict tic precautions and followed by gentle massage, and it rdinarily quite as effectual as the intravenous route; as it is not so rapid in its action, it is not to be depended n in desperate cases, when immediate action is neces- . The solution should be allowed to flow slowly and age of the resulting tumor should be continued until solution is absorbed.

e Influence of Typhoid Fever on the Nervous System.— lences of the effect of the disease on the nerves are first ifest, according to C. C. Hersman, in the prodromal s and pains, especially the headache. Not infre- tly we have a weak heart action by direct effect on cardiac ganglion and nerve supply to the heart. The hoses are the initial delirium, which may be a very symptom, the febrile delirium which usually comes e second or third week, which amounts to a confused ition of the mind, a melancholia, or a violent motor ement, the low muttering delirium so common in typhoid. Convalescence may be disturbed by a de- n due to exhaustion. In the inherited neurotic cases a and melancholia may occur. Meningitis is a grave plication. Among the neuroses we find epilepsy, eria, tabes, multiple sclerosis and the so-called "ty- d" spine. Less frequently the nerves of special sense involved. Insanity is not uncommon. Soreness of eet and calf muscles during convalescence is often . The author has seen also several cases of multiple itis, the low extremities suffering more than the upper.

American Medicine, March 26, 1904.

emoval of a Pin from the Vagina Seven Months After g Swallowed.—Frank C. Hammond reports this case. patient was a woman twenty-eight years old. In the se of treatment for metritis, a pin was discovered in left vaginal wall. It finally protruded through the nal wall, and was found to be embedded in the pelvic r. The part within the vagina was seized with a mostat and pushed upward into the vaginal wall, thus ngaging the point. It was then pulled out from the inal wall. It had not undergone any change in the y. The patient remembered swallowing a pin about en months before.

Abdominal Pain.—J. H. Musser in his discussion of this ubject speaks of abdominal pain not due to disease elow the diaphragm, which occurs in: (1) Crises of comotor ataxia and other organic spinal-cord diseases; 2) Spondylitis rhizomélique; (3) Caries of the vertebra; 4) Cancer of the vertebra; (5) Aneurysm of the thoracic orta, especially located above the diaphragm; (6) Diaphragmatic pleurisy, and rheumatism of the dia- hragm; (8) Cardiac affections. In this last class the writer refers to the epigastric pain of acute pericarditis; of a congested left lobe of the liver in acute failure of ompensation; of angina pectoris. The writer believes hat pancreatitis is a more frequent affection than is enerally believed. The true significance of abdominal ain can be appreciated and life often saved by careful bservation, eternal vigilance, and breadth of view. The isappearance of pain must not inspire false hopes. For xample, in case of pain due to gangrene in appendicitis, he physician must be wary if the pain disappears. As vidence of toxæmia, a leucocyte count is of great value. The absence of pain in cases in which the other symptoms of obstruction of the bowel prevail is an indication that uch obstruction is due to paralysis, from overdistension, rom inhibition of nerve influences or from thrombosis n account of which the blood-supply is cut off.

Fatal Pulmonary Embolism Following Ascending Phlegmasia Alba Dolens.—John G. Sheldon reports three cases of this nature. He is unable to find anything in the literature that is of value on these points. His own experience leads him to believe that the ascending form of milkleg rarely occurs, but when present is far more apt to be followed by pulmonary embolism and death than is the secondary, or descending, form of the condition. In the many cases of descending phlegmasia alba dolens he has seen, he has never known of a case of pulmonary embolism to occur. The literature offers no help in reaching a conclusion as to the proportion of fatal endings in these cases. The symptoms in the writer's own cases present nothing unusual.

Bradycardia, with Report of an Unusual Case.—J. William Watson had under his care a patient of seventy-eight. His pulse was normally sixty-six. The writer when called found the patient in a very alarming syncopal, apoplectiform, or epileptiform condition; the pulse was 18. There had been two previous attacks. A few hours later he suffered another attack. This time the pulse was down to 16. For a month his pulse did not go above 32, and usually remained at 26 or 24. The patient continued in this condition about three months with pulse regular and slow. Extra exertion produced another attack. From this he recovered and attended to his business for two months. In the last attack his pulse bounded from 18 to 66. It then gradually dropped down to 18 and finally stopped altogether.

The Lancet, March 19, 1904.

Two Cases of Rodent Ulcer Treated by Radium.—The cases are reported by A. S. Green. Case 1 was that of a woman of seventy-five years with ulcer of the right ala nasi involving also the internal structures. The *x*-ray and high-frequency current did not give any definite results. The author therefore tried applications of radium bromide in a glass tube, the latter being held within the nose for from five to twenty minutes every second day. In three weeks the ulcer was well. Case 2 was that of a man of sixty-five years with rodent ulcer of the scalp. The *x*-ray gave no result. The tube of radium was used as before—held now up against the ulcer for from fifteen to twenty minutes. Seven exposures given within one month healed the ulcer.

Acute Appendicitis: Its Diagnosis and the Indications for Operation.—W. Russell's views on this topic are summarized in the following propositions: (1) Certain appendices are so formed anatomically that they of necessity give rise to trouble. (2) Interference with the drainage of the appendix is an important factor in determining inflammation. (3) The occurrence of appendicular colic may be taken as a warning that dangerous anatomical conditions exist in connection with the appendix. (4) In all abdominal cases detailed palpation should be carefully and patiently carried out. (5) Too much emphasis must not be put on the site of pain or on superficial tenderness. Palpation should be directed toward ascertaining the actual condition of the diseased part. (6) Statistics show that from 90 to 95 per cent. of cases recover without operation, and the chances against recurrence are as three to one or thereby. Therefore routine removal cannot be accepted as necessary. (7) Operate at once in any case with a history of previous attacks, also in all cases commencing with a rigor. (8) The chief difficulty lies in the early recognition of the cases in which the appendix will necrose or perforate rapidly. In this connection we should suspect cases which show constitutional disturbance with little inflammatory reaction round the cæcum but present marked tenderness on deep palpation and an ordinary degree of leucocytosis. (9) In cases which do not call for immediate operation pain may be relieved by hot or cold local applications and by a cautious and sparing use of opium or morphine or of belladonna. Lavage may give good results. (10) Medical treatment should not be relied on for more than from twenty-four to forty-eight hours if severe pain continues or an acute tenderness on deep palpation still remains. (11) Later in the disease a continuance of the local and general symptoms along with a high leucocyte count indicates the presence of pus and the necessity for operative interference.

The Early Diagnosis of Acute Intestinal Obstruction.—W. Hale White refers to the difficulty of diagnosis between certain cases of obstruction and acute appendicitis. Generally, appendicitis is mistaken for obstruction, but not of the most acute variety. It is not rare for a mistake to be made between acute general peritonitis and intestinal obstruction, and this is not surprising, for strangulation of the bowel renders possible the passage of bacteria through it, and therefore many cases of acute obstruction quickly become complicated by acute peritonitis; hence, it follows that the difficulty of diagnosis is often less, the earlier the case is seen. Speaking generally, absence of fever and of leucocytosis indicates obstruction; so also rapid abdominal distension, especially if peristalsis can be noted in the intestinal coils; early and urgent vomiting quickly becoming stercoraceous is in favor of obstruction; the pain is often paroxysmal in obstruction, the abdomen is not board-like or very tender, and there is no cutaneous hyperæsthesia; the patient does not lie in the usual attitude of peritonitis but may bend forward, doubled up by the pain, and the abdomen moves with respiration until later in the disease than is the case with acute peritonitis. But it is essential to bear in mind that every one of these

symptoms which have been mentioned as generally indicating obstruction may be met with in peritonitis in which there may be complete absence of the passage of fæces and flatus by the bowel. Volvulus is the form of intestinal obstruction which most resembles acute peritonitis. Other conditions mistaken for intestinal obstruction are acute hemorrhagic pancreatitis, perforation or rupture of any hollow viscus, thrombosis and embolism of the mesenteric vessels, intestinal biliary and renal colic, twisted pedicle of pelvic tumor, and hysteria. In regard to operation, it should be remembered that the early symptoms of acute intestinal obstruction are caused by strangulation of the bowel and not by its obstruction. Usually speaking, there are no acute symptoms unless there is strangulation and the symptoms of this are sudden, agonizing pain, often paroxysmal, referred to the umbilicus, frequent, early, distressful, and severe vomiting, a rapid, feeble pulse, an ashy, pinched countenance, a normal or subnormal temperature, and collapse. If there is great and rapid distension in addition to symptoms of strangulation, we infer a volvulus; if there is history of chronic obstruction—*e.g.* that due to malignant growth in the large intestine—the distended bowel behind the obstruction has become kinked or strangulated in some way; there may be other evidence of intussusception; or if, as is usually the case, we decide none of these are present and there is no external hernia, then, arguing from the experience of the post-mortem room, we learn that the small intestine is almost certainly the seat of the strangulation, but we cannot from the foregoing locate the exact site of the trouble.

British Medical Journal, March 19, 1904.

Venesection in Opium Poisoning.—William A. Caskie declares that when all other efforts have failed to rouse the patient from a comatose condition, venesection may restore the patient to consciousness by the abstraction of some of the poison circulating in the blood, thereby preventing its reabsorption, and relieving in some degree the paralysis of the nervous system. This treatment has met with great success.

Two Cases of Lung Disease Treated with the Emanations from Thorium Nitrate.—Gordon Sharp gives a brief account of two cases of lung diseases which were greatly benefited by inhalations from thorium nitrate solution. A bottle which has a capacity of 500 c.cm. is filled with water in which is dissolved 100 grams of thorium nitrate. The solution is ready for use after standing for twenty-four hours. The gaseous emanations then have time to collect. The bottle consists of an ordinary gas-washing bottle modified to suit the special conditions. The writer does not claim for the emanations a specific action, but he wishes to call attention to the beneficial results of this treatment. The breathing exercises, even alone, must be good.

Some General Results of Affections of the Nose and Nasopharynx.—W. S. Syme speaks of the effects of disorders of the nose and nasopharynx on the general health. The secretions which pass into the stomach as a result of these diseases are bound to influence the health. The nervous or mental element must also be considered in these cases. In cases of chronic ill health, associated or not with gastric derangement, it is advisable to include among the possible causes certain affections of the nose and nasopharynx, especially those giving rise to a discharge of a mucopurulent or purulent character. The patient may even be unaware of the existing nasal trouble. Careful rhinoscopic examination may be necessary to discover it. Treatment directed to the nose should be looked upon rather as a reinforcement of, than as an alternative to, the more usual methods.

Some Points in the Treatment of Hæmoptysis at a Sanatorium.—J. Penn Milton classifies hæmoptysis as follows: Occurring early in the disease; when the disease has been present for some time and the physical signs reveal a decided extent of consolidation; late in the disease when cavitation is present; in any stage in plethoric subjects. In the first class, the treatment depends upon the amount of blood lost. Exercise is often indicated, but it should be short of fatigue and breathlessness. In the early cases, medicines beyond a saline purge are usually not necessary. In the second-class, treatment should be directed to strengthening the lowered vitality, and to improving nutrition by sanatorium treatment and forced dieting. If fever is present, it must be treated by rest in bed, if high, and by rest on a *chaise longue* in the bedroom if slight. The object to be attained in treatment of the third class is to favor the formation of a thrombus, which is gained by (1) lessening the frequency of the heart beats; (2) resting the lungs as much as possible; (3) lowering the blood-pressure. The first two can be effected by seclusion and absolute rest. The administration of saline purgatives will lower the blood-pressure. After severe hemorrhage the patient must remain in bed till the sputum has been free from blood for at least a week. In the fourth class, the treatment indicated is (1) to lower the blood-pressure; (2) a full amount of exercise, provided there is no contraindication, such as fever; (3) a modified diet, in which vegetables, especially green ones, play a large part, a minimum amount of meat, and alcohol should be forbidden. Wind exposure is always liable to bring on an attack of hæmoptysis. Each case must, of course, be treated individually.

Deutsche medizinische Wochenschrift, March 10, 1904.

The Side Effects on the Ear of Some Drugs.—Schwabach describes two cases in which ear symptoms occurred which remained inexplicable until it was discovered that the patient was taking medicines for other conditions. The first was that of a young woman suffering from obstinate tinnitus, deafness, rhinitis, and blepharoconjunctivitis. Treatment proved unavailing to effect more than temporary relief till it was learned that she was at the same time taking Fowler's Solution for a chronic eczema. Stopping the drug cured the symptom complex. The second patient was also a woman, who came under treatment for acute pneumonia. She suffered from extreme tinnitus and deafness, which it was afterward discovered were due to large doses of salipyrin taken at the beginning of the sickness. The author says that fluid extract of ergot often brings relief in these conditions, though there appears to be no pharmacological reason for its doing so.

The Treatment of Fractures of the Lower Jaw.—Kerstin discusses the treatment of this difficult lesion and describes the appliances that have been devised to secure immobilization of the fragments. The requirements to be fulfilled by any form of dressing are that it shall lead to perfect healing and that the function of the jaw be interfered with as little as possible during the treatment. For uncomplicated cases a simple external splint with bandage passing over the top of the head often suffices. Wiring the fragments is often very satisfactory but cannot be done when comminution exists, and always condemns the patient to loss of function of the jaw during the process of repair. Various forms of dental splint are described, but these are nearly all either painful to apply, are insecure, or are open to the objection of not permitting cleansing of the mouth and therefore lead to great discomfort to the patient. The author has devised a splint of caoutchouc, reinforced with wire, which embraces the teeth on both sides but allows their crowns to lie exposed so that mastication is possible. Exact adaptation to the irregularities of the teeth and easy removal and reapplication are secured by making portions of the splint hinged so that it can be opened up for introduction and closed when in position.

The Significance of the Fatty Tissue in the Pathology of the Knee-joint.—Hoffa describes a form of knee-joint disease which has not received the attention it deserves. It consists in an inflammatory hyperplasia of the fatty tissue underlying the ligamentum patellæ, in consequence of which it becomes permeated with strands of tough, fibrous connective tissue. The starting point of the affection is nearly always a trauma, usually acute, though it may be chronic, whereby the fat tissue in question is irritated and a proliferative inflammation is induced. The swollen tissue thus bulges into the joint and is constantly pinched between the femur and tibia, thus causing pain and leading to aggravation of the inflammatory process through the repeated irritation. The symptoms are much like those of a movable cartilage in the knee, but the differential diagnosis may be made owing to the characteristic appearance of such a joint. No fluid is present, but below and on either side of the patella a rather soft, semi-fluctuating swelling is visible and palpable. The treatment comprises palliative measures, such as moist compresses, massage, and compression. If these are ineffectual the offending mass of fat can easily be removed through a longitudinal internal incision. The author reports on seven cases cured in this way.

Berliner klinische Wochenschrift, March 7, 1904.

The Treatment of Ozæna by Paraffin Injections.—Fliess, actuated by the view of numerous writers that ozæna is largely due to abnormal size of the nasal passages, has tried the paraffin method of Gersuny to reduce the lumen of the canals. The method is as follows: The nasal cavity is carefully cleansed and all crusts removed, the inferior turbinated, the floor of the naris and the septum are then cocainized. Meantime an assistant has been preparing the paraffin and syringe, and the mess is injected into one or both ends of the lower turbinated, as seems necessary. If the lumen is still too large a little paraffin may be injected into the septum also. The author has made thirty-two injections in twelve cases with very satisfactory results. No cure has been obtained or hoped for, but the improve-

ment has been greater than with any other method. The crusts have disappeared to a greater or less degree, the secretion is diminished and the odor has been reduced so much that in some patients it cannot be noticed and in others is very slight.

The Intensity of Cholera Amboceptor Formation after Alcoholic Intoxication and Mixed Infections.—Friedberger attempts to solve the problem of the value of alcohol as a therapeutic agent in infectious diseases by testing the antibody formation on the injection of dead cultures of cholera vibrios into rabbits previously treated with alcohol. The antibody formation was measured by determining the amount of serum sufficient to protect a guinea-pig against ten times the fatal dose of cholera vibrios. By this method it was found that a single dose of alcohol given at the same time as the immunizing injection serves to increase the antibody formation two and one half times. This is in accord with the beneficial results observed by clinicians in the administration of alcohol early in infectious diseases. On the other hand, the animals subjected to chronic poisoning with alcohol produced a serum sixteen times weaker in antibodies than that of the control animals. This bears out the observation that in epidemics it is the alcoholics who succumb first. Animals injected with mixed cultures of cholera and other organisms, such as typhoid bacilli or those of rabbit septicæmia, produced a serum from six to forty times weaker in antibodies than that of the control animals who had received only cholera culture.

Münchener medizinische Wochenschrift, March 8, 1904.

A Case of Traumatic Pulmonary Hernia without External Injury.—Riebold describes this case, which belongs to the curiosities of medicine. The patient fell heavily to the ground, his chest striking against a block of iron. Several ribs were fractured, and ten weeks later a hernial protrusion of the lung several inches in diameter was sometimes observed in the space between the injured second and third ribs. The protrusion appeared only when the intrathoracic pressure was raised by forced expiration, coughing, stooping, etc. Examination of the intercostal space showed that the fractured ribs had separated somewhat, and that the intercostal muscle had been torn through, so that the lung tissue could be palpated directly through the gap. The symptoms occasioned were local pain and dyspnœa, but showed a tendency to steady diminution of intensity.

A Case of Complete Rhinoplasty from the Arm.—Habs describes an interesting method of applying the Tagliacotian procedure for rhinoplasty. The patient was a young woman who had suffered complete destruction of the nose through syphilis. Wishing to avoid the further deformity which the scars attending the Indian rhinoplasty impose, the author decided to attempt the Italian method with the addition of including a strip of bone with the flap from the arm. At the first sitting a large tongue-shaped flap was stripped back from the dorsal surface of the left forearm. A strip of bone was chiseled from the ulna, severing all connections except a periosteal bridge. On this, as a hinge, the strip was turned over so that its raw surface came in contact with the under surface of the flap. The large denuded area was skin-grafted and the flap allowed to drop back over the grafts till the second step of the operation was done a month later. The flap was raised, the periosteal bridge divided, and the projecting end of the flap turned down over the periosteal surface of the strip of bone, which was thus, so to speak, wrapped up in the flap. At the third sitting the free end of the flap was sutured to the properly denuded site on the face and the elbow fixed against the forehead by a large plaster-of-Paris dressing. Three weeks later the flap was severed from the arm, and after several minor procedures intended to improve the shape of the organ a very satisfactory nose resulted. The original feature of the operation consists in the manner of providing a bony support for the new nose, which now, over half a year after the operation, shows no evidence of secondary changes.

Primary Anæsthesia.—Hofmann describes his method of performing minor operations, painful examinations, etc., in the very brief period of anæsthesia which appears shortly after the beginning of the inhalation of ether. Two methods of obtaining this primary anæsthesia in its most advantageous form are described. One plan is to give a hypodermatic injection of one-sixth to one-third of a grain of morphine one hour before the operation. At the proper time the narcosis is begun by placing a gauze mask over the face and slowly dropping ether on it from a drop bottle. At the same time the patient is told to count backwards, beginning at 200. The dropping is begun as soon as the respiration has become even and regular, and the proper time for operation usually arrives before one hundred has been reached. The presence of the proper stage of anæsthesia is indicated by interruption of the counting, deep respiration, and complete muscular relaxation. The duration of the anæsthetic period is very variable, but usually covers ten to twenty seconds. In every-day work it is preferable and more convenient to omit the morphine and in its place to have recourse to the addition of a few drops of chloroform. After the usual precautions in regard to tight clothing, foreign bodies in the mouth, etc., the patient is placed in the recumbent position and the ether inhalation begun just as in the other case. Primary anæsthesia often appears in from one to three minutes, but if it does not at the expiration of this time, chloroform is dropped on the mask in the same way, and usually produces the desired effect in a very short space of time. The patients are completely conscious as soon as the mask is taken from the face and are able to walk home. Vomiting very rarely occurs.

French and Italian Journals.

Faborable Results of Hepatic Opotherapy in Cirrhosis of the Liver.—Créquy reports the case of a man suffering from a severe degree of hepatic cirrhosis. The lack of success which had attended the classic treatment of this patient determined the writer to try hepatic opotherapy. The patient's condition was precarious. He was suffering from hemorrhoids which bled profusely. Milk diet was continued, with one egg a day, and a small quantitv of pork liver; every morning 1 gram of hepatic extract in a cup of milk was given. Potassium nitrate, .50 gr. was given. The hemorrhages ceased. The œdema disappeared. The ascites did not reappear; after the first drainage the appetite improved; four months after the last drainage the patient could attend to his usual occupations. Only one symptom persists—tympanites.—*Le Bulletin Médical*, March 12, 1904.

Experimental Studies of the Mixed Infections.—G. B. Simoncini and F. Pino have made experiments with reference to the reciprocal influence of the different bacteria on one another. They made use of the protein of the bacillus prodigiosus, and its influence on different bacilli, such as the diplococcus of Fraenkel, bacillus of typhoid, bacillus coli, bacillus of diphtheria, staphylococcus pyogenes aureus, etc. These bacteria are rendered more rapid in their development and growth by the bacillus prodigiosus, outside of the body. Experiments were made on rabbits and guinea-pigs. The writers conclude that the protein of the bacillus prodigiosus injected into animals increases the virulence of the disease bacteria present in the body. The protein of bacillus prodigiosus, if injected at the same time and place as the attenuated culture of the bacillus, always causes the death of the animal, by acting directly on the bacteria and increasing their virulence. If injected in another location, the protein of bacillus prodigiosus exerts its action upon the animal by lessening its power of resistance. Their conclusions are that the protein of bacillus prodigiosus added to the culture medium renders the development of all the pathogenic bacteria more rapid, with the exception of the bacillus of anthrax, on which it has no effect.—*Giornale Internazionale delle Scienze Mediche*, February 29, 1904.

Vaginal Cæsarean Section and a New Application of It.—Alessandro Regnoli gave an account at the Fourth International Congress of Gynecology and Obstetrics of four cases on which he has operated by cæsarean section through the vagina. The first was a case of eclampsia in the eighth month, mother and child both living. The second was a patient who had had a bad delivery in a difficult labor, resulting in rupture of the cervix and posterior vaginal fornix. A hæmotosalpynx and hæmatometra had formed and had existed for over a year without relief. An operation was done by which the patient was relieved and made comfortable, but it was impossible to restore the uterus to a normal form. The patient disappeared and returned later with a six months' and three weeks' pregnancy. Delivery by the normal passages was impossible. A cæsarean section by the vagina resulted in a recovery for the mother and a child which lived for twenty-five days. The third was a case of autointoxication from a fœtus dead for thirty-five days, but remaining in the uterus. The cervix was so œdematous and tender that it was impossible to dilate. Cæsarean section saved the mother. The fourth case was one of hemorrhage at the sixth month, resulting from the detachment of the placenta by an accident. It was impossible to await dilatation on account of the severe hemorrhage. A cæsarean section saved the mother's life. In this operation the writer introduced a method of procedure different from that of Dürssen; he incised the uterine muscle only posteriorly. The advantage is that in case of another pregnancy the uterus is stronger than where it was incised both posteriorly and anteriorly.—*Il Policlinico*, February, 1904.

Book Reviews.

THE SELF-CURE OF CONSUMPTION WITHOUT MEDICINE. By CHARLES H. STANLEY DAVIS, M.D., Member Conn. State Medical Society, etc. Pp. 170. New York: E. B. Treat & Co., 1904.

BOOKS on this topic are following in rapid succession. The present one, written obviously for the laity, goes over familiar ground, and outside of some of the statements on strictly medical matters which are rather on the "scare headline" order, seems to go into the matter of tuberculosis with sufficient accuracy to be commended. Of particular excellence are the chapters on exercise and diet.

LA RHINOPLASTIE. Par CH. NÉLATON, Chirurgien de l'Hôpital Saint-Louis, ancién Prosecteur de la Faculté des Hôpitaux. Avec 391 figures dans le text. Paris: G. Steinheil, 1904.

THIS exhaustive monograph forms part of the "Traité de Médecine opératoire et de Thérapeutique Chirurgicale" published under the direction of MM. Berger and Hartmann. Part I is comparatively short, occupying only seventeen pages, and is devoted to the consideration of deformed noses. The three main causes assigned are congenital malformations, recent and old traumatisms, and hypertrophic acne. Seven different operations for the relief of the condition are described. Part II is devoted to the consideration of destruction of the nasal tissues by such causes as trauma, gangrene, congenital absence, freezing, tubercle, syphilis, and malignant disease. A further subdivision is made into cases of partial and complete destruction respectively. Chapter IV of this part is given up to the general technicalities of the various operative procedures; Chapter V to the methods of replantation, prosthesis, transplantation, and flaps. Then follow in succeeding chapters descriptions of literally scores of operations under the names of their various originators. These are illustrated by diagrams showing positions of incisions, sutures, etc., and a considerable number of plates is inserted, giving the appearance of actual cases before and after operation. Under each heading a few remarks are inserted discussing the operation of choice in various conditions. The general tone of the work is scholarly, and it represents an enormous amount of research into the history and development of this special field of surgery. It is suggestive of the expansion of modern surgery that such an amount of strictly pertinent material can be brought together bearing on one special class of lesions.

BIOGRAPHIC CLINICS. Volume II. The Origin of the Ill Health of George Eliot, George Henry Lewes, Wagner, Parkman, Jane Welch Carlyle, Spencer, Whittier, Margaret Fuller Ossoli, and Nietzsche. By GEORGE M. GOULD, M.D., Editor of *American Medicine*, author of "An Illustrated Dictionary of Medicine, Biology, etc.," "Borderland Studies," "The Meaning and Method of Life," etc. Philadelphia: P. Blakiston's Son & Co., 1904.

THE author of these speculations on the cause of the poor health of the persons mentioned on the title page throws the responsibility for this second volume on the reviewers who, he says, neglected to give to their readers a clear and satisfactory statement of the thesis, facts, and arguments of his first book. As a matter of fact, the reviewers devoted more space to a consideration of Dr. Gould's first volume of "Biographic Clinics" than they are wont to give to much more important works. The theme was a novel one, and the originality of the book was in refreshing contrast to the dry repetitions of many of the works that find their way to the medical reviewer's table, and so it received long, and in some cases rather flattering, notices, but apparently not long enough or flattering enough to please the author. The present book should be more or less familiar to readers of periodical literature, as most, if not all, of the chapters have been published during the past year in medical journals. The plan of treatment of the theme is the same as in the former volume. The author culls from the published biographies all references to the ill health of the subjects, and proves thereby, to his own satisfaction, that the stomach troubles, the headaches, the insomnia, and, in Nietzsche's case, the insanity, were the direct and necessary consequence of not wearing properly fitted glasses. The argument is superficially convincing and the reader's hopes rise as he turns over the pages and the surety forces itself upon him that at last there is relief in sight for his headaches and stomachaches and queer feelings. But—alas and alack! there is an appendix—and we all know the painful possibilities of the appendix. Dr. Gould's appendix is entitled, "Sixty-eight Reasons Why 'Glasses Did Not Give Relief,'" and before mastering even thirty-four of these reasons our hopes are dashed to the ground—what is the comfort in being told that the cause of all your woes is known and then learning that there are three-score reasons and eight why you cannot hope to have that cause removed? It is a brilliant example of the "hedge," and no one in the face of it can disprove the author's thesis, for it can never be proved that at least one of those sixty-eight causes of failure to relieve the morbid condition by glasses is not operative in any given case. One of these "reasons" well illustrates the author's fondness for unsubstantiated statement. He says glasses may have failed to give relief because they were prescribed by an optician instead of by a physician, and then makes the absurd and altogether wild assertion that "no optician ever prescribed a scientifically correct pair of lenses." We are no friend of the optician, and believe that none but legally qualified physicians—and more than that, none but those who have made a special study of ophthalmology—should be permitted to prescribe glasses. But when one asserts that no optician has ever, even by chance [and in the simplest cases, prescribed a scientifically correct pair of glasses, he betrays an intemperance in statement that shows him to be unfit for the self-assumed part of a teacher and preacher. Dr. Gould writes fairly well and his book is entertaining, but it cannot be taken seriously. The author is a faithful, if unconfessed, disciple of Ranney, but he has not advanced the cause of spectacles one diopter beyond where his predecessor placed it. He has industriously tilled the field which Ranney ploughed, but there's nothing growing.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS; a Practical Exposition of Methods, other than Drug-giving, Useful for the Prevention of Disease and in the Treatment of the Sick. Edited by SOLOMON SOLIS COHEN, A.M., M.D., Senior Assistant Professor of Clinical Medicine in Jefferson Medical College; Physician to the Jefferson Medical College Hospital and to the Philadelphia, Jewish, and Rush Hospitals, etc. Volume VII, MECHANOTHERAPY AND PHYSICAL EDUCATION, Including Massage and Exercise. By JOHN K. MITCHELL, M.D., Fellow of the College of Physicians of Philadelphia; Physician to the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases; Assistant Neurologist to the Presbyterian Hospital of Philadelphia, etc., and PHYSICAL EDUCATION BY MUSCULAR EXERCISE, by LUTHER HALSEY GULICK, M.D., Director of Physical Training in the Public Schools of Greater New York; President of the American Physical Education Association; Chairman of the Physical Training Committee, Louisiana Purchase Exposition; Chairman of the National Basket-ball Committee, etc. With special chapters on Orthopedic Apparatus, by James K. Young, M.D., Professor of Orthopedic Surgery in the Philadelphia Polyclinic; Assistant Orthopedic Surgeon to the Hospital of the University of Pennsylvania, etc.; On Corrective Manipulations in Orthopedic Surgery (including the "Lorenz Method"), by H. Augustus Wilson, M.D., Clinical Professor of Orthopedic Surgery in Jefferson Medical College; Orthopedic Surgeon to the Philadelphia Hospital, etc.; and on Physical Methods in Ophthalmic Therapeutics, by Walter L. Pyle, M.D., Assistant Surgeon to Wills Eye Hospital, Philadelphia. With 229 illustrations. Philadelphia: P. Blakiston's Son & Co., 1904.

THE very complete and explanatory title of the latest volume of this now well-known and prized system of nonmedicinal therapeutics, relieves the reviewer of the necessity of describing the scope and character of the book. Like the other volumes of the series, this is independent of its fellows and is really a special treatise on exercise and massage and the morbid conditions which can be prevented, ameliorated, or cured by these means. The authors are all men of practical experience in the subjects of which they treat, and write with the authority and moderation of true experts and not mere faddists. The chapters on the various physical exercises are especially valuable, dealing with the subject, as they do, from the standpoint of the physician, and may well substitute the books gotten out by nonmedical "professors" of physical culture, most of which contain a mixture of good and bad teaching so inextricably interwoven as to render them very unsafe guides to either physician or layman. The orthopedic sections are also worthy of commendation—indeed the entire work is so praiseworthy that it is unfair to pick out any part for special mention. We would, incidentally, take exception to the editor's preface where the entire credit for the recognition of eyestrain as a factor in the production of nervous disorders is given to Philadelphia ophthalmologists and neurologists. While not ignoring (who can ignore?) the furious riding of this hobby by the Philadelphia author of some entertaining biographies, we have an indistinct impression that something of the sort was said many years ago by Ranney of New York, and if credit is due anybody for this exaggeration of a minor etiological factor in epilepsy, headache, and various less serious neuroses, we claim no small share of it for the New York physician. However, this is another story, and detracts in no way from the value of a very useful book.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, Held March 4, 1904.

DR. ROBERT T. MORRIS, IN THE CHAIR.

nd-bearing Stumps of the Thigh, Knee, and Leg.—Dr. LEXIS V. MOSCHCOWITZ presented these cases. He said was not necessary to go into the minute histories of these ses. The conditions requiring the amputations were in e first case sarcoma, in the second, Raynaud's diseases d, in the third, recurrent tuberculosis of the ankle-joint. he osteoplastic method was used and, in all the cases, e results were very good. The ends of the stumps would and pressure and handling without pain and were, in ct, absolutely painless in every respect.

Dr. R. H. M. DAWBARN thought the thigh most justified Bier operation. In operating upon the thigh he believed best to begin by hamstringing the patient, as in this way l the five muscles retracted as much as possible, and then e could get a stump without empty spaces. Two or ree works on surgery made the statement that some of e muscles retracted as much as one-third the length of e thigh.

Dr. CHARLES A. ELSBERG said he had seen Dr. Moschcoitz operate, and he considered that much of his success as due to the firmness with which the dressings were pplied. The great danger with these flaps was from emorrhage between them, which was apt to be followed y necrosis of them. This operation could not be done in l cases. In diabetic cases and in cases of gangrene such operation would be done at a great risk.

Dr. MOSCHCOWITZ, in closing the discussion, said that an steoplastic operation was indicated in every case in which apidity was not demanded and was certainly not applicable in the diabetic and gangrenous cases. He had performed nine operations and in only one instance was it ecessary to remove the flap for necrosis. He thought he Gritti operation an ideal one and used it whenever possible, but it was more complicated than the osteoplastic. The Bier stump seemed to be as painful as those made by he usual methods.

Floating Cartilage of the Knees; Arthritis Deformans.—Dr. H. D. COLLINS presented a young maid who, two years go, had severe pain in the left knee and at times the knee would catch in the typical way. She also had some disturbance with the right knee. The patient said that an operation had been performed in Albany and a floating cartilage found. The right knee grew worse and in January last she presented herself. Examination revealed no loose cartilage and there seemed to be a pedicle on the outer side of the right femur over the condyle. Upon opening the joint a number of small rice-like bodies were removed. There were all the evidences of an arthritis deformans. In several places on the femur and tibia there were tongue-like cartilages which were similar to the rice-like bodies thrown off. Since the operation on the right knee the left was beginning to give further disturbance.

Neuralgia of the Musculospiral Nerve Following Fracture of the Humerus.—Dr. B. T. TILTON presented a patient forty-two years old, who had a simple fracture of the humerus, which was set by lateral splints of plaster Paris with good results. In December he had intense pain in the region of the musculospiral nerve and for two or three weeks he was treated with counter-irritants, hot baths, massage, etc., without relief. Although the patient was not nervous or hysterical, his sufferings were so intense that operation was resorted to for his relief. Cutting down upon the nerve it was found that the nerve had no connection with the callus, but was imbedded in fibrous tissue which compressed it. The nerve was dissected out for from two to three inches and there had been no further pain and no paralysis. The amount of callus thrown out was extremely small. The case seemed to be interesting because of the extreme neuralgia, without there being any communication between the nerve and the callus.

Dr. A. ERNEST GALLANT thought this was a case for early massage, as this would have done away with the exudate and so avoided the formation of the fibrous tissue. He was of the opinion that massage of the proper kind was not sufficiently employed, and that most students and nurses to whom this work was entrusted did not do it intelligently, and, therefore, the results were not what they should be with intelligent and skilful manipulation. He thought it to be a good plan to have young physicians take up massage while getting a start and learn to do this intelligently.

Dr. JOHN F. ERDMANN thought there were some evidences of paralysis still, as the patient had no grip to speak of.

Dr. A. A. BERG thought the result was very good for a fracture so near the tuberosity of the humerus, and suggested that possibly the fibrous tissue was due to the clot following the hemorrhage; in such a case massage would have made little difference in the result obtained.

Dr. TILTON said that there was no injury to the joint. He thought the disturbance of motility was due to the prolonged treatment, as the arm had been kept in a flexed position for a long time. The slight wrist-drop that was present he believed would disappear in time. While he was in favor of massage, he did not think the trouble in this case was due to lack of massage.

A Case of Traumatic Common Femoral Arteriovenous Aneurysm.—Dr. WARREN S. BICKHAM read this paper, reporting a case of traumatic common femoral arteriovenous aneurysm which had been unsuccessfully treated by a new method of compression, but which was finally cured by the proximal ligation of the external iliac artery extraperitoneally. The patient was a young negro, twenty-three years old, of athletic build and otherwise healthy, who was admitted to the wards of the Charity Hospital, New Orleans, in 1897, presenting a small, prominent, pulsating tumor, of somewhat oval outline, and about 5 by 6.5 cm. in measurement, seated over the course of the common femoral artery and vein, with a marked vibratory thrill and a murmur, the pulsations ceasing when compression over the external iliac artery was made and without any material change in the contour of the tumor. Ten days prior to admission he had been shot by a pistol, the ball entering the outer aspect of the left thigh about on a level with the spine of the pubic bone, and ranged inward across the front of the thigh. After a few days he noticed the enlargement and walked unaided to the hospital complaining only of the presence of the tumor. A diagnosis of traumatic arteriovenous aneurysm involving the common femoral artery was made. Within two or three days after admission, the patient, in the presence of a male nurse, urinated the pistol-ball which had inflicted the wound. The patient had complained of no symptoms referable to the ball in the bladder. It was not plain by what route the ball entered the bladder. Although realizing the inefficacy of the methods of pressure advocated, these, nevertheless, were tried. It was next decided to ligate first the external iliac artery proximally. This was readily done, and at the end of seventeen days the patient left the bed and no return was noted in the circulation in the aneurysm. The tumor had disappeared.

In the present light he questioned whether this would have been the best procedure. The risk of gangrene and even death following the ligation of the larger arteries and veins were well known, and the statistics of both pre-antiseptic and antiseptic days showed this. In Van Buren's report of 7 cases of ligation of the external iliac or common femoral artery for arteriovenous aneurysm gangrene followed in all. Curtis collected 51 cases of arteriovenous aneurysm in general treated by ligation, of which 23 died, 8 were cured, 2 improved, 18 unimproved, and gangrene occurred in 11 cases. Bilroth

found he had secondary hemorrhage in 50 per cent. of all cases of ligation of large vessels when done in continuity. Murphy reported 22 ligations of the femoral artery and vein with gangrene in 12. He had collected 178 cases of ligation of the femoral artery alone, with gangrene in 25. He also reported 31 ligations of the common femoral artery for aneurysm, with hemorrhage in 60 per cent. and death in 40 per cent. From these figures it was clear that many lives were lost through the cutting off by ligature the main blood-supply of the parts. Recognizing, therefore, the present greater frequency of arteriovenous aneurysms, and the large proportion of disastrous results following ligation of the larger vessels, it would seem wise to devise some more satisfactory method of treating this form of aneurysm. He was not aware that the Matas operation had been performed in cases of arteriovenous aneurysm, and he suggested the application of this more modern method of operating provided conditions were favorable. If the arteriovenous aneurysm were of the varicose type he said he would be inclined to follow the Matas method, namely, after temporarily controlling the circulation, laying open the aneurysmal sac, ligating both arterial and venous openings into it, and closing them off by fine chromic gut Lembert sutures applied interruptedly, followed by obliteration of sac in his characteristic manner of suturing the roof, including the overlying parts, to the floor.

If the arteriovenous aneurysm were of the aneurysmal-varix type and the conditions were favorable, a modification of the Matas operation was feasible. The modification he suggested was to make a longitudinal incision through the enlarged and varicose vein for as limited an extent as would seem to offer approach to the opening into the vein, and so placed as to lie directly opposite the communicated opening of the artery. The lips of the wound should be then retracted, thus exposing the interior of the vein and the arterial communication, and the opening of the artery into the vein should be sutured in the usual Matas manner, and then the incision in the vein closed by a continuous lateral suture of, approximately, the Lembert type. Owing to the fact that, in aneurysmal varix cases, foreign material would be left in contact with the venous current by this manner of suturing (this did not apply to the varicose aneurysm cases), he said it seemed to him well to use very fine catgut and tie small closely cut knots, or else to bury in the row of interrupted Lembert sutures, closing off the arterial opening, by means of a continuous buried suture introduced from without entirely through the vein at one of the angles of junction of artery and vein, passing in continuous Lembert fashion above the interrupted sutures, through part of the thickness of the wall of the vein, and out through the entire thickness of the vein at the opposite angle of junction of artery and vein, and so placed that the entire suture throughout its length and its points of entrance and exit, to and from the vein, were also buried.

In cases of varicose-aneurysm type in which both the arterial and venous circulation could be controlled proximally to the sac, and the sac exposed by dissection, the sac might, in appropriate cases, be excised up to very near the arterial and venous openings into it, and these openings then closed by a row of interrupted Lembert gut sutures, followed by a second burying-in row through the free margins of a small portion of the sac left around the jug-like opening into the artery and vein. He said that in those cases of aneurysmal varix type in which both the arterial and venous circulation might be arrested proximally to the arteriovenous communication, and this site of communication exposed by dissection, the artery and vein might, in appropriate cases, be severed from each other by an incision through the connecting opening, made parallel with artery and vein, and these openings closed by lateral ligation with fine gut or silk. The openings left by the incision of the connection between artery and vein was, in the aneurysmal varix, less jug-like and there was less free margin than in the varicose aneurysm. The range of dealing with vessels by methods of suturing had been much increased during the past few years, and he said that Dörfler had demonstrated that suture material could be passed safely through all the coats of an artery and vein without producing thrombosis. Portions of arteries have been excised and the integrity of the vessel established by circular arteriorrhaphy.

Dr. R. H. M. DAWBARN said that Dr. Bickham's method constituted a true advance. It was possible, however, that many cases of gangrene in the past were due to lack of antisepsis as well as to the cutting off of the blood supply. The Matas method could not be applied to all cases.

Dr. A. A. BERG asked why the external iliac artery was tied at the time of operation.

Dr. BICKHAM replied that this was done because the field was so much encroached upon.

Dr. ELSBERG considered the suggestion good, but when arteriovenous aneurysms were seated in the neck with the dilated veins extending into the skull where it was impossible to make compression of the vessels, this method could not be applied.

Dr. BICKHAM replied that individual cases must determine the applicability of the Matas method. He had applied it chiefly to the extremities. In the case cited digital compression had been tried without avail. He called attention to the fact that his statistics covered both the preantiseptic and antiseptic operations.

Technical Errors in the Use of Rubber Gloves.—Dr. HOWARD COLLINS read this paper. He reviewed the history of the rubber glove since it was first suggested some six or eight years ago, together with the arguments both *pro* and *con* which had furnished much animated discussion until, at the present time, the consensus of opinion was generally in their favor, and surgeons had adopted the glove as having distinct advantages over the naked hand. There were, however, many technical errors in their use, due both to carelessness and lack of thought. He believed a correct routine of their use should be a matter of habit. The surgeon washes, rinses, and dries his hands, making them ready for the gloves. The possibility that this procedure has not rendered his hands perfectly aseptic led to the use of gloves. Yet the surgeon took the left glove in his right hand and adjusted it with his right hand; he then took the right glove and adjusted it with the left hand, which had been possibly infected from an imperfectly cleaned hand. This was a defective method. Another defective method was to throw the gloves into bichloride solution and draw them on wet; and here the drippings from the wrist and from a possible puncture would carry the perspiration and detritus from the hand into the wound. The gloves should be put on dry, powdered with starch or lycopodium. They should be turned inside out, placed in the boiler for ten or fifteen minutes, dried between sterilized towels; the upper towel should then be turned back and the gloves powdered with sterile starch or lycopodium. The glove should then be picked up with sterile gauze and adjusted, beginning with the fingers, and, by means of gauze and forceps, applied to the fingers and hand.

Dr. DAWBARN thought there was no subject more deserving of discussion. He was one of the first to advocate the use of the glove, and, as Dr. Prince A. Morrow had stated, one case in eighteen operated upon was syphilitic; therefore the glove was a protection to the surgeon as well as to the patient. Perspiration made a great deal of trouble. Other things being equal, the surgeon whose hands did not perspire would be more successful than the one whose hands did perspire. He differed with the reader of the paper regarding the use of starch and lycopodium. Neither was soluble in the

uids of the body. There were six essentials for such a owder: (1) It must be impalpable; (2) it must be an ntiseptic; (3) it must be an astringent; (4) it must be on-irritating; (5) it must be soluble in the fluids of the ody; (6) it must be able to stand baking. He said that mixture of one-half dried aluminium sulfate and one-alf boric acid fulfilled these essentials. The potassium um would not do and it was necessary to have the dried lfate, which could be treated to 200 C. without altering condition as an impalpable powder. Gloves should dusted inside as well as on the outside.

Dr. ELSBERG said that any manipulation of the gloves ter sterilization gave chances for infection. At Mount nai Hospital the gloves were boiled and dried, then laid tween folds of a sterile towel, placed in a steam sterilizer, d hot air passed through. They were then dusted th sterilized powdered talc.

Dr. JOSEPH WEINER said that a punctured rubber glove uld be patched as a bicycle tire, after which they could subjected to dry heat, but not to moist heat. He vocated using very little powder and dipping the hands quently in bichloride solution, 1-500, when the gloves re on the hands.

A New Osteoplastic Amputation at the Ankle-joint.—. ALEXIS V. MOSCHCOWITZ read this paper and said that was not his intention to discuss those amputations in ich a portion of the os calcis or os astragalus could be erved. No one would deny that the Pirogoff amputon or its numerous modifications gave ultimate lts that were simply ideal, and, therefore, this operan should be the one of choice, provided that the os is was healthy and that sufficient integument could ad to cover the stump. He wished to speak of those es in which recourse must be had either to an amputon higher up on the leg, or in a few rarer instances the so-called Syme's amputation. He believed he had covered a method which, while preserving all the good alities of the Syme's method, excluded all its drawcks and disadvantages. So far as function was conned, he was convinced that the stump formed acding to this method must be *eo ipso* bad because the tal extremity of the stump was formed by bone sawn nsversely across. He believed the *sine quâ non* and ndamental principle of all amputation stumps to be t the distal extremity be covered either by normal tilage as in an exarticulation; or if the sawn surface covered or sealed by normal bone, covered by normal riosteum taken either from the bone amputated or m an adjoining bone. He then discussed the poor alities of the Syme's stump and brought up the ques-n how to amputate the foot at the ankle-joint and yet ve nowhere the sawn surface of any bone. This ques-n he solved as follows: The cutaneous incision was ade in such a manner and such place that he could tain ample healthy skin for covering the stump. If e had the choice it was preferable to carry the incision such a manner that the resulting cicatrix would not me to lie directly on the end of the stump, and of these referably anteriorly, because then the integument cover-g the stump would be formed of the thick heavy skin rming the heal. On no account should the length of the mp be sacrificed for the heal-flap. Exarticulation of e foot at the ankle-joint should follow, thus exposing e two malleoli and the contiguous portion of the tibia overed by its cartilage. An irregular octohedra-shaped iece of bone was now sawn out of the fibula in the folowing manner: The saw entered the fibula on the inner ide, approximately on the level of the cartilage covering he tibia, and was carried obliquely upward and outward bout 1½ cm. to within 1 or 2 mm. of the external surace of the fibula; the saw was then withdrawn and made o enter the external surface of the fibula also at the level f the cartilage covering the tibia, and was then carried ainly upward, but with a slight deviation inward, until it met the end of the first sawcut, thereby preparing a small osteoperiosteal flap from the outer side of the fibula, which could be readily fractured and deflected temporarily outward. The portion of bone removed had the shape of an irregular octohedron, one apex being at the tip of the malleolus, the other at the junction of the sawn surfaces, while the two lateral borders were on the external and internal surfaces of the fibula, on a level with the cartilages covering the tibia. The two sawn surfaces were then approximated and fastened by catgut sutures, which passed through the periosteum covering the parts. As well known, the internal malleolus was shorter and thicker and, therefore, it was necessary to have the saw enter the inferior surface of the malleolus about 2 mm. from its internal surface, and was carried in an upward direction to the level of the cartilage covering the tibia. This formed a small osteoperiosteal flap from the inner surface of the malleolus which was temporarily deflected inward. The remaining portion of the malleolus was now removed with a saw, also on a level with the cartilaginous surface. The two sawn surfaces were now approximated and held in place by means of catgut sutures, which passed through the periosteum covering the parts. If this stump be properly made he said that it would be divisible into three surfaces, viz., a small inner one, and a smaller outer one, covered by normal bone and periosteum, and a larger central one covered by normal cartilage, and all in all there would be found all the requirements present for the formation of a perfect end-bearing stump.

Dr. DAWBARN differed with the assertion that it was impossible to give an end-bearing stump by periosteal flaps. In the Syme's operation shortening the main nerve did away with discomfort.

Dr. GALLANT suggested that the articular surfaces might have been large enough so that it could have been turned out.

Dr. MOSCHCOWITZ replied that the cartilage was not in such a condition as would have enabled him to turn it out.

A New Hemorrhoidal Clamp.—Dr. MARTIN W. WARE presented this instrument, which possessed the advantage of having an ingenious attachment by which the operator could release it with the finger of the hand holding the clamp or with the other hand without the aid of an assistant. It was the consensus of opinion that the clamp was superior to any now in use.

Report of a Case of Adenocarcinoma of the Appendix with Presentation of Microscopic Specimen.—Dr. JOSEPH WEINER reported the case of a patient, thirty-five years old. As a child he had had inflammation of the bowels. Some ten years ago he had nervous prostration and later indigestion and much nausea for from five to eight months. He was seized while at business with severe pain in the right iliac fossa and by evening of the same day his sufferings were intense. He was taken to the hospital and operated upon. There were numerous adhesions low down. The appendix was very small and the base of it was almost obliterated. Near the ileocæcal valve there was a small tumor which proved to be carcinomatous. It was a typical adenocarcinoma.

Specimen of Carcinoma of the Larynx.—Dr. JOHN F. ERDMANN presented this specimen, which he had removed from a patient thirty-five or thirty-seven years old who had given a history of syphilis. He had also removed the epiglottis.

Rectal Incontinence.—Make a semicircular incision at one side of the anus, cut the sphincter muscle and freshen the edges or ends of the torn sphincter by taking a V-shaped piece out of the angle and suture the parts together. Then the flap is replaced and sutured and an aseptic dressing and T-bandage applied. Chetwood's operation is also valuable.—PENNINGTON, in *Medical Standard*.

THE PRACTIONERS' SOCIETY OF NEW YORK.

One Hundred and Eighty-Sixth Regular Meeting,

Held on February 5, 1904.

DR. CHARLES STEDMAN BULL, PRESIDENT, IN THE CHAIR.

The Local and Systemic Relations of Sarcoma.—Dr. GEORGE F. SHRADY read this paper. (See page 521.)

Dr. GEORGE L. PEABODY said he had always supposed that of all the types of sarcomata, the spindle-celled was the least malignant, and was therefore less apt to recur than either the round or giant-celled variety.

Dr. Shrady said that in his experience, the subperiosteal spindle-celled sarcoma had proved exceedingly malignant. The recovery in his case had therefore been a great surprise. The patient was still in excellent health and showed no evidences of a recurrence. So far as he could learn, it was the only case on record in which recovery had followed that particular operation, *i.e.* amputation of the thigh, and there were only six cases on record of recovery after amputation of the hip. Dr. Shrady said the possibility had occurred to him that in those six cases recovery might also have taken place if the less serious operation of amputation of the thigh had been done instead.

In reply to a question as to the value of Coley's serum in the treatment of sarcoma, Dr. Shrady said he had seen two or three cases in which the use of the toxins had caused a remarkable shrinkage in the size of the growths. In one case of osteosarcoma of the ilium the growth entirely disappeared under the toxin treatment, but there was a recurrence within six months. The injection of the toxins was usually followed by severe constitutional symptoms. The treatment was applicable only to inoperable cases.

Dr. JOHN WINTERS BRANNAN said that while metastases were apt to occur after any operation for sarcoma, he thought it was reasonable to infer that in dealing with a sarcoma involving an extremity, the danger of a recurrence by continuity was lessened by removal of the entire member. The same principle was followed in the radical operation for cancer of the breast. In sarcoma of the thigh, anything less than a hip-joint amputation would not remove the danger of extension through the bone, and the speaker said he understood that that was the way by which a recurrence by continuity usually traveled.

Dr. Shrady said that in all the cases he had studied, the recurrence could be traced to invasion of the soft structures rather than the bony tissues. A point in favor of amputation through the thigh was that the operation itself was much less fatal than a hip-joint amputation, and many patients would consent to the former operation while they would refuse the latter. Of course, no surgeon would think of enucleating a malignant tumor of the thigh if the growth was ultimately incorporated with the bone. In all such cases, some form of amputation was necessary, and the question to decide was, how much of the limb must be sacrificed.

Dr. Peabody said it had always seemed to him that in cases in which the medullary cavity was invaded the prognosis was rendered more serious.

Dr. Shrady said that it had been his aim to prove the very opposite of this condition, and that dissemination took place mainly, if not entirely, by invasion of the soft tissues outside the bone.

A Case of Recurrent Intraabdominal Abscess Accompanied by Unusual Lesions in the Mouth.—Dr. ANDREW H. SMITH reported this case, which he said was unique in his experience. The history of the case dated back fully twenty years. The patient, at that time a young woman, was seized rather suddenly with an attack of pain in the region of the gall-bladder. The abdominal muscles were extremely tense, so that palpation was unsatisfactory, but there was evidently a sense of resistance in that region, although no well-defined tumor could be made out. There was great tenderness on deep pressure. The attack was accompanied by a rise in temperature; there was no jaundice. After a few days there was a discharge of pus and blood through the bowels, and subsequently the symptoms disappeared. There had evidently been an abscess in the region of the gall-bladder, but apparently not connected with the liver, and this had ruptured, probably into the transverse colon. Coincident with these abdominal symptoms, a peculiar lesion would appear in the mouth. The little ridges on the roof of the mouth, just above the base of the incisor teeth, became swollen and painful, and gave the patient much distress. Although there was apparently no suppuration connected with the teeth, the presence of pus was suspected, but upon making an incision nothing but blood was obtained. With the subsidence of the intraabdominal symptoms, the oral lesions also disappeared. During the past twenty years the patient had had at least a dozen attacks, practically similar to the one described, although in some of them the intra-abdominal condition did not reach the point of suppuration. The last attack occurred only a few weeks ago after a period of immunity of over six years. In all these attacks the oral lesion was a very distressing feature. In reply to a question, Dr. Smith said he had never urged operation for exploratory purposes, nor did he think the patient would consent to it, as she had always made a satisfactory recovery from the attacks and enjoyed good health in the interim. He thought the original lesion in the abdomen was an abscess external to the transverse colon, and after it had ruptured, more or less of a deposit remained, which had been the cause and seat of these repeated recurrences. He had no explanation to offer for the lesion in the mouth. In appearance it resembled the condition often seen in horses, and known to veterinarians under the name of *lampas*.

Dr. PEABODY recalled a case of deep-seated suppuration below the liver in which the abscess finally reached the surface. Its contents were evacuated, and the cavity was then irrigated with a watery solution of iodin. after one of these irrigations the patient had a severe fit of coughing, with some expectoration, which left a deep blue stain upon a starched handkerchief. On another occasion the irrigating fluid failed to return and the patient shortly afterward had a watery evacuation from the bowels which stained the bed-clothing blue. Sinuses from the abscess cavity had evidently burrowed through the diaphragm into the lung, and also communicated with the bowels. The patient eventually died of inanition, and the necropsy revealed a perinephric abscess which had burrowed in every direction. This case, Dr. Peabody said, was seen long before the days of asepsis, when laparotomy was not resorted to as frequently as now. At present surgical treatment should be recommended, in his judgment, in all such cases.

A Case of Profound Malarial Coma.—GEORGE L. PEABODY reported this case. The patient was a well-nourished man, thirty-nine years old, who was brought into the New York Hospital during the early morning of November 25, 1903, in a condition of coma which was so profound that it was impossible to rouse him to consciousness. There was no paralysis of any of the extremities. The only history obtainable was that he had come from a steamer which had arrived that morning from Panama; that he had had some form of fever in Central America and at sea, and had become delirious and then comatose during the voyage to this city. There was no history nor indications of an injury to the head or elsewhere; the urine was negative; there was no œdema; there was no evident arterial degeneration; there was no rigidity of neck. An examination of the blood showed no malarial parasites, but there was a peculiar cachexia which Dr. Peabody said reminded him of the cases of profound malarial poisoning that he had

served during the building of the Panama Railroad. s temperature was 97° on admission. It rose gradually 102° on next day. Acting on the theory that the se was one of malarial coma, quinine was administered r *rectum* at 5 P.M., and a subsequent blood examina- n revealed two crescents. Two days later, after pro- ged search one ring-form was found. These were e only organisms found during the man's stay in e hospital. Muriate of quinine, in combination with a, was then given hypodermically, 20 grains one hour er the rectal dose, 10 grains at 9.30 P.M., and 10 grains e following morning, and directions were left not to e any more until the third day. On the second day e patient's pulse had become very weak, necessitating ive stimulation. He was given whiskey *per rectum* d digitalis subcutaneously, and to these measures he ponded very promptly. He became conscious about ty hours after the administration of the first dose of inine, and on the following morning he was perfectly tional, and was able to sit up in bed and take nourish- nt by the mouth. Twenty-four hours later he began behave queerly, continually insisting on getting out bed, so that it became necessary to restrain him. He ally became so troublesome to the other patients that was transferred to the Pavilion for the Insane at llevue. After two or three days there, he became rfectly rational, and remained so until he was dis- arged from that hospital, entirely well, several days er.

Dr. BEVERLEY ROBINSON said that the case reported Dr. Peabody was a good illustration of the fact that larial parasites could not always be demonstrated in e blood even in cases of profound malarial poisoning. Dr. Peabody's case only a single malarial organism d been found, and the examination of the blood made ior to the use of quinine had proved negative. The eaker said he had often met with similar cases of un- ubted malaria, in which repeated blood examinations d proved negative. In certain cases of malaria, par- ularly those of a chronic nature, he had found War- rg's tincture very efficacious after a very thorough rse of treatment with quinine had failed to relieve e symptoms. The older writers, among them the te Dr. Loomis, spoke very highly of Warburg's tinc- re in chronic malarial poisoning, while the more recent xtbooks rarely mentioned it.

Dr. Peabody said he had seen cases of undoubted alarial poisoning in which the parasites could not be und in the blood after repeated and careful investigation, t such instances, he thought, were rare. In cases in hich the clinical diagnosis was satisfactory, it was his stom to delay treatment for twenty-four hours, and if that time the organisms had not been found, the inine was given without the bacteriological confirma- ry evidence. In the case he reported, Dr. Peabody id, it was probable that the man had received a certain mount of quinine before he arrived in New York; per- aps not enough to benefit him, but enough to interfere ith the number of the organisms. The spleen was ot palpable, nor was the liver.

Dr. BRANNAN said that he saw numerous cases of severe alarial poisoning after the Spanish-American war, nd many of these responded to Warburg's tincture fter quinine had failed. Since then the suggestion has been made by some authority to withhold the quinine until the temperature had begun to decline; to begin then and give five grains every half hour until twenty grains were given, and then stop, the same course of treatment to be repeated if another paroxysm occurred. The writer held that the spores were most vulnerable during the decline of an attack. Dr. Brannan said he could recall several cases in which prompt relief was ob- tained by this method, and there were no further parox- ysms.

Dr. Peabody, in reply to a question of whether there were cases of malaria that would not yield to quinine, properly administered, said that now and again he thought he had seen such cases. They were certainly very rare, however, and in those particular cases, perhaps, the drug has not been properly given. Some cases that did not yield to quinine alone were relieved by Warburg's tincture or a combination of quinine and arsenic.

Dr. ROBINSON said the late Dr. Loomis favored as an initial dose ten grains of quinine and ten grains of blue mass.

Dr. SHRADY said the late Dr. Clark prescribed quinine, in combination with capsicum and opium.

NEW YORK STATE MEDICAL ASSOCIATION.

Special Meeting, Held March 21, 1904.

THE PRESIDENT, DR. WILLIAM H. THORNTON OF BUFFALO, IN THE CHAIR.

IN accordance with the request of twenty-five members of the New York State Medical Association, a special meeting of this association was held at the New York Academy of Medicine, New York City. The purpose of this meeting was to hear the report of the Committee on Conference of the New York State Medical Association, Dr. E. Eliot Harris, chairman, looking toward the union of the New York State Medical Association and the Medical Society of the State of New York.

After this report had been presented by Dr. Harris, the following resolution was offered:

"*Resolved*, That the report of the Joint Committee of Conference be accepted, and that the proposed agreement for the consolidation of the Medical Society of the State of New York *and* the New York State Medical Association be and the same is hereby approved, and the president of the association is hereby authorized and directed to execute the same in the name and behalf of the association, and the secretary is hereby authorized and directed to affix the corporate seal thereto, and be it further

"*Resolved*, That the committee of the association heretofore appointed for the purpose of bringing about the consolidation, namely, Dr E. Eliot Harris, Dr. Julius C. Bierwirth, Dr. Alexander Lambert, Dr. Parker Syms, and Dr. Wisner R. Townsend, be and they are hereby continued as such committee, with full power and authority to do whatever may be necessary to carry the agreement into effect."

This resolution was seconded, and before further action was taken Dr. E. D. Ferguson of Troy requested a few minutes to address the association before acting upon the resolution. He said he was not there to oppose the action because he knew that, according to the run of human events, it was useless for him to attempt to negative the recommendation of the committee. He was present to express sentiments of his own and those of the gentlemen from up country, members of the association. He did not believe they had been justly dealt with. He referred to the long struggle the association had in coming to this point of having a union. He said that at first they were sneered at and laughed at. The American Medical Association allowed the old members to come to their meetings to read papers and that was all they wanted. He said that when the line was drawn at the Denver meeting and the declaration made that to become members of the American Medical Association men *must be* in proper affiliation with the State Medical Association, the necessity of getting into the State Medical Association in some form or fashion was pressed upon them. The door was then opened and they became members of the State Medical Association. Then began the wiggling process. He said it was the Medical Society of the State of New York that came to the New York State Medical Association and asked for union, and this occurred over two years ago. He said the New York State Medical Association did not ask for it, although willingness was expressed that the union should be effected. At the Saratoga meeting, willingness for union was expressed. When the committee was appointed

the request was made not to place upon it the old members but to have new blood on that committee. He said that there was not one old "war-horse" upon it. A battle was engaged in at the New Orleans meeting and an amendment made to the Code, which he did not believe was needed. Now he asked if the union was a just and equitable one. After referring to the terms of the union and the proposed plan for reorganization, he said it was not the original plan at all of the New York State Medical Association. He spoke of the danger of control by cliques and said they had yielded everything, including name and all else and had been simply swallowed. This was not union but engulfment. From the bottom of his heart he said he felt the injustice and the wrongfulness of it, because he believed the association was bereft of everything it stood for. He closed his remarks by saying: "I have no doubt that this resolution will be passed. I am not going to say good-by to the State Association. I go." Dr. Ferguson then left the building before action was taken on the resolution.

The PRESIDENT then put the question and it was passed without a dissenting voice.

Dr. JOSEPH D. BRYANT then offered the following:

"*Resolved*, That the County Association in affiliation with the State Association be requested to ratify the action of the State Association." This was seconded and carried.

After the president had expressed thanks to the County Association for its courtesy in giving the State Association the time for its meeting, the meeting adjourned.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held March 21, 1904.

DR. ALEXANDER LAMBERT, CHAIRMAN.

Reorganization of the Medical Department of the United States Army.—Dr. NATHAN S. JARVIS asked for the association's coöperation in the successful passage of this bill which had for its principle object the avoidance of the unpreparedness which had characterized not only our own medical corps but that of Great Britain. In the recent war with Spain there was needless hardships for the soldiers on this account. He said that the United States Navy with its 41,000 men had 100 per cent. more medical officers than the United States Army. In the navy promotion occurred in three years while in the army it required five years. To become a lieutenant commander in the navy required but ten years; to be promoted to its equivalent in the army required from twenty to twenty-five years. The recent war with Spain had demonstrated the necessity of an increase in the medical corps of the United States Army, and because much avoidable danger and hardships had been given the troops by reason of the lack of experience and lack of training in military sanitation, etc., he asked the support of the Fellows.

The Elsberg Bill.—Dr. E. ELIOT HARRIS offered a resolution which was adopted supporting the Elsberg bill which was now before the Assembly; this bill provided for the abolishment of coroners in New York City.

Resolutions upon the Death of the Secretary.—It was moved and seconded that the chairman appoint a committee of three to draw up proper resolutions regarding the death of the late secretary, Dr. Ogden C. Ludlow.

A New Instrument.—Dr. SAMUEL T. RUCKER of Chattanooga, Tenn., presented an instrument for use in packing the uretha in cases of gonorrhœa, gleet, or stricture. The instrument was made of glass, with a flange for the fingers, and a plunger. He said it was really not for packing but for applying dressings to the urethra. The dressings could be left in from five to eight hours without discomfort. The doctor also showed a glass sound which he considered superior to those in ordinary use because of its smoothness, cleanliness, and ease of entry.

Officers Elected.—*President*, Dr. Francis J. Quinlan; *First Vice-President*, Dr. Henry A. Dodin; *Second Vice-President*, Dr. S. Busby Allen; *Secretary*, Dr. Wm. R. Stone; *Corresponding Secretary*, Dr. John J. Nutt; *Treasurer*, Dr. Charles E. Denison; *Executive Committee* for three years, Dr. Alexander Lambert; for two years, Dr. [illegible] W. Loughran.

CHICAGO MEDICAL SOCIETY.

At a meeting of this society, held March 2, 1904, the evening was devoted to the presentation of cases illustrating the various phases of "Syphilis." Dr. Hugh T. Patrick presented a woman, forty-one years of age, whose trouble dated back to 1899. He saw her in 1901 for the first time. She suffered from dizziness, failure of vision, intense headaches, considerable mental and physical lethargy tude. Following this she developed double vision which lasted for a few months. Acuity of vision diminished rapidly, according to the statement of the patient. After having had this trouble for some time, she sustained a fall and was unconscious for a short time. When she regained consciousness she vomited. A month later she had another fall, and was also unconscious for a short time. During this time the severe headaches continued. After several months of these headaches, mental lethargy, double vision, and two unconscious attacks, she was removed to St. Luke's Hospital, and on the day following her arrival became unconscious, and remained so for twenty-four hours. She vomited just before she became unconscious. When she regained consciousness, everything looked blurred, and the left side was paralyzed. The arm became weak first, then the leg, and later the face became involved. With the left hemiplegia there was marked sensory disturbance; marked anæsthesia, which continued for a considerable time. Two years after the attack, when patient had regained very good use of the left side, there was still considerable subjective trouble on that side, but very little objective. Patient uses the left hand for practical purposes, but it is not as dexterous as it was, and feels queer. She has complete homonymous hemianopia. The visual field is normal on one side, but gone on the other. As the result of her trouble, patient has permanent hemianopia, although she has nearly recovered from her left hemiplegia. Patient is absolutely ignorant of any specific infection. Dr. Patrick presented another case, a woman, twenty-one years of age, whose mother is at present suffering from tabes, with optic atrophy. The oldest child, a son, died about two years ago from general paresis. The next child, also a son, is at present suffering from tabes, with optic atrophy. Patient is the third and only remaining child, who, as an infant had snuffles, and later developed mucous excrescences. Two and a half years ago she had a typical interstitial keratitis, but up to three years ago, aside from the trivial ailments of childhood, she was well. One day, while getting on the step, she had a sort of stroke without loss of consciousness; became weak on one side, more especially in the face. The next morning she had another stroke which involved all of the right side. This attack was transient. A month later she had another attack of right hemiparesis, which was a little more severe, and three months later a fourth attack, which was very severe, which left her completely hemiplegic on the right side, with aphasia. First the face, then the arm and leg became involved. A year and a half ago, patient developed typical Jacksonian fits. These fits started with twitching and drawing in of the right side of the face, which extended to the arm, then to the leg, after which she had a general epileptic attack. Sometimes the spasm does not go so far. The face and arm may be convulsed, without loss of consciousness. Sometimes she has a severe attack which terminates in a general convulsion. Attention was called to the defective teeth of the patient. She also has a disseminated choroiditis. Patient showed unmistakable signs of hereditary syphilis, and Dr. Patrick said the question arose whether the two boys inherited syphilis or had

communicated to them as children. Either case was ossible; but the family showed the relation between ecific disease, tabes, and general paresis.

Dr. L. Blake Baldwin showed a Chinaman with syphilis, e had treated eleven cases of this disease in Chinamen. e brought the case for diagnosis. As it was difficult to t a history of such cases, he ventured to say that 90 per nt. of the cases of Chinamen who consulted physicians d this disease. With this thought in mind he had given l of them iodide of potassium with good results in most ses. When these patients presented themselves with ial paralysis, paralysis of the arm and leg, with large erations on the leg, it was wise to give them iodide of tassium. The patient denied any initial lesion. Dr. ldwin showed another case, a man with a diagnosis of philis. The patient had a chancre eighteen years ago. now had syphilitic iritis, but had improved consider- y under the use of iodo-neucleoids. He mentioned a e similar to this that had made a perfect recovery. out five years ago this patient had a paralytic stroke the left side, so that he was unable to move his fingers, the paralysis lasted only half an hour. He also showed e cases of syphilitic lesions of the mouth. One patient a chancre fourteen years ago, but no eruption on the y. Since that time patient had had two soft chancres t a year ago, which were cauterized by a physician. fauces were congested; there was a gumma situated the posterior wall of the pharynx. He recalled two s in which there were secondary eruptions and mucous ches. The men acknowledged having had syphilis e twelve or fourteen years before. Dr. Frederick ge showed a boy, twelve years of age, who had heredi- syphilis. Patient had an active proliferating gumma e nose, springing from the septum on both sides, filling anterior meatus and occluding both nostrils. He had complete erosion of the uvula. The second case was a g man who had large syphilitic eschars on the soft hard palates. The uvula was almost obliterated from ilitic erosions. In this case the infection occurred teen years ago, while the erosions caused the scars three s ago. The third case was a man who had paralysis e left vocal cord from the pressure of an aneurysm of arch of the aorta on the recurrent laryngeal nerve. Geo. F. Suker showed a boy who had a typical syph- e head. He had the tripod of Hutchinson: interstitial titis, otitis media, and saddle nose. Patient had ilitic rhinitis, bilateral dacryocystitis; stenosis of the ymal duct. Patellar tendon reflex was not lost. ent had what is called the Darier tooth; atrophy of the er jaw and of the hard palate. He had had these tions since the second week of birth. Attention was d to the typical Hutchinson's teeth. The boy was a cal example of hereditary syphilis. Dr. E. A. Fisch- exhibited a patient who gave a history of having had a ary lesion some twelve years ago, the nature of ch was not definitely known. Patient said he did not e secondary lesions, but did have mucous patches, was free from other manifestations of the disease for ve years. Patient had been married five years, and healthy children. About fourteen months ago pur- ic spots began to appear on the lower extremities. ee months ago tubercles began to appear on the side the nose, which were circinate in form, gradually en- ed, and finally ulcerated. Patient was put on the de treatment and given mercurial inunctions. Soon whole leg was covered with purpura, but the spots e closer together, particularly on the surface where the ment was rubbed in. The question arose in the thor's mind as to whether he was justified in calling the e purpuric syphilis, or was the purpura due to the toxic ect of the treatment? Against the latter, it should be d that the patient had purpura twelve weeks ago with- t treatment. The second case was a girl, fifteen years age, who presented a typical tertiary, ulcerating syph- ilide on the leg. She also presented syphilitic scars of the type represented by atrophy and pigmentation. The history was entirely negative. The disease was of two years' duration. If she had acquired syphilis, the primary infection must have taken place when she was twelve or thirteen. There were a number of scars on the leg and a general adenopathy. Dr. Fischkin detailed two other cases of syphilis. Dr. Geo. F. Suker showed two cases of syphilitic iritis. In one the eye was very painful, while in the other the condition was unattended with pain. One had a small corneal ulcer. This patient admitted having had syphilitic infection about a year ago, but now had the secondary manifestations of the disease, with marked adhesions of the iris, and excessive proliferation of the pigmentary layer of the posterior surface of the iris, with a large portion of the anterior surface of the capsule of the lens being involved. There was great reduction in sight, with pupillary adhesions. The ulcer was situated toward the nasal side of the cornea. Dr. David Lieberthal showed a case of secondary syphilis, and discussed the differential diagnosis between syphilis and lupus vulgaris. Dr. William L. Baum showed a patient on account of the anomalous action of some scar tissue of syphilitic origin. The man had been under treatment a number of years ago at his clinic. At that time he presented himself with a history of specific infection followed by ulcerations and keloid-like growths. These were hard and firm and projected beyond the surrounding skin. The symptoms for which he was previously treated had disappeared; but some four months ago the patient returned complaining of nocturnal pains and of infection. He, therefore, put him on iodo-nucleoids with astonishing results, in that the keloidal thickening had almost entirely disappeared. A feature of unusual interest was that repigmentation had started in the scar tissue. This was generally denied. He was not prepared to offer any explanation for it, but it was contrary to our ideas of pathology and the physiological relations of this process. Dr. Hugh T. Patrick, after examining Dr. Baldwin's case of the Chinaman, said it was one of thrombosis of the Sylvian artery, with right hemiplegia and aphasia. Patient had exaggerated reflexes and the typical Babinski sign.

Philadelphia Pediatric Society.

At a stated meeting, held March 8, Dr. Wm. Drein exhibited "A Patient with Enlargement of the Liver and Spleen, Probably Syphilitic." The case occurred in an undersized boy, fourteen and a half years old, with a history of syphilis in the father and of evidences of the same disease in other children. In the patient exhibited there had also been cutaneous manifestations, keratitis, sinuses, bone-deformity, and other indications of syphilis, in addition to the enlargement of the liver and the spleen. Dr. D. J. Milton Miller read the notes of "A Patient with Pulmonary Hypertrophic Osteoarthropathy." The case occurred in a child with spondylitis and deformity of the thorax, together with symptoms and physical signs of disease of the lungs, but without obvious disorder of the circulation. The extremities of the toes and the fingers were greatly enlarged, and skiagrams disclosed hyperplasia of the terminal phalanges. Dr. L. J. Hammond exhibited "A Patient with Hypospadia, Inguinal and Umbilical Herniæ." The case occurred in an infant a few months old, the defect in the urethra being partly balanal and partly penile, the prepuce forming a hood suggestive of the clitoris. The left testicle was in place in the scrotum, while on the right side the inguinal canal was enlarged and patulous, permitting the descent of the bowel, to which the right testicle was adherent, presumably as a result of an inflammatory process during intrauterine existence. The presence and the condition of the right testicle precluded the employment of any supporting mechanism for the retention of the bowel in the intestine and indicated surgical interven-

tion, at least for the separation of the testicle from the intestine, after which the employment of some retaining mechanism might prove feasible. Drs. D. J. Milton Miller and J. C. Gittings reported "A Case of Pyopericardium Complicating Ileocolitis in an Infant of Four and a Half Months." The patient was a foundling, presenting cough and diarrhœa, with symptoms of bronchitis and ileocolitis. Death took place in the course of twelve days, the temperature meanwhile pursuing an irregularly elevated course. On post-mortem examination there were found, in addition to the inflammatory condition of the intestines, an accumulation of pus in the pericardial cavity and the structural alterations of in terstitial pneumonia. Dr. H. K. Hill read a paper entitled "A Case of Intussusception; Operation; Recovery." The patient was a child that had suffered a good deal from gastrointestinal disorders, and presented vomiting and diarrhœa, together with prolapse of a portion of bowel from the anus. Operation was undertaken without delay, the abdomen being opened and the invagination reduced. The patient made an excellent recovery without complication. The case illustrated the good results of prompt surgical intervention.

Cincinnati Hospital Staff Meeting.

The members of the Cincinnati Hospital Laboratory staff demonstrated to the clinical staff of the hospital, on March 10, matters of interest which had come up in their services during the past month. Dr. J. E. Greiwe showed two specimens of tuberculous pericarditis, One case showed great thickening of the parietal and visceral pericardium with very little fluid and no blood in the sac, while the second case showed a tremendous dilatation of the pericardial sac with blood-stained fluid, so that it extended laterally to the ribs on the left side. Microscopically both cases showed tuberculous structure with giant cells in large numbers, while the second showed many newly-formed blood-vessels in the thickened pericardium. Dr. J. W. Rowe showed the kidneys of a case of septicæmia in which just beneath the capsule small nodules could be seen which on microscopical section, were shown to be areas of small round-cell infiltration. Dr. Frank Fee showed gross and microscopical sections of a case of elephantiasis of the skin of the legs and abdomen, from a colored woman weighing 350 pounds. Dr. Wm. Muhlberg demonstrated the new precipitation test for human blood by means of serum obtained from an immunized rat. He also demonstrated some stained specimens of trypanosomes from the rat. Dr. Carl Hiller demonstrated a bacillus which he had isolated from a thrombus from a posttyphoid gangrene of the leg. He had not yet been able to find any description of a bacillus with similar properties. It was a short, thick non-motile bacillus with a tenacious capsule. It formed spores after a short time; no flagella could be formed. Gram's stain was positive. Its growth was luxuriant on blood-serum with a heavy deposit of a salmon-colored pigment. On agar the growth was not so marked and less pigment was formed. It grew also in gelatin and bouillon—in the latter without pigment. On potato it formed some pigment. It was facultative anaerobic. Injections were made in a guinea-pig which had as yet been negative.

In Fracture of the Skull, whether linear or otherwise, trephining should be performed as soon as possible on account of the danger from sepsis. Thorough irrigation with normal saline solution, continued for ten to twenty minutes, and when any spiculæ of bone are carried into the brain, this irrigation should be carried to the very bottom of the wound. There should also be drainage by either catgut gauze or tube, but it can be dispensed with if no pus is found at the end of the third day. The hemorrhage can be arrested by hot normal saline solution.—Eve, in *Southern Practitioner*.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending March 26, 1904:

	Cases.	Deaths.
Measles	1554	1
Diphtheria and croup	359	
Scarlet fever	494	
Smallpox	1	
Varicella	87	
Tuberculosis	454	1
Typhoid fever	21	
Cerebrospinal meningitis	...	1

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service during the week ended March 26, 1903:

SMALLPOX—UNITED STATES.

		Cases.	Deaths.
California, San Francisco	Mar. 6–13	4	
Delaware, Wilmington	Mar. 12–19	..	
District of Columbia, Washington	Mar. 12–19	1	
Florida, Jacksonville	Mar. 12–19	2	
Illinois, Chicago	Mar. 12–19	5	
Danville	Mar. 12–19	1	
Galesburg	Mar. 12–19	3	
Kentucky, Covington	Mar. 12–19	1	
Louisiana, New Orleans	Mar. 5–19	3 (two imp	
Maine, Bradley	Mar. 18	2	
Madawaska region	Mar. 12–19	7	
Maryland, Baltimore	Mar. 12–19	1	
Massachusetts, Fall River	Mar. 12–19	1	
Lowell	Mar. 12–19	1	
Michigan, Detroit	Mar. 12–19	1	
Grand Rapids	Mar. 12–19	1	
Missouri, St. Louis	Mar. 12–19	6	
New Jersey, Camden	Mar. 12–19	6	
Trenton	Mar. 12–19	1	
New York, Buffalo	Mar. 12–19	1	
New York	Mar. 12–19	..	
Niagara Falls	Mar. 12–19	4	
Ohio, Cleveland	Mar. 11–18	3	
Dayton	Mar. 12–19	8	
Hamilton	Jan. 30–Feb. 6	1	
Pennsylvania, Allentown	Mar. 12–19	2	
Altoona	Mar. 12–19	..	
Carbondale	Mar. 14–21	2	
Philadelphia	Mar. 12–19	30	
Pittsburgh	Mar. 12–19	1	
Williamsport	Mar. 12–19	1	
Tennessee, Memphis	Mar. 12–19	21	
Nashville	Mar. 12–19	13	
Wisconsin, Milwaukee	Mar. 12–19	6	

SMALLPOX—FOREIGN.

Austria, Prague	Feb. 27–Mar. 5	4	
Trieste	Feb. 27–Mar. 5	1	
Belgium, Antwerp	Feb. 27–Mar. 5	7	
Brussels	Feb. 20–Mar. 5	..	
Brasil, Bahia	Feb. 13–20	..	
Pernambuco	Feb. 1–15	..	
Rio de Janeiro	Feb. 7–14	128	
China, Shanghai	Feb. 3–10	16	
Tientsin	Feb. 3–10	Reported	
France, Lyons	Feb. 20–27	..	
Great Britain, Edinburgh	Feb. 27–Mar. 5	6	
Glasgow	Mar. 4–11	19	
London	Feb. 27–Mar. 5	13	
Manchester	Feb. 27–Mar. 5	1	
Nottingham	Feb. 27–Mar. 5	14	
Sheffield	Feb. 20–27	4	
South Shields	Feb. 27–Mar. 5	1	
India, Bombay	Feb. 16–23	..	
Karachi	Feb. 14–21	4	
Java, Batavia	Feb. 6–13	19	
Mexico, Mexico	Feb. 28–Mar. 6	9	
Vera Cruz	Mar. 5–12	1	
Netherlands, Amsterdam	Mar. 5–12	1	
Russia, Moscow	Feb. 17–24	13	
Odessa	Feb. 27–Mar. 5	1	
Warsaw	Feb. 28–Mar. 6	..	
Spain, Barcelona	Mar. 1–10	..	
Santander	Feb. 29–Mar. 7	3	
Turkey, Constantinople	Feb. 28–Mar. 6	..	

SMALLPOX—INSULAR.

Philippine Islands, Antimonan	Feb. 5–12		Presen
Cebu	Jan. 1–31	5	

YELLOW FEVER.

Brazil, Rio de Janeiro	Feb. 7–28	15	
Mexico, Merida	Mar. 6–12	1	
Tehuantepec	Mar. 6–12	4	
Vera Cruz	Mar. 5–12	..	

CHOLERA—INSULAR.

Philippine Islands, Manila	Jan. 30–Feb. 6	2	
Provinces	Jan. 30–Feb. 6	53	

CHOLERA—FOREIGN.

Trukey in Asia, Basra	Feb. 6–12	6	

PLAGUE—INSULAR.

Philippine Islands, Manila	Jan. 30–Feb. 6	3	

PLAGUE—FOREIGN.

Brazil, Para	Feb. 15	2	
Rio de Janeiro	Feb. 7–28	13	
India, Bombay	Feb. 16–23	..	
Karachi	Feb. 14–21	97	

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Original Articles.

JOSEPH O'DWYER, M.D.

METHODS OF WORK ON INTUBATION; THE MEASURE OF HIS SUCCESS; THE INTEREST OF BOTH TO YOUNG GRADUATES.*

BY W. P. NORTHRUP, M.D.,
NEW YORK.

President, and Members of the J. C. Wilson Society:

As I understand it, I am invited to address young duates and under-graduates of medicine, on a ject akin to medicine, yet not strictly and usively medical. I was allowed to select my ject, and yet a subject was suggested by Dr. lson. His selection shows at once an appreciaon of the qualities of the person to be named, d my attitude and feeling toward the person. It largely the delicate tact of Dr. Wilson and his preciation of the man, the subject of this paper, ch accounts for my presence here this evening.

I am invited to speak to you on the subject—eph O'Dwyer, not his achievements, for the rld knows them; not the invention which has blished his name in every language. I am ited as one who knew O'Dwyer intimately for teen years, to talk to you of the man. I am ed to tell you what there was in his life, his aracter and his work, which may be of interest d improvement to young men, just "outfitted," they said in Klondike days, for a long career; tell the ambitious, who admire achievements, w success may be attained; to show the humble inner who feels handicapped, because he has not ily and wealth to aid his first efforts and feels self hard favored in the lack, what can be mplished where there is energy, intelligence, d devotion to a cause.

Let us inquire what was O'Dwyer's success? s it worth while? We point to intubation—operation supplanting tracheotomy, an operation ning ground every year and never losing. This ration bears undeniably and without dispute Dwyer's name, and his alone. No one else really ims priority, no one claims to have added an ential improvement. Intubation stands as his disputed monument. Is that success? Is it cess to have added a new operation to medical d surgical procedures, to have placed a name ere it will never fade? I hear the ambitious dent acclaim it to be such.

Did fame constitute all his success? Did intubaon do anything for him, beyond immortalizing his me? The ambitious young man will wish to ow whether it brought him fortune. Money is gely in the mind of the ambitious. My answer "no." It did *not* bring him much money. To nother, differently constituted, it might have me so. He, for a few short years, made some oney out of his invention, but soon others could the operation as well as he. Some were so loud in praise of intubation, advocated it so strongly, proclaimed their results so widely, that I fancy several intubationists made more profit from the operation than did Dr. O'Dwyer. Did he receive any other return? Did it bring him position and consultation? Honor and high esteem and some consultation it brought him. To a more aggressive man it would have brought more, to a less modest, retiring man it would have been a stepping-stone to all manner of success.

He was offered opportunities to teach. He gave one lecture at the Bellevue Hospital Medical School and never gave another. His name stood on the list and he was urged to continue but declined. Great diffidence and physical languor, will explain much of it, but a more modest man never lived.

His wife was most diligent in learning every word said or written on intubation. Very little could she get from her husband. At the time of his ovation in Washington, when intubation had its first large audience, I hurried over to the hotel where she was and sent a note to her room. I am quite sure he would never have told her of the figure he personally had cut in that meeting. He was diffident, shrinking. His moderation of speech was also characteristic. I recall an occasion when we were disappointed in a well-recommended house physician coming from a distance. To say we were disappointed is toning down the language for a mixed audience. I could find plenty of words singly and in combination which would give a fair notion of my feelings toward this self-same young man. Not so O'Dwyer. One day, after an accumulation of aggravating incidents, I saw the light in O'Dwyer's eye. It's got to come now, I thought. It came—one word—not at all to my satisfaction, totally inadequate, but O'Dwyer's strongest in a fifteen years' acquaintance—it was "whelp."

How did intubation affect his general professional work? As it became a success he found it necessary to let go some of his general practice. Few know that O'Dwyer had attended three thousand confinements. Intubation was incompatible with obstetrical work; that must go—in part at least. In order not to be in competition with his neighboring practitioners, he felt it his duty to increase his charges per visit. That cut off more work. So long as diphtheria consultations were frequent and intubation consultations came in rapidly, there was compensation. Then came antitoxin. In the success of that O'Dwyer read, less need of intubation and less consultations in diphtheria. He had reduced his general practice by the temporary run of consultation and intubation. Antitoxin came to take them both away. He saw this early and clearly.

I recall the promising early results of calomel inhalations for croup—laryngeal diphtheria. It was thought to reduce the mortality from 75 to 40 per cent. "It is good, it will do till we get something better"—words almost prophetic, for antitoxin arrived on earth within twelve months. One of the first arguments I felt willing to accept, favorable

*Read before the J. C Wilson Medical Society, Philadelphia, February 19, 1904.

to antitoxin, was O'Dwyer's. "Yes," he said, referring to the deaths with his tubes in the larynx, "I used to put tubes in, now I am taking them out."

I have spoken of the fame that this man reaped from one of the most valuable contributions to medicine of my time—especially to pediatric medicine. Let me tell you what he reaped from it incidentally. He reaped an anxiety and worry which contributed to his death. All worried him. Another could have thrown it off and slept, but not he. He was sensitive. Every accident hurt him, every unfavorable criticism disturbed him. Naturally a poor sleeper, he lost more and more the ability to sleep. Behold the triumphs of the inventor, behold the slow death of the man. He died at fifty-seven, of arteries older than his years. Intubation first made and then killed O'Dwyer.

It should be mentioned in this connection, that in the early days of greatest triumph, six months after the ovation given him in Washington, he lost his wife. She had been quite the ideal companion for him, the very complement of his disposition. He mourned her loss till his death. She left him lonely, sleepless, failing in health. His four children were all that young boys could be of comfort, but poor health in one worried him.

I have spoken of O'Dwyer's success. It was the success peculiar to genius. A good business man would have achieved higher position and money. We can recall how men have devised or have adapted new methods of procedure and traveled around the medical world exploiting them. I well remember how, at the King's Reception to the Medical Congress, in his palace, at Copenhagen, a characteristic American hustler, from my city, after hurriedly greeting an acquaintance, exclaimed (as though the advertising habit spoke of itself), "Come around to the clinic to-morrow and see me put on such and such an apparatus." O'Dwyer, in Berlin, when a pediatric dinner was given by Henoch, could not be found. I was commissioned to find him and fetch him—but could do neither. He simply shrank from the wear of notoriety and disappointed a dinner.

Now, gentlemen, members of the J. C. Wilson Society, you must indulge me a little in this reminiscence of my dead friend. You have asked me to tell you the story of a fifteen years' life as colleague. Dr. Wilson said it struck him that the life of O'Dwyer had in it something of profit to the student and beginner. I have spoken of my friend as he was. O'Dwyer died poor, but his life has left a heritage to his boys better than competence. Indeed, competence has come to them through his friends. Columbia College, in remembrance, did a unique thing in its history, created a scholarship—the Joseph O'Dwyer scholarship, to lapse when Joseph, Jr., had graduated. I must pass over private aids to furnish the education of the others. Suffice it to say that they have all been educated, and are absolutely better off than a moderate fortune would have made them. At this moment, the son and namesake has been presented with an office and overflow practice by a friend of the father. Dr. Joseph O'Dwyer, a graduate of the N. Y. Foundling Hospital, now practises medicine and intubation in New York City.

Their father's name has not one spot upon it. No one disputes his sole ownership of his invention. No one has added a single essential accepted improvement to its construction.

The instrument-maker who put upon the market the completed patterns of the tubes has presented to the Academy of Medicine a historic collection.

Two years ago I sent in my card to the leadi intubationist in Naples. I feared he might n know me, so I wrote one word on the card, "Intub tion." In half a minute the door opened and, t emotions of an Italian showing in his face, the gent man arrived, both hands extended, "And you w a friend of my friend." He cherished every let O'Dwyer had written him, had his photograph the wall, avowed that he loved him fervently. I few days of acquaintance I heard over and over h much he admired and loved O'Dwyer. No m lives who can come forward and say O'Dwyer an unmanly act, made (knowingly) an untrue, warranted or unkind statement.

It is a simple story, as you see, of a man not rounded with stimulating advantages, not aided family or wealth, gradually proving himself exceptional man. He was a marked man from time he graduated. He developed and grew bec it was in him individually. He studied and r nated. Not one of his associates did much of eit so far as I can see. He was one who thought his cases and his work. He did all kinds of and thought on all varieties. Many here would sider the class of work an intolerable bore. T thousand cases of obstetrics in poor surrounding not what one would call stimulating to thou Much of his time and strength went to church p It was in him to work out problems and think cases. He really *knew* more general medicine t most men.

This simple story must go on to state what is recorded in medical literature, that O'Dwyer h memory among his colleagues, of a purity of c acter, an uncompromising honesty and upright which is almost childlike. Literally his word given constituted an obligation which no circ stances could weaken. He might be ever so s on learning more facts, but he would do wha had promised.

Our story must say that he had no enemies.

Again I say—though he left no fortune to edu his boys, he left so many friends, bound to h with such imperishable bonds, that all of the b have had the best and are equipped for their work. I might almost assert that there are hundred men in Gotham, good for a sight draft the needs of a son of O'Dwyer. It is a nam touch men with.

The development of intubation: The e history of the forms of instruments has been wri by several and is available. Perhaps it will inte you more to hear what has not been written what a young man saw and knew of the develop of intubation.

In 1882 I began making autopsies in the un ground cell of an out-of-the-way corner of a ce of the Foundling Hospital. (We have better n Systematic autopsies were a new thing, from w all female hearts shrank. Because O'Dwyer wi it, Sister Superior, Sister Irene consented. often told me if she knew what a terrible ener was going to develop and how much we were going to do "downstairs" she would never h consented. She would, though, just the sa for she could never refuse O'Dwyer, and th was a twinkle in her eye when she tried to l sober.

Down in this skylighted cell (it is a concessio say skylighted, for it was scarcely lighted, snow-covered corrugated glass pointing skyw but level with the ground and in the angles of h buildings), down in this cold corner O'Dwyer c constantly with devices which he wished to thr into the larynx. The first of these instrume

t I ever saw was like a bivalve uterine speculum, ut an inch long. The main difference was, ides size, that they opened with a spring and a gutta-percha collar. The study of the collar the first that gave rise to discussion, which I remember. Dr. E. R. Chadbourne was the ing house physician, an ingenuous mechanic a great aid to building the first instruments. and Dr. O'Dwyer were working on the collar. rybody fears that the tube will slip into the nx. So did they. The collar was molded on r upon layer of gutta percha, to make the collar e. Again everybody who has given it thought, its the caliber must be large. So did they. to this time, no living case at the Foundling been intubated. Indeed, the word intubation not yet born. The tube had seemed to fit the yer. The first introducer I here show you, to me recently by Dr. Chadbourne of Pasadena, made it and has treasured it ever since. He s: "I made it of a metal spiral catheter, the handle of a sink cock and the handle of a walk-tick. The extractor was a long silver uterine ointed probe bent so the ball would catch in ngle of the bivalve."

e next step was to try the instrument on a child. Would the larynx tolerate a tube? yer did not, for years later, know of Bouchut's in Paris. Bouchut had demonstrated this fact—that the larynx would tolerate a tube. old hirsute and rheumatic Bridget, in charge marasmus room, occasionally wondered why of her "little dairlins" on arrival in the ward o voice. Sometimes they lost their voices in ight. On inquiring, she detected a smile on upernaturally sober countenance of her adored O'Dwyer, and the lurking smile of the house ician. Not even when she occasionally found e bed this queer collar-button-looking object he know much more of it. The tube tried on arantic babies proved the fact that the tube d be tolerated, and when autopsy was made days later it was found that the tubes had no harm to the tissues. These questions were important. The tube did not injure normal ues when worn five to fourteen days. This pattern of bivalve speculum was used a little in a child with croup and relieved the dyspnœa. d a great moment! A bivalve had been ed successfully in a child with croup and œa and had brought instant and continued This seems very tame reading in these e days. Place yourself where O'Dwyer was. vere cases of croup, which meant diphtheria larynx, had died. Every case tracheotomized ied. To the sisters of charity, well-marked meant death, and if no doctor had opportunity ddle with it death came a little earlier, but no rely, and the operation seemed cruel meddle-ess. Fancy, O'Dwyer, then, seated before an croup patient, endeavoring to insert a tube. effort choked it and made it appear about to ate. After a time his courage was strong h and his confidence great enough to make a ful introduction. The bivalve was inserted, ed dyspnœa, remained in place. Alas, the ous membrane swelling, pressed in at the sides e the blades were apart and dyspnœa again ed. One case lived many days even then, nally recovered.

gradually became evident that a solid tube replace the bivalve. Then began the various urements, changes of contour, fitting to the omy—a long study and a long stretch of time tirement. A head there must be, large enough to keep it from slipping down, not so large that the epiglottis could not close over it. The tube must be long enough to reach as near the bifurcation of the trachea as possible and avoid obstruction from flaps of loosening false membrane, short enough to sweep downward between the arch of the palate and the base of the tongue, small enough not to cause undue pressure and ulceration of the vocal cords, large enough to fit tight and not to be coughed out. Its caliber must be great enough to admit sufficient air, small enough to leave the tube structurally strong. After all this was done the epiglottis must fit the head well enough to prevent fluid from entering the tube and trachea, yet there must be no great pressure on any one spot or surface. Diphtheritic mucous membranes ulcerate easily under pressure. Problems grew as the tube approached the practicable.

If you hold a modern, perfect tube in hand, you will note that the head is triangular, beveled on one side and tilted back to fit the epiglottis. In other words, the tube head is made in the most inconvenient way. Every instrument-maker has said: "Oh, yes, I can make one just like it, I'll have it for you to-morrow afternoon." The man has not yet lived to fulfil that promise. He will tell you the tube is the same. If you ask him about the tilting back. Oh, he did not notice that, but that is of no importance. How about the smoothed-off epiglottic side or the convex up-surface or the rounded angles to fit between the arytenoid cartilages, etc.? He simply rubs his eyebrows and says that is fussiness or uselessness. Imagine the difficulties O'Dwyer had with mechanics. Finally, he found a little German who was willing to do as he was told. Alas, he was unreliable. His shop was too near a beer saloon, and his promises—well, they were too. He did much good service for the development of intubation, but became impossible to manage. We were always afraid this man would get out a patent on intubation. I have often thought I would like to hunt up this beery friend of early economic intubation days, and see if he is hungry and cold. Alas, cirrhosis probably has him by now. I'd like to soak with a long drink his poor old sodden trunk, for he did his little to help. I'd like to do him a good turn to-day for the anxieties and fears he did not then fulfil.

For five full years O'Dwyer worked on the development of the intubation tubes. The last great point was in flattening the tubes laterally, to avoid pressure on the cords, and the final triumph of all, the retaining swell. Well can I remember when the idea of the retaining swell first came to him. Then, for the first time, O'Dwyer began to feel that he would succeed fully. The tubes were loaded with plastic material and copied in metal. The successful molding of the head to fit the anatomy and the final retaining swell, brought confidence to the heart of the inventor. Five years of time, work and study, lying awake and thinking, trying on the cadaver, testing on marasmic babies, in a few cases of croup, and now, what remained? Why should he not operate on private cases in answer to repeated solicitations from those who knew of the work? The man who patiently toiled on for five years while everybody said it could not be done, even yet hesitated when all his friends had rushed to the other extreme. He would operate on a private case when he should have had one successful case in hospital—one complete recovery, and not before. Such at last came.

Then he operated outside the hospital. This case also recovered. On removing the tube the voice did not return. One week passed and no voice, two

weeks, then three weeks and the voice returned and the patient was quite well—as though its larynx had never suffered this new-fangled intrusion. At this stage one would think the happiness of the inventor would be complete. See how incomplete it was. Others began to intubate. They had all manner of accidents. Patients died in the act of intubation. Some reported membrane pushed down before the end of the entering tube, some died in convulsions. Every person having an untoward result wrote to Dr. O'Dwyer. He had letters from Naples, Munich, Budapest, from St. Petersburg and from all points to California. All the unhappy results, all tales of misadventure, and all the unfavorable criticisms came directly to him. His life was one worry. He was a poor sleeper and soon he scarcely slept at all. Modest in success, timid in venture, distressed by unfavorable criticism, worried by accidents of others—he simply died under it. He subsequently gave it as his opinion that there were no accidents of operation, except in the hands of the unskilled. See, then, what worried him. The unskilled were having patients die in convulsions from prolonged intubation—so-called pushing down of false membrane. False passages and even broken instruments were gravely reported as reflections on the operation. Some results were sheer brutality of procedure, many grotesque and inconceivable. Those who know that intubation in this country has displaced tracheotomy almost entirely from the list of operations among pediatric men, would scarcely follow me were I to tell of the bitter fights put up by tracheotomists. There were serious discussions whether the patients dying succumbed from collapse of lung or pneumonia. Any way, if intubation did not promptly do all that was ideally expected, *then*, tracheotomy was to lend its beneficial results to aid in human deliverance. All this reads like fanciful description, but I lived in the midst of it and knew it all. My poor friend O'Dwyer! His triumphs brought some satisfaction, but not unmixed joy. Often as I ran in to see him, he would shove across the table a letter, he saying not a word. Some man had bought a set of his instruments, rushed to a case, inserted the tube, and the patient had died at once. Presumption was the tubes were not only useless, but had killed the patient. Mind you. practice on the cadaver the operator had not had. The insertion of the tube may have been anywhere from the œsophagus to the ventricle of the larynx and soft tissues of the neck, with consequent obstruction. Intubation had its martyrs.

I have spoken of O'Dwyer as immortalized by intubation. I have given a rather quiet picture of his further success. Would it satisfy the young men of the J. C. Wilson Society? O'Dwyer was poor in personal and real property. He left four boys, none of whom had finished any course of education. What, then, is the use in modern days of coming to Philadelphia to talk of an immortalized inventor who died a poor man? If the question is put in that form, I retire and have no heart to answer. Let me speak my recessional:

Whatever forces wrought it, perhaps a combination of physical weakness, the mellowing influences of religion, the chastening of affliction, and the constant devotion to his motherless boys, Dr. O'Dwyer's was the most god-like character I have ever seen in man. What the world knows of this man are his genius as an inventor, his achievement in adding to the equipment of the profession a great operation. To us there is another and a pleasant duty—to testify that, with this genius, there was all that goes to make a man. His home life, his religious life, his civic life, his professional relations to colleague and patient, his hospital relations such as befit a high principled man. Wherever moved in the daily routine of life, he left little gr who delight to tell of O'Dwyer, their friend. T of us who were accustomed to go to him for ad or those who wished simply to be in his presenc the nameless pleasant influence of his person have lost a part of our lives; there is left to daily-recurring impulse, as to one in a light sle rise up and seek him out.

Highly as we esteem him as an inventor genius, highly as we rate him as a practition wide knowledge, much as we valued his su medical judgment, there is one feature we w place high above this all. We would trace upo tablet his achievements, his general knowledg medical judgment, but above them all, we w write: "*O'Dwyer the Man.*"

You were not at O'Dwyer's funeral? Then did not see the throng of physicians. You di see in the obscure light of the side aisles and seats, those uninteresting, poorly-clad women small children. To that class O'Dwyer was ticularly kind. The poor of his parish c were all his friends. They wept quietly, old w and children, head to head. As the cortege p to hearse and carriage, the street was packed b same quiet, sobbing multitude.

Why has Dr. Wilson asked to have this s story of a man's character and work set befo to-night? Why has it been considered by all an evening's contemplation?

Is it because he, because the general medic fession think in harmony, that O'Dwyer's char his methods of work and his real moral succes worth emulating?

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WHAT SHALL WE DO WITH THE NER WOMAN?*

BY WILLIAM C. SEBRING, M.D.,
KINGSTON, N. Y.
ATTENDING NEUROLOGIST TO THE BENEDICTINE HOSPITA

AN eminently skilled, learned, and successful cian remarked to me once: "I feel capable of a fair amount of justice to anything from ca to corns, but may the Lord deliver me from a ous woman."

The writer believes that there is not a phy living who does not echo that man's sentimen can truthfully be said that there are no case so worry and weary, so irritate and generally f doctor's cup of woe full as does the nervous w For her there is never any twilight, the sun is blazing or else there is a gloom that is unbrok even the shadow of a light. She either walks mountain tops of exaltation or, unbefriende mankind, she weeps solitary in the valley of ness. The physician that is attending her is an absolute disgrace to his profession or else the miraculous of his kind. Most happily the la oftener the case than the former, for as a dro man will grasp at a straw if it is the only object in his reach, so will the nervous woman cling physician, if perchance, for any reason he is th physician at hand, or if there is some subtle about him that may induce her to think that his especial patient, or that he is doing more f

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has ever been attempted before in the history of cine. Make the nervous woman think that your tion is solely centered on her and she will never nother physician. But how many times have of us wished that we had chosen any other pro- n simply because "the nervous woman" had to our lot.

about a quarter of a century the practice of ry has been revolutionized: zymotic diseases, degree, have lost their terrors, and gynecology ast if we take the say so of the specialist) can t make your grandmother a maiden. A tuber- peritonitis can be cured by cutting into it, he tuberculous joint can mostly be cured by it a vacation. In orthopedics the poet's day breaking when there will be "no more halt, me, or blind." Through many generations of sive use the human eye degenerates; what mat- t, for two little pieces of glass, bound together a golden frame that is more of an ornament a detriment, will make as clear the vision as it the springtime of the race.

k to what department of medicine that you d you shall find that an art is giving place to a e, except in one. Far be it from me to say here is no balm in Gilead yet found for the us woman, but *certes* there has been infinitely me given to her by the leaders of medicine than other subject that is so important and pertin- both the patient and the physician. Perhaps e there has been so little time devoted to her e leaders, that so much time has had to be ed to her by us little followers on. Look gh the files of our most scientific medical jour- nd how much information will you be able an about her? Try it the first time you have e that you are at your wits' ends about, and cy that you will go back and see that patient very few new ideas of what to do next.

is for this reason that the writer has prepared aper, non-scientific in a sense as it is, and dis- ive, perhaps, to a tedious degree, yet he hopes if this paper presents nothing absolutely new, y refresh your attention to this subject, and if y of you it should give any hints that will make less nervous, because you have made the nerv- oman less so, neither my time nor yours will isspent.

this paper are described five cases, all taken actual practice, and they embrace the five ent classes of nervous cases that are seen often by the physician, and most often give reatest amount of trouble. They are described tually as they may be, and they will be used text for remarks on the treatment of similar

SE I.—Well does the writer recall a winter a months after he had rather shamefacedly begun practice of medicine. Over the hill he could a wagon rattling along the frozen road. As the e strikes the bridge he knows by the regular of the horse's feet that the driver is urging him ough Death had entered the race. But a short ent and the driver is scrambling up the walk e office, and without a knock almost tumbles the door, on his face was a mingled look of grief, , and anxiety, that the physician knows so well has often marked—a look that you will find on faces of bystanders while the doctor is working a person that has been severely injured during ccident; it was the same look that you will see e a household is awaiting the critical period of a erate illness.

he man was an intelligent farmer and a call been made at his home early in the day to see his aged father, who had suffered a stroke of paralysis, and I supposed that the old man had become worse. "Doctor, doctor," the man exclaimed, "something terrible is the matter with my sister, and I want you to come right along." Without questioning him I took my case and climbed into the wagon. As well as he could, between the earnest protestations to his horse to go faster, he told me that his sister had seemed very nervous through the day, and while the family were talking about the condition of their father, she had, without warning, given utterance to a sound that was half-moan and half-shriek and dropped unconscious from her chair, though as far as the man could tell she had sunk to the floor rather than fallen. After she seemed unconscious for a few moments, she passed into a convulsive condition, not apparently recognizing the family, but was constantly in motion with arms and legs, and if not restrained would roll about the floor "writhin' in mortal agony," as the farmer expressed it.

By this time we had arrived at his home and I hastily entered the house. There was found a rather plump, blonde lady, perhaps thirty years of age, lying with her head and trunk on the sofa and her legs on the floor. A stout farmer neighbor held both of her hands in his, and was vainly trying to hold them still, but he was a complete failure at the operation, as in spite of his best endeavors they were see-sawing back and forth across the woman's chest with a motion almost as rhythmical as a pendulum. Another person at the head of the lounge was holding her head clasped in both hands in the attempt to restrain the side-to-side motion of the patient's head. Squatting on the floor was an elder sister of the girl and encircled with her arms and closely wrapped to the sister's bosom were the patient's legs, in the likewise vain endeavor to control their spasmodic movements. The room was not warm, but the faces of those there were bathed in perspiration, though there was none on the face of patient herself; but rather on her face was the look and light of one "that doth see visions and prophesy," or, as Joseph Cook used to say, "illumination and levitation," a gleam that was not "of the earth, earthly." With a voice that was strident and strained she was soliloquizing after this fashion:

"O, my father, my poor father will die; what shall I do when my poor father is dead, my poor father is dead; what shall I do when my poor father is dead; and gone to my mother. My mother is dead, my mother is dead; what shall I do when my father is dead and gone to mother. I can see my poor mother in heaven. I see her face and the angels, the beautiful angels about her, I want to die and go to mother that is with the white angels." In this sort of strain she was "going on," and every muscle of her body was in motion except those of facial expression. Her sister looked up and with a piteous voice exclaimed, "Oh, doctor, Annie is going to die; she must be dying now, for she can see her dear mother in heaven." This all sounds flat enough to hear or to read, but let me tell you that to a young and new physician, with a reputation in and respect of a family with a large connection to gain, that scene was not at all insipid.

Putting a bold face on the matter, though with by no means the mental assurance with which these cases are met now, I told the sister that the patient was nowhere near translation, but that she was "suffering from a severe shock to her nervous system," and that she would be better presently. (A pretty inconsequential amount of

information to convey to the anxious friend, you may say; could you have said anything better if you had been there?)

Then began a canvas of the situation. I recall having in my notes that the proper thing to try in an acute hysterical attack was pressure on the supraorbital nerve. All right, try it then, so without opening the drug case I began an operation that must have looked very much to the family like an attempt to gouge out the patient's eyes. There was no result for a time except to produce a stare of amazement from the bystanders. Of course I had been told by a very learned professor of nervous diseases that the pain from supraorbital pressure would grow so great in a few minutes that no hysterical person could bear it. So the pressure was continued and it was not very long before,sure enough, results did begin to manifest themselves. One of them was that the patient tore her hands loose from the man that was holding them and delivered a sounding smack on the face of the medical attendant, and let me assure you there was energy in plenty in the gesture. After the assistant had secured the rebellious members, rather against the protest of the family, the attack on the supraorbital was resumed. During all this time the inhabitants of the beatific vision had been rapidly increasing and threatened to develop into a regular apocalypse in full activity. The writer had to confess to himself that pressure on the supraorbital nerve was in this case a lamentable failure.

Some other procedure must evidently be inaugurated. Drugs, some tell us, are but of little actual service to restore a hysterical subject to her senses—mechanical means are to be much preferred —so then I will try ovarian pressure. I was going to treat this case "secundum artem," though by the looks of the family a blind man could have felt that I was getting to be to them anything but the "beloved physician." So without any very lucid explanation to the family the "ovarian pressure" was begun; after a little, in spite of the best endeavors of the three attendants, the patient wriggled herself to the floor; and then the physician attempted the double work of following the serpentine gyrations of an ecstatic female about the room, and at the same time the employment of "ovarian pressure." This treatment did not last long—it just simply couldn't.

From that time my faith in the restoration to reason of the acutely hysterical, "by mechanical methods" suffered a complete solution of continuity and has never been restored. A wild idea did occur to dash a pail of ice water over the recalcitrant sufferer, but this would have been a little too dramatic even for the occasion. All this time the celestial beings were drawing nearer and nearer to the patient, and she asseverated most earnestly that she could hear them singing their celestial harmonies.

At length opening my grip I found in it fluid extract of valerian, croton chloral, bromide of sodium, and morphine. About this time the elder sister began to show marked symptoms of rebellion and inquired if "I thought I had had experience enough to deal with such a case." To be frank, I had begun to doubt it myself. The drugs given above were each tried in good doses and at last a hypodermic of three-eighths grain of morphine was given. A half hour was then allowed to elapse, but the condition of the patient was as good or rather as bad as ever. Hopelessly looking through the medicine grip for some other possible remedy to "try," there was brought to view a small bottle of terpeth mineral tablets. The writer does not know, but he has at times thought that it must have been an angel right out of that poor girl's visions that prompted t administration of two or three of the tablets.

It was but a few moments before the muscu movement began to subside, the ecstatic look fa from the face, the heavenly hosts grew fainter fainter, and wails for a dying father gave plac weak-voiced utterances that referred to a qual stomach, and—gentlemen, "If my mortal sum to such length of years should come as the m wintered crow that leads the clanging rookery hom I'll never do a smarter thing than when I got t apocalyptic creature puking. And if this paper no other use than to bring to your attention t there is an irresistible conflict between a sick st ach and an acute hysterical attack, it will not h been written in vain; for you may search fr where the Himalaya's summits are freezing un a tropic sun, to where the Orkney Isles are snuggl warm in the Gulf Stream's arms, and you will find a woman, with perverted resolutions str enough to maintain long all the *diablerie* of "h terics" if her abdominal regions are the camp ground of Gen. Nausea.

This was a stubborn case and one that might w I fancy, have given trouble to any physician. C trary to the usual teaching, the writer believes t the very best thing to do with these cases, when outbreak is of a decided mental character, that when the most prominent symptoms are displa by the mind, in the way of emotion, or even t porary delirium, is to give a hypodermic of morph It will act better and quicker than anything else large proportion of cases, but you will now and find a patient that the drug will render worse, in t case use an emetic. Frequently if the attack mild one and if you are acquainted with the pati and have some control over her, if you can find what the patient was doing just previous to the att and then in a sharp imperative tone direct her to fi the work, and this command is repeated a few tim the patient will often obey, and when her attent has been turned to the work, the attack will h ceased of itself.

I do not believe that it is worth either yours the patient's time to bother with supraorbital ovarian pressure, as it will fail far oftener than it succeed. In two or three stubborn cases more an experiment than anything else, dilatation of sphincter has been tried and it stopped the att on both occasions, but it is a procedure that is recommended, nor in a large proportion of cases it be at all feasible. First, last, and all the t remember that in 95 per cent. of the cases a hy dermic of morphine will be successful, and in the ot 5 per cent. you will never have a failure from an eme it does not matter what it is as long as it produc rather protracted period of nausea.

Case II.—A Miss R., aged about thirty-t years, but looking much younger, a blonde, rather inclined to embonpoint, was very anaem indeed to such a degree had the trouble gone th her face was entirely blanched, and when not a mated there was the dead whiteness about it th is seen on the cadaver. She had been treated b the local physicians, and at sundry times had be incarcerated in different metropolitan hospitals.

Her trouble began in young womanhood. A the time of puberty she developed attacks o severe cephalalgia. She said they had been s severe that her sight had been affected for day after an attack. Most of the time she menstruate regularly but very scantily. This condition laste from three to four years, and then she began to hav excruciating pain from the occiput down to th dorsal vertebræ. As these attacks become mor

ere and frequent, there developed a mild paresis the lower extremities. The girl at length became bridden or nearly so, and was taken to one of the w York hospitals. The writer could not elicit n her just what line of treatment was there pted, except that on the bed card was written inal irritation," and so far as she knows the tment consisted in absolute rest in bed with pplication of electricity and the ice-bag to the e. She derived but little benefit from this, at the end of three months was taken to another pital and then to another and another, and finally brought home as incurable. When first she had improved so that she was about the e a part of the time, but she did not take active part in the affairs of the household. w local physician was called in, simply because as a new man. He remembered having read where that neuralgia was a nerve crying for —which it is not always, by any means. How it that the nerves were starving?—because the d was starving, and starving blood is simply d that has not the power to absorb a normal nt of iron. This may be very shaky physi-, but it was good enough physiology for this anyway. It is likely that every physician consciously or unconsciously come to this con-n about a similar case, and no doubt iron me form had been given *ad libitem*, but had a total failure because the iron had not been bed. If you think of it, the medium from a membrane will absorb any drug most y is the saline solution. Then it stands to n that if iron could be jointed to a saline or a e compound made of it, it should be taken the system faster than any other form and you d have the remedy you are in need of.

s young lady was placed on Flint's tablets our or five of them were given at a dose every hours, and to alleviate the pain Brown-rd's neuralgia pills were used with moderation. d they seem to control the cephalalgia better anything that had been tried, and the writer ound them to succeed several times in cases of nate headache when nothing had been found ieve.

e result was very prompt, for it was but a eeks before the patient's lips began to lose pallor and a slight amount of color appeared e cheeks. In three months the woman was ly free from pain, and her cadaveric look had ne almost plethoric.

this time the tablets were discontinued for l months, but after a time the patient began pse back into her former condition, but was y restored by a return to this saline form chalybeate. For the last three years the woman njoyed perfect health, but steadily uses about of the tablets a day as this seems to be the nt required to maintain her position.

re was a case in which the nutrition of the m was purely at fault, and when this was cor-d the woman was well, but as yet there has found no remedy for the constitutional vice would not allow sufficient absorption of iron, the patient will have to go on indefinitely shing some extra nourishment for the blood

the treatment of classes of cases like this, of e the main attention should be given to the tion. This is very easy to say, but sometimes hardest to accomplish. The real trouble is the red disks are not much if any reduced in ber, but they are poor in hæmoglobin. One the theories to account for anæmia is that the sulphur that is taken into the stomach prevents the absorption of iron. Hence Blaud's pills, though they clinically do some good, do so in spite of the sulphur which they contain (sulphate of iron), and if tried in a given number of cases I am almost positive that they will fall below the value of simple powdered iron, but the latter must be used in larger doses than is commonly done. Ten to fifteen grains every three hours is by no means too large. The tincture of the chloride of iron is a nasty drug in every way and its internal use might as well be dropped. If there is a scrofulous taint about these patients the syrup of the iodide of iron will give better results. The thousand and one proprietary preparations that are on the market are no better than the regular ones and more expensive; they tend to reduce the physician's interest in the patient and the patient's interest in the physician and might as well be let alone. Possibly the albuminates of iron are an exception to this statement. In many of these cases there will be found a hyperacidity of the stomach and the iron will produce better results if bicarbonate of sodium is given at the same time. But still the preparation that experience will show to be the best the writer is positive is Flint's tablets.

In regard to other means of treatment, hygienic and the like, one can say that an existence spent largely in the open air is of great advantage, but use common sense—under no consideration should severe physical exercise be enjoined. It is worse than useless to attempt to have these patients "work up an appetite."

The "Weir Mitchell rest cure" is absolutely impracticable for the general practitioner, and it is doubtful if the real benefit from the treatment is not more from the mental impression than from the rest and manner of feeding; however, there is a small per cent. that can be raised to a higher average of nutrition by thoroughly resting in bed for a few days at given times. What shall be said about analgesics in these cases? It is cruelty to the patient to let them be deprived of them, and yet they lower the already depressed vitality. In a good share of cases the faradic current will give relief that is temporary. Hyoscyamin will sometimes do good, and with as little reaction as any of the alkaloids. The passion flower of the homœopathists will do well in a small number of cases, and is an excellent remedy, as the reaction, at least with the writer, has not been noticeable, but it will benefit a large number of patients whose symptoms are mental rather than physical, as insomnia and general mental disquietude. The old drug vibernum opulus may be tried, and it is better than vibernum prunifolium. You may lay this down as a rule, that in cases of a nervous trouble from anæmia and when a sedative has to be used, one should always use a vegetable rather than a mineral, as without exception every mineral sedative reduces the hæmoglobin.

In cervical pain the spinal ice-bag would be of use at times, but you need not expect too much of it. By the way, make it reach the entire length of the spine. If the pain is confined to the head nitroglycerin is almost a certain remedy, but it must be given in large enough doses to effect the cerebral circulation, and many will object to its use on this account. Massage has been highly tried, but it is more profitable to those who are confined in bed. In general practice it is a good thing to prescribe cod-liver oil with a little oil of wintergreen in it to partially do away with the nauseous odor, and tincture of capsicum enough to render it slightly rubefacient, and

direct that it shall be well "rubbed in." This serves three ends—that of nourishment from absorption of the oil, an improvement of the cutaneous circulation, and lastly the massage of the muscle which you will never get unless you use some simple stratagem like this. A word about the duration of treatment. Nothing will cure these patients quickly, or in every case permanently, to use a homely simile, their fire-box is not large enough for the fuel to heat the boiler, and you must make up the deficiency by adding, from time to time, a more concentrated fuel, and this is iron in a form that will be assimilated. This holds good for all these cases except those of the transitory chlorosis of puberty, and iron cures this permanently.

CASE III.—This lady was about forty years of age, of medium height, and figure light and spare. By occupation she was a housewife, but kept city boarders during the summer. She was mentally ambitious and to a degree pretentious—that is, pretentious in the better sense. She had ceased to menstruate at thirty-six, and was a mother of four children. She gave the history that fifteen years before she had an illness identical with the one about to be described.

When she was first seen she had developed a rather severe attack of facial erysipelas. During its course there formed a pustule in the auditory canal. She complained much of pain about that region of the head which was set down to the irritation of the pustule. After the erysipelas began to devervesce she commenced to have a great amount of neuralgia in different parts of the abdominal wall, though there was little real tenderness. More at the request of the woman than for any other reason, blisters were applied, and it is a fact, that they would not develop a bleb, just what control the nerves could have had on the vasomotor supply to the skin so that a blister would not work, I confess is too deep for me. After these migrating abdominal neuralgias had been continued for about three weeks, she began to suffer uncontrollable vomiting. There was but little nausea, but no matter what substance was taken into the stomach it would be expelled in a few minutes. In a period of ten days, the woman becoming very weak, rectal feeding was resorted to. This, the writer believes, was a mistake, as the woman certainly would not have starved to death and the nourishment taken served only as an offset to the rebellious stomach in the way of furnishing strength for the patient to manifest further neurotic symptoms. A person that is extremely weak will not vomit, for the regurgitant action of the stomach will degenerate into a sort of hiccough that will not expel food. I am certain of this as a clinical fact, for I have seen it demonstrated more than once.

It is useless to dwell on the medical treatment of this case thus far, for it was a total failure, more than to say that every drug that could by any ingenuity have been thought of any value was tried.

After a period of about three weeks of gastric trouble I was hastily called to the house and found that the patient was suffering from tonic spasm of the flexor muscles of the arm, which was drawn by the deltoid directly upward from the body. The muscles and their tendons seemed to be drawn almost to the breaking point. The usual antispasmodics were tried but without result, as the legs soon took on the same spasm as the arms and were flexed close to the body. During the progress of the case there had been intermittent hysterical aphonia. At length chloroform was used, and after the woman had been partly narcotized the spasms would relax for a time, but only to return. Of course the chloroform could not be kept up indefinitely, and in desperation one day, as the spasms were returning, two long hip splints were prepared and placed in position, and also the arms were placed in splints that went straight from the shoulder to the wrist. These did their work most admirably, for they kept the legs and arms extended, so that the flexors could not begin to contract, at least with power enough to cause any discomfort to the patient. This may seem a very rude way to treat the acutely hysterical contractions, but let me assure you that it is the most practical that I have been able to devise or have ever seen.

During all of this period the woman's mental condition, at least to my observation, was normal. There was nothing about it in any way that could be said to be tinctured with hysteria. The whole outbreak seemed to exhaust itself in manifestations of the purely functional, physical attributes of the body. The woman's symptoms gradually ameliorated until she returned to her usual condition of health, without leaving any trace of what might be called an hysterical tendency. You will always find that patients recover most fully when the hysterical outbreak is physical rather than mental.

In regard to the vomiting, if you have the confidence of the family the best treatment is the simplest. Just plain starvation for a period as long as the stomach is rebellious, and then give only as little food as possible; the kind does not matter. as of course there is no true failure of the stomach at all.

A blister applied to the epigastrium has been effective, and the application of electricity by a gulliform electrode is a valuable apparatus, but one that most of us will not have at hand. The kind and current of strength will have to be determined in each case by experiment as *a priori* no one can tell, though the interrupted is perhaps, the best one to try first. Cocainizing the stomach will stop the vomiting for a short time, but the effect on the general nervous condition is very deleterious.

In regard to the muscular spasm, you may be forced to resort to chloroform, but it savors too much of relaxing the patient with a club. One of the best and surest drugs is bromide of soda, but you must use it in magnificent doses. One to two ounces in twenty-four hours or even more—and if the stomach will not stand the treatment then give it by rectal injections in still larger doses. Use the injections as they are used in typhoid fever and if they are not retained, close the anus with a napkin for a few moments and the patient then will be able to retain them for a lengthy period. A tobacco poultice applied to the abdomen will always produce relaxation, but it is a harsh drug, and the writer has been alarmed at times by the depression. It is best to remove as soon as the patient begins to be nauseated as the effect will increase after the clyster has been removed. It is not worth the physician's while to try the weaker sedatives, as lupulin, musk, camphor, galbanum, asafœtida, and the like, as you will only disgust the patient and derange the nutrition of the patient to a still greater degree.

Amyl nitrite is an exceptionally sure relaxant and after the first trial or so the patient will not object to it, and it can be trusted to the patient or an attendant, as it is absolutely non-lethal in any dose that will be obtained. This drug deserves a far more extended use in all forms of spasm than it is receiving. Sulphate of curarina is very effective, and no deaths have been reported from its use. An injection of a seventy-fifth of a grain may be given every three hours, but you must watch it very closely, and if there is any embarrassment of the respiration di

ontinue it immediately. Do not employ curare, as ou cannot be certain of the effects of the drug. his agent is of the most service in desperate cases which the contractions are verging into hysteroileptic convulsions.

In passing, let us say that a case of this sort will ways be overrun by all the busy-bodies that are hand, and if they are allowed to see the patient, e exhibition will be closed with more difficulty n when solitude, or as near it as possible, is enced on the patient.

In recapitulation would place before you these ur remedies: (1) Bromide of sodium in very ge doses. (2) Tobacco poultice, used cautiously.) Amyl nitrite, used *ad libitum*. (4) Splints; and m personal experience I believe that they are the st effective of the list.

CASE IV.—This woman was about thirty-two rs of age, strong and robust and of excellent nily history, except that her father, though a very od and prosperous farmer, was slightly eccentric the way of magnifying trivialities and the like. ere was no true neurotic taint in the family at all. is woman had been well reared on a farm, was rried happily and was the mother of one child. ntally she was above the average and of genial position, she had left home about three years evious with her husband to engage in business in w York. She had to be at their place of work at ee o'clock in the morning, which meant she must e at two. Her hours of work were very long and did not return to her home until four in the afternn. This continued the year round, without any p for Sundays or holidays. She also said that she constantly on the "*qui vive*," as she had more n the usual reasons for wishing the business to be uccess.

The history of her present illness was that she med in her usual health until she returned to her her's house for a short vacation, when she began develop migrating neuralgias; then dyspepsia th a dark-coated tongue. She rapidly seemed to e strength, so that she did not leave her bed. Her petite was poor and capricious. Insomnia was sent, but not to a great degree. The diagnosis her attending physician was typhoid fever. (By way, the confounding of typhoid fever with rasthenic conditions has come under my notice ee times in five years. The other two cases were nged around and typhoid fever was thought to "nervous prostration.")

Here the writer will say a word about hysterical mperatures in general. It is a very ticklish subt, and but little is written about it in the textoks, and at best is a good deal of a mystery. You ve all noticed that with two children, with exactly e same form of indigestion, one may develop wellrked nervous phenomena, such as twitching of the dons, slight delirium, strabismus and the like, hile the other infant will not. And if you take te you will always find an elevation of temperature the former cases and not in the latter. It therere stands to reason that the temperature was proced directly from the nervous system and not by e indigestion itself. This is said because there e some who seem to think that the nervous system not capable of itself of producing a rise of temrature, and I argued so at one time myself. nother case in which the nervous system does proce a temperature above normal is during the coma at follows an attack of epilepsy. Many cases are n record of very high temperatures that have had a eurotic cause, and these have usually been exlained on the theory that the patient has been malingering, and by a sort of slight of hand (to use an Hybernicism) raised the temperature in the axilla and rectum. The explanation that they do it by pressure or friction (though the writer does not doubt that some have said they did it in that way) is not true; try it yourself and you may press the bulb of the thermometer between your fingers until it breaks and you will get no result, and the highest you will be able to raise the temperature by friction will be to about 104° or 105°.

You may classify hysterical temperatures under two heads:

First: Those cases in which there are sudden fluctuations in the temperature, now well up and then shortly down below normal. When they are below normal do not mistake for "nervous chill," as that is almost entirely subjective with the patient, and the thermometer will show no actual fall below normal, or but very little. This condition is one that the patient soon recovers from.

The second is a condition in which the temperature is very high and does not fluctuate. It is produced by an accident or some very severe shock, and when it does occur it will be found to continue for a long time and recovery to normal is very slow and very gradual.

The case that is being described was of the former character, and grouping all the symptoms together, it does not seem that the attending physician by any means displayed very great ignorance in his diagnosis of typhoid fever.

When first seen by the writer the patient had been out of bed for a few days. Her condition was much the same as when first ill, except that the mental symptoms were much more marked. She would alternately laugh and cry several times a day. She could or would not figure correctly. She said she did not recall how long she had been sick, but thought a very long time. She was certain at times that she never would recover, and at others would deride herself saying "she knew she was acting like a baby," and so forth. At no time did she have any real delusions. Inclined to be restless, would want to go out of doors and would then return directly into the house. Her husband and child were of secondary importance. Her whole thought was centered upon herself. One day she would make plans to go to a hospital or sanatorium, and the next day would resolve to be treated at home. Sometimes the doctor did not pay her attention enough, and at other times he saw her too often and was just running up a bill without doing her any good. A careful physical examination failed to reveal any organic trouble of any description, but there was, as there always will be, found with these cases, an obstinate constipation.

This case is used as one that is typical of neurasthenia that has been produced by long-continued strain and overwork. This case had a very tedious voyage to recovery. Citrate of iron, quinine and strychnine, with stomachics, were tried, but with little result. Physical examinations were made and always a positive prognosis of recovery given. This is a good thing to do on account of the moral effect on the patient. The physician should always be optimistic with these cases, but let him never set a definite period for restoration, for if he does and the prophesy fails, not only does the patient lose courage, but what is worse, he will lose faith in the medical attendant. All sorts of drugs were tried with the woman, and the writer was getting almost as discouraged as the patient—in fact, he had nearly completed arrangements for her removal to a sanatorium when, as a last resort, he prescribed fluid extract of avena sativa. The drug had been taken but a few days when the patient changed her mind

about the sanatorium, and I fancy that no case of neurasthenia ever made a better or quicker recovery, than did that one. This remedy has been tried in similar cases often enough to satisfy me that of all the nervine drugs, it is one of the best in elevating the depressed nervous system.

About the only hygienic measure that is practical is to give the patient a sponge bath with saline solution, and then run over the body with a sponge wet with alcohol. Have this done before she arises and keep her covered with a sheet or the bed-clothes for a time; for if these cases are depressed with anything like a chill in the morning, that day will be lost to them.

If the patient is suffering depression of spirits that borders on melancholia, anholiaum Lewinii, or mescal buttons in 7 to 15-grain doses will be of service. The nucleins will do especially well when the condition is of a chronic nature. Sumbul is rather going out than coming into use, but it is a drug that will repay a trial. It is well to have the patient of this class drink a cup of tea made from 30 grains of sterculia every three hours. This is well relished, and as a rule well borne, and will produce fairly quick results, though rather temporary in character, but the tea must not be continued too long.

Just a word in closing. You may have noticed that I have confined this paper almost entirely to the use of drugs, and that is just what the general practitioner will have to do, for however well others who devote much time to these cases may do without the aid of drugs, yet the regular practitioner, if he is a therapeutic nihilist, will be a therapeutic failure.

About the reproductive organs and their relation to the "nervous woman" there has been nothing said, because with every case the writer sees, there grows a more and more profound distrust in the dependence of these conditions upon affections of the sexual organs; and be very slow to turn these cases over to a specialist in the diseases of women.

It is as old as Virgil that "they win because they think they can," and in these cases *you* win because you think you can, and if an attempt in one way is a failure, then try another, and another and another, until somewhere or somehow you will find the potent remedy, for there is nothing that will bring the personal and general approbation to the regular physician as the restoration of peace to a household that has been plagued with a "nervous woman."

Mosquito War in Ecuador.—An active campaign against the spread of yellow fever and malaria, involving the destruction of mosquitos, has recently been started at Guayaquil, Ecuador, as the result of suggestions of Dr. Gruver, the resident officer of the United States Public-Health and Marine-Hospital Service.

THE RECTAL SEGMENT OF THE URETER

By BYRON ROBINSON, B.S., M.D.,
CHICAGO.

THE topographical relation of the ureter to the rectum is significant from the standpoint of diagnosis and surgical intervention. In order to secure some standard data of ureteral and rectal relations a number of subjects, male and female, were dissected from others the pelvic organs with ureters, blood vessels, and peritoneum were removed intact, di

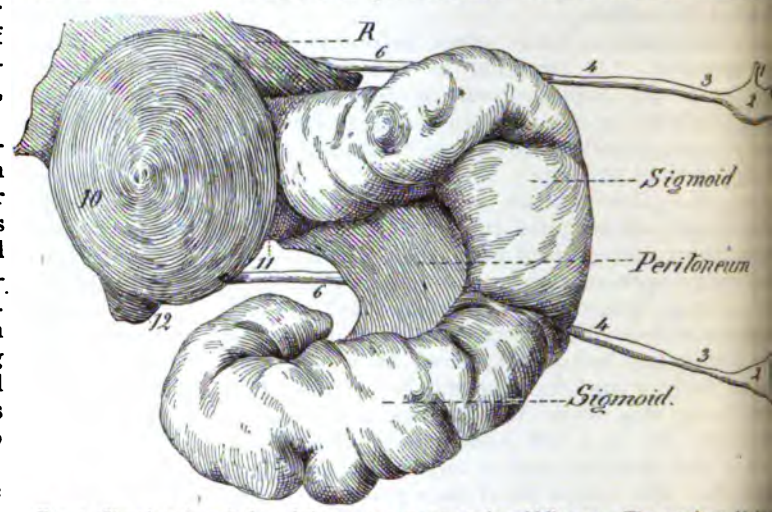


FIG. 1. Showing the relation of the ureters to rectum in middle age. The specimen, bladder, rectum, sigmoid, ureters and related peritoneum were removed from the subject and distended moderately with air and allowed to dry. Dr. Wm. E. Holland then photographed and sketched it. The parts are in the natural position. Fig. 1 is a ventral view. 1, 1, calyces. 2, ureteral pelvis. 3, proximal ureteral isthmus. 4, lumbar spindle. 5, the middle ureteral isthmus is obscured by the sigmoid flexure. 6, pelvic ureteral isthmus is obscured by the bladder. Rectovesical fold. 10, bladder. 12, prostate. The ureter courses parallel to the fossa intersigmoidea. The relation of the rectum and sigmoid to the ureters is intimate and extensive during a distending colon. While distending the specimens with air they were allowed to take their own position governed by the peritoneum.

tended by air to varying degrees, and allowed to dry—thus presenting permanent fixation relations of ureters and pelvic organs, especially the rectum

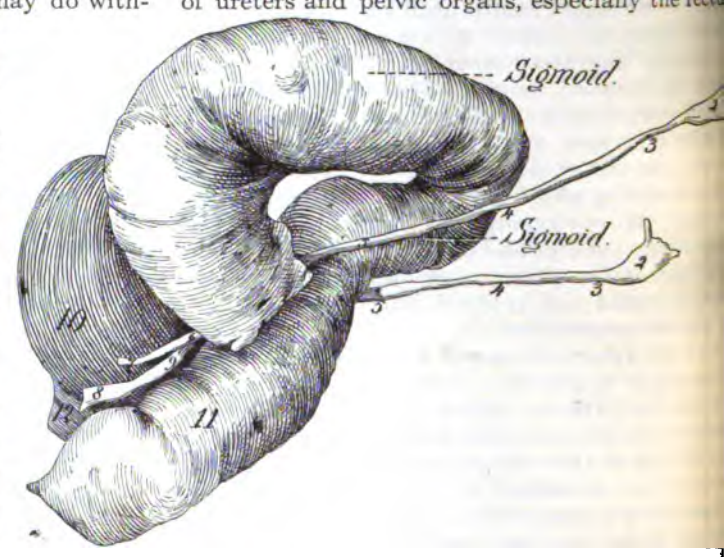


FIG. 2. Same specimen as Fig. 1, viewed from the left side. 8, vesiculus seminales. 9, vas deferens.

in varying states of distension. The results of this investigation have convinced me that the rectum is more intimately related to the ureters intraperitoneally, and especially extraperitoneally, than generally recognized.

1. The relation of the ureter to the rectum varies according to sex. The male ureter is more intimately related to the rectum than that of the female because in the female the vagina intervenes between rectum and distal ends of ureter. Besides the female pelvis is larger. The distal ends of the male ureter inbedded in cellular tissue rest in direct contact with the rectum. Hence the explanation of pa

uring defecation of large hard fecal masses when he vesiculæ seminales or distal ureters are inflamed, specially by the penetrating gonococcus.

2. Also the close proximity of rectum to the vesiculæ eminales and ureter explains the emission of semen uring defecation of large hard fecal masses and pain in he distal ureters if calculi exist.

3. The relation of the ureters to the rectum varies cording to the resting (contracted) or distended unctionating) state of rectum, vagina, and bladder. f the bladder alone be distended he ureters pass proximalward nd recede from the rectum. If he rectum alone becomes dis-nded the ureter becomes applied o the rectal wall more and nore, both extraperitoneally nd intraperitoneally, where a ouble peritoneal layer intervenes etween rectum and ureters. If he vagina becomes distended he ureteral application to the agina is increased—as much as e and one-half inches. Col-sed conditions of rectum in-ce the ureters to recede from ctum.

It is remarkable how dis-tion of the rectum increases application of the ureters to rectal wall, both at the proxi-l (sigmoid) and distal ends the lesser pelvis. Distention of rectum, vagina, d bladder forces the peritoneum of the bladder a markable distance proximalward, allowing safe dominal and bladder incisions to inspect the gone and also to manipulate the distal extra-itoneal ureteral ends. Distending the bladder one, and especially in company with rectal dis-tion, increases the length and breadth of the ctovesical fold and consequently increases the e of Douglas' cul-de-sac.

4. The ureters assume intimate and extensive dorsal vaginal walls, which practically excludes any intimate relations of ureters and rectum. The rectum makes a flexion in the cul-de-sac of Douglas, well shown in distended dried specimens with concavity directed to right which produces irregular bilateral space relations of ureters and rectum. The great rectal ampulla is located almost entirely distal to the ureters. With distended bladder and rectum (man) the ureters are over a finger's length proximal to anus. In man with distended rectum

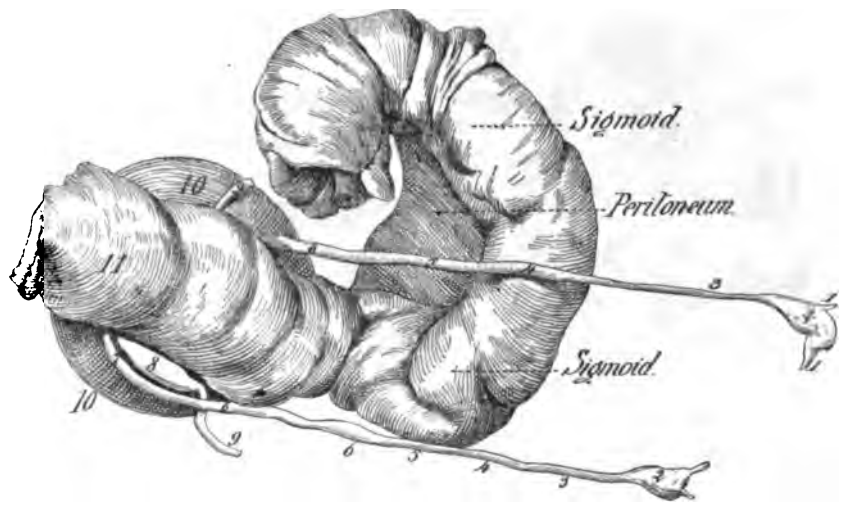


FIG. 3. Dorsal view of Fig. 1. The numbers refer to similar structures. The isthmuses and spindles show distinctly.

and bladder the pelvic ureters lie practically in contact with the rectum, and the rectovesical folds forcibly hold the ureters apart; the ureter rests against the rectovesical fold for two or more inches during distention.

In some subjects (male) with distended bladder and rectum, the ureter will lie extraperitoneally for four inches in contact with the rectum (and portions of sigmoid), after which proximalward the recto-vesical fold will receive the ureter, forcing two peritoneal layers between it and rectum. In the distal pelvis the right ureter has more intimate contact with the distended rectum because the rectal flexion located in Douglas' pouch has its convexity directed rightward. The distended rectum is frequently three inches in diameter, and hence practically fills the space intervening between the pelvic ureters. Proximalward movements of the pelvic peritoneum forces the ureters and rectum close together.

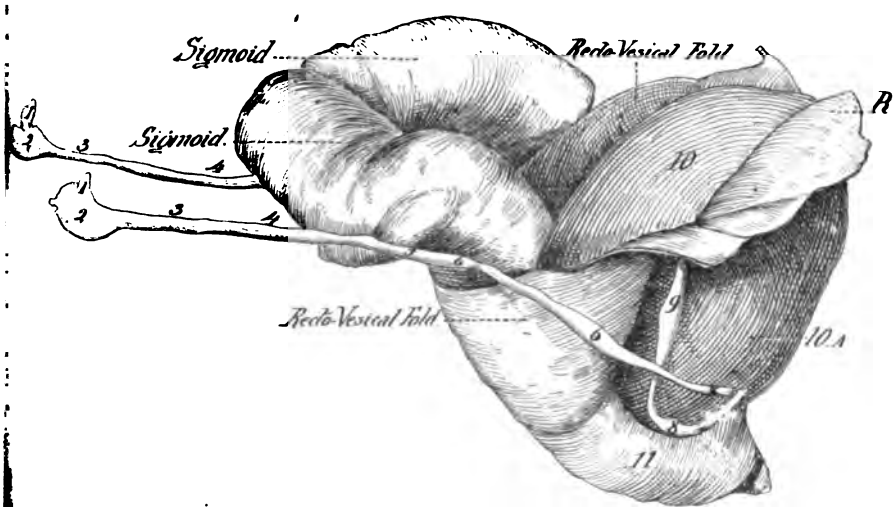


FIG. 4. Right lateral view of Fig. 1. The figures refer to similar structures. 10A is the non-peritoneal surface of the bladder. R, peritoneal folds of the bladder.
Dr. Wm. R. Holland sketched figs. 2, 3, and 4.

5. *Skeletopically* the most important bilateral relations of the ureters to the rectum is located at the level of the spina ischiadica. The level of the iliac spines correspond to the level of the ligamenta sacro-uterina. The iliac spines correspond to the ureteral elbows, the widest point of separations of the pelvic ureters, or the point where the ureters bend medianward on their journey to the bladder. These spines and ureteral elbows are on a level with the sphincter vesicæ interna. Finally the rectum and ureters approach the closest to each other bilaterally at the ischial spines or ureteral elbows. A distended

ilateral relation with the rectum (or sigmoid) im-ediately on entering the proximal part of the lesser elvis. The left ureter is separated almost an inch rom the rectum at the pelvic brim, while the right reter lies about one and one-half inches from the ectum. At the level of the distal ureteral orifices he ureter is separated from the rectum (man) right ne-quarter of an inch; left, one-half inch. In the female the distal ends of the ureters are separated from the rectum by the thickness of the ventral and

rectum gradually lies against the ureters with two peritoneal layers intervening proximally and no peritoneal layers intervening distally—where the ureters lie imbedded in connective tissue.

6. The *sagittal curves* of the rectum and ureters correspond in the proximal end of the lesser pelvis, *i.e.* the sacral rectal and sacral ureteral curves correspond and practically are bilaterally parallel.

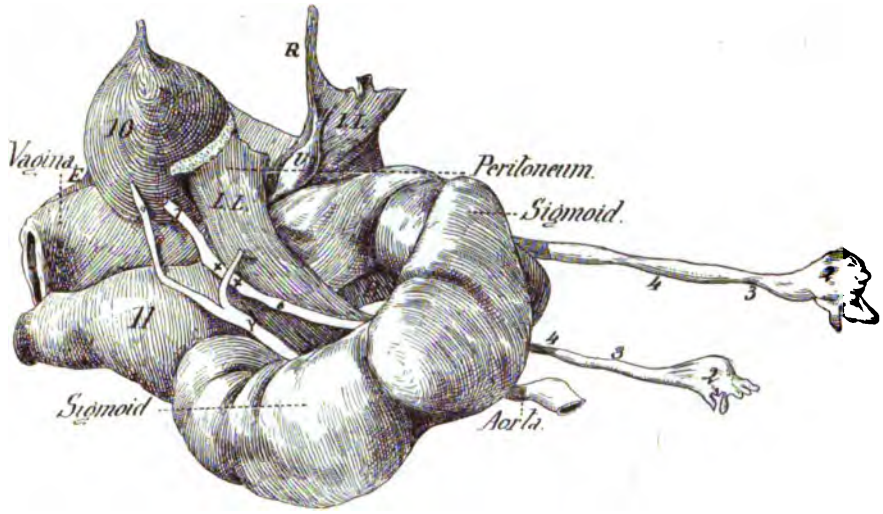


FIG. 5. Illustrates left lateral view of the bladder and ureters, the vagina, rectum and sigmoid distended with air and dried. The specimen with accompanying peritoneum and blood-vessels were removed from a subject about forty-five years of age. The hollow viscera (excepting the blood-vessels and oviducts). Moderately distended with air, being retained in normal position by the peritoneum, blood-vessels, ureters and subserosum. Subsequent to drying it was photographed and outlined by Dr. Wm. E. Holland. It presents excellently the relation of the ureter to the rectum. (6), vagina and bladder at (7). The bladder (10) is thick-walled and not widely distended. Y is the branch of the internal iliac artery which emits the uterine as it crosses ventral to the ureter at the Latin crosses (+ +), and also emits the vesical artery (O). L, L, rectovesical fold is merged into the ligamentum latum. U, uterus. R, round ligament. E, urethra. 11, rectum. B, mesosigmoid. 2, 2, ureteral pelvis. 3, 3, proximal ureteral isthmus. 4, 4, lumbar ureteral spindle. 6, pelvic ureteral spindle applied a long distance to the rectovesical fold. The left ureter is an inch shorter than the right. I am indebted to the courtesy of Dr. W. F. Duckett for the specimen.

The concavity of the proximal rectal and ureteral curves are directed ventralward. In the transverse plane the curve of the rectum located in Douglas' pouch does not correspond to the ureteral curves. This curve forces the rectum into irregular space relations with the ureter.

The distal pelvic sagittal ureteral and rectal curves do not correspond; the concavity of the distal rectal curve is directed dorsalward, while the concavity of the distal ureteral curve is directed ventralward. The distal segments of the tractus genitalis, the vagina and pudendum intervene between the angle of the dorsalward directed rectum and ventralward directed ureters. The rectum is directed dorsalward, the ureter ventralward, and the space formed by the acute diverging angle is occupied by the vagina and pudendum, important data in hysterectomy per vaginam and distal rectal operations.

7. The ureter may be palpated per rectum. The guides are: (1) the internal iliac artery and (2) the iliac spine. The ureter may course: (*a*) ventral; (*b*), dorsal; (*c*), medial to the internal iliac, the pulsation of which may be felt, after which the palpating finger feels for a projecting, resisting cord, which will be the ureter, estimated by its size, course, consistency, and mobility.

8. The ureter may lie quite close to the lateral pelvic wall or be located quite a considerable distance from it in a loose bed of cellular tissue. Hence in palpating the ureter per rectum one may need to palpate many strokes with the finger before it is certain that the ureter is felt. Per rectum one can palpate the ureter from the iliac segment where it crosses the vasa iliaca by invaginating the perineum proximalward, whence the finger is passed to the bifurcation of the common iliac to locate the ureter by arterial pulsation. In abdominal operations when the peritoneum is incised, the ureter may be recognized close to the rectum by manipulating the cellular tissue between the finger and thumb, it requires, however, time to be sure of the structure, calling to aid the sight color, direction, mobility, and consistency of the ureter.

9. The ureter in its distal three inches is accompanied by a distinct fibromuscular sheath, which makes it larger, more easily palpated, facilitating the finding of its direction or course and lessens the danger of ureteral trauma from incision, ligature, or clamp. In operations per vaginam or per abdomen the introduction of ureteral catheters facilitates the recognition of the ureter during the surgical procedure.

10. The severed ureters in surgical procedures should always be introduced into the rectum as infectious processes will in all probability, as proved by experiments, pass proximalward through the ureter to the kidney, through the cribrum Bellini into the tubuli uriniferi, creating nephritis.

11. In extensive operations on the rectum, as Kraske, operations for carcinoma on the proximal end of the rectum the ureters are in danger of trauma, incision clamp, or ligature. They should be forced by traction forceps from the operative field.

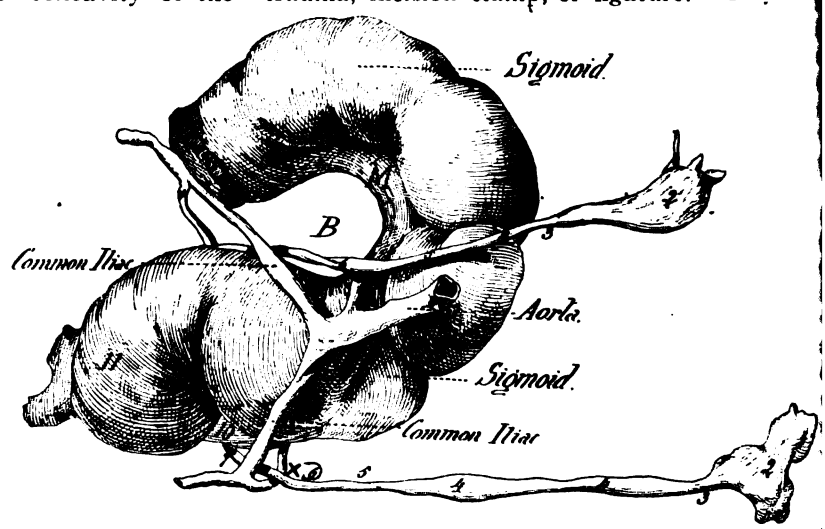
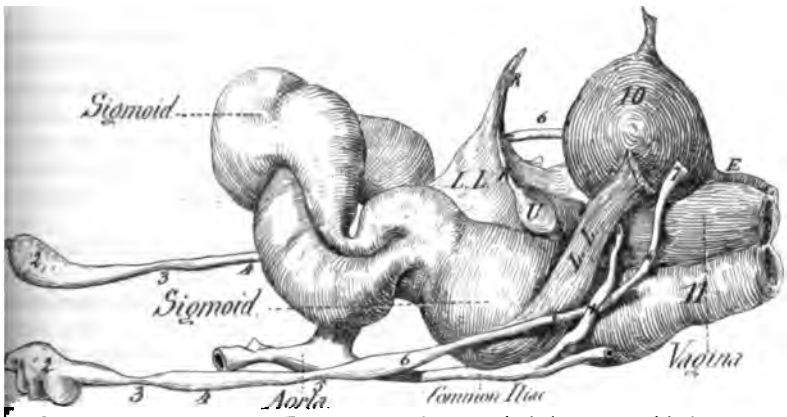


FIG. 6. Illustrates a dorsal view from the same subject as Fig. 5. Note the rectal ampulla extends chiefly distal to the point where the rectum is intimately embraced by the ureters, hence the ureters escape damage during operations on the distal rectum. The ureteral spindles (4, 6), and isthmuses (3 and 5) present distinctly. The rectal and ureteral typography are presented in natural position. Observe the flexion in the rectum at 11, which alters space relations of the ureters and rectum.

12. In general, the ureters and rectum are not parallel in the pelvis; the ureters follow the curve and lateral pelvic wall, while the proximal rectum follows the sacral curve. However, the ureters converge at the pelvic outlet. The ureters approach the lateral and ventral rectal wall similarly with

· approach to the vagina. In the relation of ureters to the rectum it is well to remember the rectum is covered ventrally with peritoneum ly more extensively than dorsally, and that the of the ureters as regards distention of pelvic ra is between the blades of the uterosacral vesical ligaments (woman) and rectosacral and al ligaments (man). This wide range of ureteral ements in the rectal and vesical peritoneal



7. Right lateral view of Fig. 5. The ureter 6, 6, lies extensively in contact with the rectum. also a long vaginal contact. The Latin + represents the distal arterioureteral crossing. Wm. E. Holland sketched figs. 6 and 7.

ents is excellently demonstrated in the dis- on of the bladder, rectum, and vagina with air. e rectal segment of the ureter possesses a ct fusiform spindle, hence if this segment es severed during an operation it has ample and lumen to perform ureteral anastomosis by the stove-pipe method adopted by the or or the Van Hook method of implanting the l end of the proximal segment into a lateral of the distal segment.

E TECHNIQUE OF THE REMOVAL OF ONE-HALF OF THE THYROID GLAND.

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T surgeons follow the same method of operative cedure in the removal of part of the thyroid gland. descriptions of the operation in textbooks and cles on the subject are worded in practically the e language. The description by Curtis[1] gives us technique of the operation as it has been described years in whatever has been written on the sub- t. His description is as follows:

"The operations were all performed in the same y. The gland was usually exposed by a trans- e incision, the superior thyroid vessels tied, the d retracted inward after ligation of superficial s, and the inferior thyroid vessels secured, the ery usually being tied near its origin, the isthmus n divided, leaving a generous layer of gland ue over the neighborhood of the recurrent yngeal nerve. The isthmus was sometimes shed and ligated *en masse* with catgut, some- es divided with a cautery."

I can find records of deviation from this method, ported by two English surgeons: Jacobson and ward[2] ligate the superior thyroid artery and then ide the isthmus before ligating the inferior thyroid. Pearce Gould[3] advises division of the isthmus as first step in dealing with the gland. The thod of Bose and Poppert—elevating the gland d constricting its base with a rubber tube—is, believe, impossible to do in the great majority of es.

The method that I have followed for some time, doing these operations, is practically the same as at advised by Gould. I have found it easier, fer, and more rapid than is the operation when done as is generally advised. For these reasons, and on account of the little attention given to Gould's procedure, I think it timely to call the attention of operators again to his method.

The operation, as I have performed it, is as follows: The gland is exposed by dividing the skin, fascia, and muscles. The next step is to pass a Kocher's director or one blade of an artery forceps between the trachea and the isthmus. Usually, I remove the isthmus, and in these cases clamp the gland with a stomach clamp between the isthmus and the lobe that is to be left. When one clamp has been applied, a second one is placed close to the first and an incision made between the two clamps. I now turn the isthmus and the lobe to be removed outward and separate the under surface of the gland from the underlying structures with the finger covered with a piece of gauze. This can be easily and quickly done without injury to the gland or to the structures on which it lies. The thyroid arteries are soon exposed as they enter the under surface of the gland. If a transverse incision has been made the inferior thyroid is first exposed and clamped; if an angular incision has been used, it is easier to expose and clamp the superior thyroid before dealing with the inferior vessel. After the arteries are clamped close to the gland and cut, the removal of the remainder of the lobe is easily accomplished by blunt dissection close to the gland. The veins of the thyroid do not bleed after the arteries have been clamped; and the internal jugular vein, in the great majority of cases, gives no trouble.

The advantages of this method of procedure are best seen when the difficulties of the operation are considered. The main difficulties in operations on the thyroid are: (1) hemorrhage; (2) injury to the recurrent laryngeal nerve, and (3) expression of the contents of the gland by manipulation of the organ during the operation.

Hemorrhage.—The superficial veins near the median line of the neck usually give little trouble. They are easily clamped. The veins on the outer surface of the lateral lobe are troublesome if injured; but they are not disturbed, when the gland is removed from within outward, until the arteries are clamped. Then they cease to be a source of annoyance. If the internal jugular vein is in an abnormal position and is found anterior to the lateral lobe of the gland, as was the case in a patient operated on by Jessop and Berry,[4] it can be quite easily observed and avoided by the method herewith advised. It will be the only vein on the outer surface of the gland that does not collapse after the arteries have been clamped.

The arteries are more easily and quickly exposed and clamped when the dissection is done from within outward. If the thyroid ima is present, as it is in 10 per cent. of all cases, according to Treves, it is easily observed and gives no trouble. The superior thyroid artery is always superficial to the common carotid and is easily found at the upper part of the lobe. The inferior thyroid artery passes behind the common carotid and becomes superficial to the inner side of that vessel. It enters the gland close to the trachea and only a short distance from the median line. In most cases its branching is distinctly seen before it enters the

gland. If the lobe to be removed is large, the enlargement is always external to the part where the artery enters the gland. I have found that the inferior thyroid artery is as easily exposed from within outward in cases of excessive enlargement of the lobe as it is in cases in which the gland is nearly of normal size. When the artery is exposed from the outer side of the neck, an enlarged gland makes the procedure difficult and frequently bloody. When the operation is done from within outward, the arteries are exposed and clamped without disturbing any veins.

Injury to the Recurrent Laryngeal Nerve.—The recurrent laryngeal nerve lies close to the inferior thyroid artery and may be either internal or external to it. I have experienced no difficulty in avoiding the nerve when I have done the operation as herewith described. If the nerve passes between two of the terminal branches of the artery—as was observed by MacCormac—I think it can be dealt with more easily, quickly, and safely by the method I have described than it can by approaching the arteries from the outer side.

Expression of the Contents of the Gland by Severe Manipulation of the Organ During the Operation.—My experience has been that the thyroid can be removed with much less injury to the gland, by the method herewith described than by performing the operation as it is ordinarily described. This is obvious from what has been said in the foregoing concerning hemorrhage and the position of the arteries.

There may be some disadvantages in the method that I have advised, but so far I have not experienced them. If the isthmus should be bound so firmly to the trachea as to render its separation almost impossible, as was observed in one case by Spencer, it is possible that the gland might be attacked more advantageously from the outer side. I am of the opinion that conditions such as are described by Spencer are very rare in non-malignant cases.

I have purposely said nothing about anæsthesia, incision, or drainage. I use chloroform in most cases; local anæsthesia was used in three cases in which there was pronounced dyspnœa. The patients did not complain as much as I anticipated. I have used the transverse incision of Kocher in all but two cases. In these the gland was very large and Kocher's angular incision was made.

I believe that tubular drainage, for ten or twelve hours, is advisable in all operations on the thyroid for two reasons: (1) A considerable amount of primary wound secretion is exuded; and (2) the contents of the gland may have been expressed into the wound during the operation.

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5. W. Spencer, *Annals of Surgery*, May, 1895.

The Dependence of Aural Affections upon the Nose and Throat.—The views of H. E. Smyth are expressed in the statements: (1) That while nasal diseases predispose to aural affections, there is less direct danger than is generally supposed. (2) That excepting specific infections, the greatest danger is from diseases of the nasopharynx. (3) That many of the ear affections accompanying nose and throat disease may be due to a general tendency, rather than a direct extension. (4) That to treat aural affections successfully, it is a wise precaution to examine carefully the nose and throat, and correct as far as possible all pathological conditions.—*The Laryngoscope.*

TWO CASES OF SPLENOMEDULLARY LEUKÆMIA, TREATMENT, AND RECOVERY.

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In the MEDICAL RECORD of August 22, 1903, we read with great interest an article by Dr. Nicholas Senn entitled "Case of Splenomedullary Leukæmia Successfully Treated by the Use of the Röntgen Ray." This case he had treated unsuccessfully for three weeks, using Fowler's solution and iron, and attributes the recovery of the patient entirely to the use of the Röntgen ray. The author also makes the statement that this is the only case in which he has seen recovery.

We wish to report two cases that have come under our observation during the past year.

CASE I.—The patient, a married woman, thirty-three years of age, was admitted to my service September 29, 1903. Family history negative, both parents alive and well. Patient never has been strong or well. She had stomach trouble when a young girl and frequent bilious attacks. Had diphtheria, measles twice, and frequent attacks of acute tonsillitis. About eight years ago she had catarrhal enteritis, and was very ill for several weeks and never fully recovered. Has had one child in good health and no miscarriages. Temperature on admission 99.6°, pulse 88, respiration 35.

About one year ago she began to have pains in the left side of the abdomen over the spleen. The pains were lance-like in character, and patient would suffer great agony while they lasted. She began to feel weak and lost about twenty pounds in weight. The attacks of pain became more frequent, but not so severe as at first. Some time after the first attack she began to have pain at the ends of the long bones, more especially in those of the arms. At this time she noticed an enlargement in the left hypochondrium and experienced dragging sensations in that region. Menstruation became irregular and the flow very scanty, until now it has entirely ceased. Her bowels are very loose, moving from two to four times daily. Her appetite is voracious. She has frequent severe headaches, is very nervous and cannot sleep at night, and is unable to attend to her household duties. She is emaciated and extremely anæmic. The spleen is greatly enlarged and extends two inches to the right of the umbilicus and three inches below, practically filling two-thirds of the abdominal cavity. Its free borders can be easily palpated. Vaginal examination negative. Urine is cloudy, acid, sp. gr. 1.033; album in a trace, sugar none. Urates, phosphates, and epithelium from bladder.

Blood examination: Hæmoglobin, 50 per cent.; reds, 3,500,000; whites, 176,000. Stained specimen myelocytes predominating, eosinophiles greatly increased; poikilocytosis, few nucleated reds.

Treatment: Fowler's solution gtt. v, t. i. d. increasing one drop daily. Blaud pills gr. v, t. i. d. Exposure to Röntgen ray of area over spleen and ends of the long bones for ten minutes every other day.

October 12. Blood examination: Hæmoglobin 60 per cent.; reds, 4,000,000; whites, 55,700. Stained specimen, myelocytes greatly diminished, eosinophiles scattering, polynuclears predominating.

October 25. Röntgen ray suspended since October 12, as it made the patient very weak. She

nausea, headache, and extreme nervousness palpitation of the heart.

ctober 26. Röntgen ray resumed. Sodium nide gr. xx t. i. d. was ordered.

ovember 1. Blood examination, hæmoglobin, er cent.; reds, 5,000,000; whites, 4,500. Stained imen; white cells in normal proportion, red eated cells absent. Spleen has contracted to ly normal size. Patient is still nervous and less and easily excited. All pain in the long s has disappeared.

ovember 10. Bromide omitted, Fowler's solu- cut down from gtt. xxx to x.

ovember 16. Blood examination shows the d normal. The spleen extends a little below twelfth rib.

ovember 21. Patient discharged practically re- red. She became an out-patient and received tgen-ray treatment twice weekly. Fowler's tion continued in ten-drop doses, not increased.

ovember 27. Patient looking well; has con- rable color in her cheeks and is gaining flesh. eeping out of doors on pleasant days. Appetite cellent, and she says she feels better than she for years.

ASE II.—This patient was admitted to the hos- l February 16, 1903, during the service of Dr. H. Simmons, through whose courtesy I had y opportunity to examine him at that time since his discharge. Man, age thirty-one, un- ied. Family history negative.

r the past three or four years he had been g in health. In 1898 both arms suddenly be- e covered with an eruption of blisters which e and discharged large quantities of serum. t that time he began to cough and raise a t deal. He began to notice an enlargement e abdomen the latter part of 1899. In Febru- 1900, the tumor in the left side began to grow . His legs were œdematous and then his e body. He was always troubled with con- tion. He was admitted to the hospital suffer- rom a hæmatoma of the right ankle, the result n injury a few months before. The ankle much swollen, the œdema extending to toes. The patient was very anæmic, weak, short of breath. Abdomen greatly enlarged. splenic tumor extended into the pelvis and to right two or three inches beyond the umbilicus. d examination showed: Reds, 3,300,000; whites, ,000; chiefly large myelocytes; eosinophiles, and w nucleated reds. Urine: light yellow, sp. 1.017; albumin a trace, no sugar. Sediment, es, few uric acid crystals, no casts. The matoma was incised. Fowler's solution in in- ing doses was given, together with bone- row and iron. He was discharged March 6, roving rapidly in strength, although his blood nt remained practically the same. He re- ed ten days later, when the hæmatoma was n incised. Remained in the hospital four days, roving steadily. He thought the iron did not e with him, so left it off after taking a few doses, t continued with the arsenic until the following y. Gained in health and strength rapidly. e 1st of August he noticed that the splenic mor began to soften and rapidly disappear. On tober 12 he came to my office. His cheeks were l and he had every appearance of health. Said could not remember when he had been so well. s blood on examination showed hæmoglobin, per cent.; reds, 5,300,000; whites, 6,400. Dif- ential count showed normal proportions; myelo- tes and nucleated reds had disappeared. On mination of the abdomen the tumor was found to have entirely disappeared, and the spleen was of normal size. The man had entirely recovered.

It is unfortunate that in both Dr. Senn's and in our own cases arsenic was given as well as the Röntgen ray. In Dr. Senn's case Fowler's solution was given for three weeks before the other treatment was begun. In our first case it was continued throughout the treatment. In the second case it was all the treatment the man had. It is a question as to how much good the ray did in these cases. It seemed to us that it hastened matters in the first case. The woman had been under treatment but a very few days before there was a very noticeable diminution in the size of the spleen, followed by a severe constitutional reaction; while the second patient improved slowly with no marked disturbance, but the tumor did not begin to disappear until three or four months after the beginning of treatment.

The "Long" Lactic Acid Bacilli Found in the Urine in a Case of Gastric Carcinoma.—Rudinger describes a case of colloid carcinoma of the stomach with metastases in the liver, the omentum, the retroperitoneal glands, and the renal pelvis. It was possible to obtain pure cultures of the "long" bacilli of Boas from the gastric and intestinal contents post mortem and from the urine during life. The author explains the occurrence of the bacteria in the urine as probably being due to the fact that owing to the renal metastasis there was a considerable admixture of blood to the urine which made it a good culture medium for the organisms, which presumably gained access to the bladder from the perineum as the patient was a woman and had incontinence of fæces for a week before death.—*Zentralblatt für innere Medizin*, 1904. No. 5.

Registration of Nurses and Nursing Homes in Great Britain.—A bill to this effect is being promoted in Great Britain. The bill is to provide for the registration of nurses and to prevent anyone practising as a registered nurse unless registered under a penalty of £10 ($50). Existing nurses are to be registered on production of evidence of training, and so are colonial nurses under certain conditions. It is proposed to constitute a central board consisting of medical practitioners and nurses, to control and regulate the nursing profession and publish the Register. The board will also have power to register and inspect private nursing homes. The promoters do not expect to carry their bill this session, but will seek to get a select committee appointed to consider the whole question.—*British Medical Journal.*

Mixed Tumors of the Salivary Glands.—Francis Carter Wood describes a group of extremely complicated tumors found in this region containing elements from both epi- and mesoblast. The structure of these tumors containing cartilage, bone, fat and lymphoid tissue and occasionally striated muscle is explained by the misplacement of mesoblasts. The structure of the parenchyma is not characteristic and its epithelial nature cn only be considered as probable. In about 24 per cent. epithelium is undoubtedly present. But there is never any indication of endothelium. The early embryonic disp'acement of epiblasts during the formation of the salivary glands and bronchial clefts may account for most of the peculiarities of the cells of these tumors, especially the lack of most of the typical features of epithelium. The same condition is found in the epithelial cells of congenital moles where the epithelium resembles connective tissue because it is undifferentiated and adherent to the stroma. The clinical course followed by these mixed tumors of the parotid and submaxillary glands is strikingly dissimilar to the true sarcomata and carcinomata, for one variety is always slow growing and very rarely malignant. The lymph glands in the neighborhood do not become involved, and consequently post-operative recurrences, when present, are localized in most cases.—*Annals of Surgery.*

Drainage in Surgery.—In cholecystotomy drainage is necessary; the so-called ideal cholecystotomy without drainage having too great mortality rate. In common-duct cases I still use the tube surrounded by gauze and rubber tissue. In cholecystectomy I feel safer to use a cigarette drain, because conditions are not so favorable to healing as in chronic appendicitis in which I never drain. In two cases of cholecystectomy within the past year drainage saved my patients' lives. In one of them the ligature on the cystic duct gave way, allowing a free escape of bile into the peritoneal cavity, and in the other an infection occurred at the same point.—JAMES E. MOORE, in *St. Paul Medical Journal.*

The Combination of Rubber and Cotton Gloves.—Goepel recommends the use of cotton gloves worn over those of rubber, and believes that this solves the question of hand disinfection. The rubber furnishes a complete barrier between skin and wound, while the cotton remedies two defects inherent to the rubber alone. It obviates the slipperiness of the wet rubber and, at the same time, entirely protects it from tearing. The double glove does not increase the difficulties of manipulation to any material extent, while, when palpation of a cavity or organ is necessary, the cotton glove may be temporarily slipped off, as such maneuvres do not place any demands on the strength of the rubber. Furthermore, with such protection against laceration, the surgeon's hands do not require very energetic sterilization and time and the surgeon's skin can both be saved.—*Centralblatt für Chirurgie.*

Pulmonary Hemorrhages.—Bozoky says that the patients who most frequently suffer from severe hemorrhages are not those in advanced stages of tuberculosis, but rather fairly vigorous individuals with early lesions and a powerful heart action that expels a large volume of blood through even a small opening in the eroded vessel. The symptoms described by patients as premonitory of hemorrhage will usually be found to have no foundation in fact, and the really serious hemorrhages occur without warning. The treatment consists in placing the patient with the chest somewhat raised and opening the clothing at the neck. A hypodermic injection of morphine is given and the patient encouraged to take long, deep breaths and cough as little as possible. In this way clotting is favored and freshly formed thrombi are not torn loose. The ice-bag and cracked ice internally are psychical measures, and ergot also has little value except in this way. The gelatin injections have shown themselves ineffectual, and are not free from danger.—*Zeitschrift für Tuberkulose und Heilstättenwesen*, Vol. 5, No. 3, 1904.

The Lymphatic Constitution.—W. H. Sheldon claims that this condition does actually exist, and explains certain obscure phenomena. The cases of sudden death in children without any previous illness come under this category. These deaths are more common in cities and on autopsy show a general enlargement of all the various lymphatic glandular tissues, also especially of the thymus gland. The author thinks that death is not due to the pressure of the large thymus, but to reflex paralysis of the heart, made possible by an abnormal irritability of the nervous system. The function of the ductless glands has to do with the regulation of general metabolism, blood-pressure, and serve in the higher organization of the blood. There is a relation between the thymus and marasmus, for atrophy of this gland is always found in infantile atrophy, and the condition of the thymus is an index of the general nutrition of infants. It is possible to draw an analogy between the relation of the diseased thyroid to myxœdematous conditions and the relation of the hyperplastic thymus and its coördinated lymphatic organs, to the symptom complex characterized by the general condition known as the "lymphatic constitution." This constitutional condition is important from a therapeutic, prognostic, and medicolegal point of view.—*Wisconsin Medical Journal.*

Abdominal Pain in Pleurisy and Pneumonia.—I. E Herrick, says that it is well known that pain may occur i regions distant from the seat of the pathological lesio and cases occur in which it is impossible to say at fir whether the trouble is abdominal or thoracic. Each ca must be judged on its merits, and operating or waitin cannot be decided by any hard and fast rule. In som doubtful cases with threatening abdominal symptoms, would be better to err on the side of operation than to l a possibly ruptured gall-bladder, appendix, stomach, intestine go untreated for six or twelve hours. An e ploratory incision might be made under local anæsthesi or nitrous oxide gas. The main safeguard is to think the possibility of a thoracic origin for the abdomin symptoms, and in the case of thoracic disease there w generally be found some thoracic pain or altered e pectoration and cough. Or again, the temperature ma rise too high and abruptly for abdominal disease. Th abdomen in these cases is often pseudo-tender. A ligh touch hurts, but quiet, steady, deep palpation with th flat hand does not increase the pain. At the beginning inspiration there is a yielding of the abdominal walls th is seldom seen in true peritonitis.—*Illinois Medical Journa*

The Germicidal Action of Alkaline Solutions—I. F Forrest and R. T. Hewlett arrive at the following co clusions: A one-per-cent. solution of sodium carbonate absolutely germicidal to B. typhosus and B. coli, and pa tially so for M. pyogenes aureus. A 0.06 per cent. sol tion of caustic soda in physiological salt solution has t same action. A 0.12 per cent. solution of potassiu hydroxide with 0.06 per cent. of sodium chloride is abs lutely germicidal for B. typhosus and B. coli and nea so for the M. pyogenes aureus. The following solutio has a similar action. Potassium hydroxide 1.2 gram sodium chloride 6.0 grams; sodium bicarbonate 1.0 gram di-sodium hydrogen phosphate 1.0 grams; and wate 1,000 c.c. This same solution with caustic soda subs tuted for caustic potash acts in a similar way. The solutions have an absolutely germicidal action upon th cholera vibrio. Weak ammoniacal solutions are also sim larly germicidal. The results obtained with anthrax a irregular, probably because of the difficulty of handling th organism. A solution of salts made to imitate the salts the blood serum was not germicidal. The germicid action of nucleins is not yet proven, the authors hol because the alkaline solutions used in their preparati would account for their apparent bactericidal power.—*Journal of the Royal Army Medical Corps.*

Bronchoscopy.—Arnold Schwyzer describes a case of bone lodged in a bronchus of the third order and it removal with the bronchoscope. Bronchoscopy is th most recent addition to direct examination of the trachea He does not think inferior bronchoscopy should be rel gated to the specialist. Straight tubes of different size and lengths are used, and the exploration of the air pas sages can be carried far beyond the bifurcation of th trachea. An electric head light can be used and a reflect ing mirror, through the center of which the end of the tub and exposed bronchi can be easily seen. The electric light can be fastened to the bronchoscopic tube or an ordinary light and head mirror may suffice, but are not so convenient. The bronchoscopic tubes are connected with a solid handle, with which considerable force can be applied to the tube in pushing it in the desired direction. In addition, guide tubes are used to facilitate changing the bronchoscope for a longer or shorter one of the same caliber; sponge holders, a fine suction tube, some hooks and several kinds of forceps constitute the armamentarium. The instruments are equally useful for œsophagoscopy. The examination can be done either directly through the mouth and larynx, requiring tubes up to fifteen inches in length, or through a tracheotomy wound; the latter is called inferior bronchoscopy. The head must be thrown as far back as possible to allow introduction of the tube in the axis of the body.—*Annals of Surgery.*

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PROPOSED REMODELING OF THE ARMY MEDICAL SERVICE.

THE fact is too obvious to need much argument that in order to be a really efficient army medical officer, a thorough special training is requisite. This truth is strangely overlooked by many, who, although they recognize the necessity of the purely military officer undergoing years of arduous study to render him competent to perform his prospective duties, seem to imagine that, like the poet, the army medical man "*nascitur non fit*," and should by a process of intuition be able to fill his position without any experience whatever. The Spanish-American war and the Boer war both provided a rude awakening to those who held these views, for creditably as the civil surgeons who volunteered their services played their part, yet no one acquainted with the true circumstances but had to confess that the lack of trained army surgeons was bitterly felt and was not the least blot in the state of unpreparedness which marked the policy of the United States and Great Britain alike. The British Commission, appointed to investigate the care of the sick and wounded in the South-African campaign, found that the staff of officers and orderlies of the medical corps should be established on a scale sufficient to enable it to discharge adequately the duties cast upon it in times of peace and by the smaller wars. The large European continental nations—and especially Germany—have a system whereby civil surgeons, who, in the case of a great war, might be called upon to take the field, receive a certain amount of training in military duties, and although neither Great Britain nor the United States can be compared with regard to military affairs with the countries of Europe, it is nevertheless plain that their medical department should be in such a condition that it can fulfil its duties adequately in time of peace. Further than this, the medical department of an army, like other parts of it, should be organized with reference not exclusively to peace conditions, but with reference to efficiency in war. This principle has always been strangely neglected in the organization of the medical department of the United States Army, for while the army is at present officered for a strength of one hundred thousand men, the medical department is only officered for about forty-five thousand.

There are at present less than five hundred medical men, which number includes two hundred contract surgeons, performing the duties of medical officers of the army. It is believed that 450 regular officers will be sufficient for the ordinary duties of the medical department in time of peace, which force must be supplemented for special work by physicians from civil life, and in the event of war, or of "little wars," expeditions, epidemics, physicians from civil life must be still further called upon to expand the medical service.

In view of the inadequacy and inefficiency of the medical service of the United States Army under existing conditions, a bill has been introduced into the national Senate and House of Representatives, designed to remedy the defects of the present system.

The first section of this bill provides that the medical department of the United States Army shall consist of one surgeon-general, with the rank of brigadier-general; a medical corps and a medical reserve corps; and the hospital corps, the nurse corps and dental surgeons as now authorized by law. The second section provides that the army medical corps shall consist of 450 regular medical officers, and that satisfactory measures shall be taken as to recommissioning all officers of the medical department in active service, other than the surgeon-general, in the corresponding grades of the medical corps established by this act, in the order of their seniority and without loss of relative rank in the army. The third section provides that promotions in the medical corps to fill vacancies in the several grades created or caused by this act, or hereafter occurring, shall be made according to seniority, but all such promotions and all appointments to the grade of first lieutenant in said corps shall be subject to an examination, the provisions of which are stated after. The fourth section provides that no person shall receive an appointment as first lieutenant in the medical corps until he shall have successfully passed an examination, under regulations to be prescribed by the Secretary of War, before an army medical board consisting of not less than three officers of the medical corps. The fifth section provides that no officer of the medical corps shall be promoted therein until he shall have successfully passed an examination before an army medical board, consisting of not less than three officers of the medical corps, and that fair measures shall be taken in the case of failure in physical examination. The sixth section provides that nothing in the act shall be construed to legislate out of the service any officer now in the medical department of the army, nor to affect the relative rank for promotion of any medical officer now in the service, or who may be hereafter appointed therein. The seventh section provides that for the purpose of securing a reserve corps of medical officers available for military service the President of the United States is authorized to issue commissions as first lieutenants to such graduates of reputable schools of medicine, citizens of the United States, as shall, from time to time, upon examination, be prescribed by the Secretary of War, be found physically, mentally, and morally qualified to hold such commissions, the persons so commissioned to constitute and be known as the medical reserve corps. Regulations as to promotion and rank of said reserve corps are also stated. Section eight provides that in emergencies the Secretary of War may order officers of the medical reserve corps to active duty in the service of the United States in such numbers as the public interests may require, and may continue such officers on such duty so long as their services are necessary. Section nine

provides that officers of the medical reserve corps when called upon active duty shall be entitled to the pay and allowances of first lieutenants of the medical corps, but that no officer of this corps shall be entitled to retirement or retirement pay; nor shall he be entitled to pension except for physical disability incurred while on active duty and in line of duty.

The question of pay and promotion is a burning one with the army medical officer. When it is considered that owing to the extension of medical knowledge, due to the development of specialties and by a general advance in all branches of medical education, the cost of acquiring this knowledge has greatly increased, it must be recognized that the army medical service offers no correspondingly attractive inducements. Promotion, too, is slow and compares unfavorably in this respect with its sister service in Great Britain. The fact must also be borne in mind that while the education of the medical officer is expensive and long, his brother officer of the line receives a free education at West Point, and his years at that Academy are counted for increased service pay.

Indeed the army medical service is at present unpopular with the young members of the medical profession of this country. As a career it does not hold sufficient inducements to the clever and ambitious man. Contrary to the belief of many army officers, the medical department of the army is one of quite its most important branches, and it would be a mistake of incalculable magnitude if through injudicious treatment it were to be allowed to fall into disrepute and to lose the high character which, despite its defects, it has always maintained. It is evident, at any rate, that steps should be taken to better the present state of affairs, so far as the army medical service is concerned. The present bill is perhaps defective in some points, but on the whole it is sound in principle. The care of soldiers should be placed in the hands of properly and specially trained medical officers. At the same time surgeons from civil life who join the reserve should be treated generously, possibly more so than is proposed in the pending bill. The contract surgeons now serving in the army should also be used with every consideration, for it must not be forgotten that unless civil surgeons are convinced that generous and just treatment will be meted to them, there will be great difficulty in filling the ranks of the suggested civil reserve force.

HEALTH CONDITIONS OF COLON AND VICINITY.

Surgeon J. C. Perry of the Public Health and Marine Hospital Service has reported to the Surgeon-General of that service concerning the diseases which are prevalent in Colon and in the Isthmus of Panama district generally. The statistics from which the information is gathered are compiled from the records of the Panama Railroad Hospital and the French Hospital, and show the prevailing diseases, nationalities affected, and the mortality in such cases.

The following points are considered by the writer: (1) To what extent does malarial fever prevail; (2) The types of this disease; (3) To what extent do the pernicious forms prevail and what types; (4) Do the Panamaans and negroes enjoy an appreciable immunity to malarial fever; (5) To what extent does yellow fever occur; (6) The number of cases of dysentery; (7) Other diseases and their frequency; (8) The approximate morbidity based on hospital statistics; (9) Mortality; (10) Effects of sickness on wage-earners and consequent financial loss; (11) To what extent can the prevailing diseases be diminished or prevented by proper sanitary equipment and regulations.

These are the conclusions reached by Dr. Perry. A study of the hospital statistics shows that malarial fever is a common disease in Colon as well as in other places on the Isthmus. Physicians connected with hospitals state that at least 75 per cent. of all diseases occurring in Colon are malarial fever. The type of malarial fever is difficult to determine from the records, as the diagnosis given is simply that of malarial fever.

Figures, from the Panama Hospital, however, tend to show that most of the fever was of the remittent type. From a consideration of the statistics, observation of the cases of malarial fever in the hospitals and from information derived from the physicians of the town, it appears that only about 12 per cent. of the malarial fevers occurring in Colon are of the estivo-autumnal form.

Regarding pernicious malarial fever, while it is difficult to make specific statements, it does not appear to be prevalent among the present population. The writer does not believe that it prevails to the extent generally assumed.

Again, Dr. Perry, judging from hospital statistics, is of the view that the negro resident of Colon does not enjoy any great degree of immunity against malarial fever. The fact must be borne in mind when discussing immunity against malarial fever that the resident population is referred to—one protected to a certain extent by previous attacks, the habit of taking quinine as a prophylactic and by observing the rules that experience has taught them to be effective. Even under these conditions the disease is fearfully prevalent. Therefore, when fresh material is introduced, it is easy to predict that the result will be a much larger percentage of sufferers among the new arrivals, with increase in the virulence of the disease unless the newcomers are under careful supervision and have the benefits of improved sanitary conditions. An examination of the tables show that malarial fever is most prevalent during the months of May, June, July, and August.

As to the extent to which yellow fever occurs, the writer does not place much faith in available statistics for finding out this point, for the reason that the disease is not reported as such. Nevertheless, he is of the opinion, although admitting that little yellow fever may occur in Colon, the infection is present and only an influx of a non-immune population is needed for the disease to assume epidemic proportions.

There seems little doubt that both the amœbic and bacillary forms of dysentery exist.

Tuberculosis is common among the negroes, and rheumatism is recorded as of frequent occurrence. Some cases of pneumonia occur and are generally fatal.

Anæmia is common, but probably most of the cases are secondary to malarial infection; uncinariasis is no doubt present. Ulcers are common affections; some are syphilitic, but the majority of cases result

ı abrasions or the bites of insects, scratching and ction of the wound.

r. Perry estimates the annual morbidity at 1,960, bout one-third of the entire population. The an- l death rate of Colon is estimated by the author ot less than 50 per 1,000. He also considers that ng the natives, assuming that about 2,000 cases ickness occur annually, 75 per cent. of which due to malarial fever, and estimating the length me each case is under treatment or incapacitated n days, there would be a loss of 15,000 days an- lly, which would mean a pecuniary loss of $11,-

In a new population the loss would doubtless roportionately greater, owing to the marked in- se in sickness.

ı answer to the question, To what extent can the railing diseases be diminished or prevented by per sanitary equipment and regulations? Dr. ry has this to say, "Having shown that 75 per t. of the diseases are malarial; that yellow fever ts and will increase upon the introduction of new erial; that dysentery, tuberculosis, and rheuma- n are common, I think a conservative estimate ld be that 80 per cent., or even more, of these di- es could be prevented."

he United States Government will undertake the ing of an Isthmian Canal well knowing of the ace to life and health of the workers thereon that carrying out of such a project will entail. By ful supervision and by conducting proper sani- arrangements the risk to life can be greatly de- sed. It is obvious then that no expense or ble should be spared to render the conditions in about Panama as salubrious as possible. If this not done, and the building of the canal be at- ded by great loss of life, a slur cannot but be at- ed to the responsible authorities. Timely warn- has been given to which prompt attention should aid.

FORCED SLEEP.

ILE all the factors underlying sleep have not as been adequately elucidated, the immense physi- ical importance of the phenomenon has long n appreciated by physicians, and the relief from strain of conscious being and the reinvigoration ruing from it have flavored the meditations of ilosophers and exalted the song of the poets.

And so, while the experience of mankind has justi- the appreciation, it has remained for the phy- an practically to apply that experience in the nagement of disease. The fact that in many nctional disorders of the nervous system insomnia an important symptom, and that, furthermore, the jority of mental affections are heralded by sleep- ness, were, indeed, enough to rivet the attention practitioners. Moreover, the benefits accruing such cases through attacking the disorder of sleep ere sufficiently striking to cause the most searching hysiological and pathological investigations re- rding the function itself. From these studies here issued, at length, the conviction that, by in- reasing the duration and improving the quality of leep, much good might be wrought in affections of the nervous system, particularly those characterized by great exhaustion or irritability or both. This, in few words, is the genesis of the so-called "Sleeping Cure," which, as stated in a recent editorial in the *New York Tribune*, is now winning high favor abroad, and particularly in London. As justly observed by the *Tribune*, however, this mode of treatment is to the practitioners of the United States no novelty.

As long ago as 1883 Dr. J. Leonard Corning of this city brought forward this plan of managing functional nervous disorders in a monograph entitled "Brain Rest, a Disquisition on the Curative Properties of Prolonged Sleep," and in a subsequent edition published in 1885 the whole matter of practical management was elaborated to the last detail. On page 66 of this classical little monograph Dr. Corning observes that "As applied to the brain, rest implies something totally different from that which is described by the term when used in connection with the muscle, joint, or spinal cord. This radical difference is chiefly owing to the fact that the brain being the organ of the intellectual processes, rest, in so far as it concerns that organ, means nothing less than a cessation of mentalization, with all thereby implied. It is impossible by a mere fiat of the will to cause cessation of thought; the very idea embodies a contradiction, for the will as physiologically understood is itself a product of very complicated intellection and cannot therefore be regarded as a thin *sui generis*—assom ething without the pale of other psychical processes." Only during sleep is the ideal repose of the cerebral faculties realized. But, while a physiological amount of sleep is sufficient to achieve this in health, the period of unconscious repose must be greatly augmented when by overtaxation or inordinate mental strain the nerve-cell has become devitalized and is no longer able to hoard up a sufficient store of energy during the usual period of unconsciousness. It is in such cases that prolonged sleep, a sleep continued for ten, fifteen, or even twenty, hours at a time, achieves the most striking results.

"As a rule," observes Dr. Corning, "I am in the habit of secluding the subject in a darkened room, eventually for from ten to fifteen hours at a time, according to the amount of sleep it is desired should be had during the twenty-four hours. I do not, however, attempt great things in the way of sleep at first; but, on the contrary, the duration of the period of unconsciousness is progressively increased by the utilization of habit, hydrotherapy, appropriate food and, in urgent cases, moderate medication." In extreme cases the period of sleep is prolonged to as much as twenty hours at a time, the patient being awakened and given small quantities of nourishment and then allowed to sleep aga n.

He warns, moreover, against the evils accruing from attempts to keep in bed nervous, irritable persons while in a conscious condition. Such individuals should be told to lie down only on the appearance of drowsiness, which, in intractable cases, may be brought on by the moderate use of sedatives during the latter part of the day, and exceptionally by the exhibition of hypnotics before retiring. Recumbency, then, is purely incidental, the prolonged unconsciousness is all.

In thus strenuously insisting on the radical difference between cerebral and ordinary corporeal rest, Dr. Corning has rendered a substantial and practical service.

Space does not permit, however, of more than a brief synopsis of a plan of treatment which, so far

as originality attaches to it, was developed in this country and systematically practised over twenty years ago.

Differential Diagnosis of Typhoid Fever.

In the *Journal of the Association of Military Surgeons* is now being published the Enno Sander Prize Essay, 1903. The essay is by Major Frederick Smith of the British Royal Army Medical Corps, and deals with the differential diagnosis of typhoid fever in its earliest stages. The March issue of that journal treats of the differential diagnosis of malarial fever and typhoid fever. The writer points out that these two diseases are often mistaken the one for the other, and that it is the continued or so-called remittent forms of malarial infection that give rise to this error. "As a matter of fact," says Major Smith, "it is not very many years ago that nearly all the enteric fever in India was called malarial fever." It was thought, too, and is still believed by some, that a sort of hybrid between malarial and typhoid fever exists in the tropics. This was known as "typho-malarial fever."

The author declares that from a somewhat extensive acquaintance with malaria and enteric, the diagnosis to him is often very difficult and only mere guess-work. Microscopical examination of the blood, even if entirely satisfactory, frequently cannot be properly carried out when soldiering.

The most difficult cases, according to Major Smith, are the so-called bilious remittents. "In these," he says, "the temperature is often low, there is diarrhœa (the stools may be dark, but we find that not infrequently in tropical typhoid during the first week), vomiting, foul tongue, etc. An experienced man will generally make a correct diagnosis, but the best of us may fail to do so at once. . . . My own experience is that the best way to settle the question is to treat a doubtful case promptly as malaria. If calomel, quinine, etc., judiciously administered by experienced hands, do not cure the fever in four days, or at any rate bring about marked improvement, the case is, in nine cases out of ten, not malaria at all. In most of the few purely malarial cases which resist this treatment the patient is going to die."

The general conclusions drawn by Major Smith with regard to the differential diagnosis (on clinical grounds alone) of typhoid fever in the earliest stages are as follows: (1) That the diagnosis of typhoid fever in the earliest stages of the disease presents probably greater difficulties than that of any specific infectious ailment. (2) That there is scarcely any disease accompanied by fever which has not been at times mistaken for typhoid fever. (3) That a good many cases are wrongly diagnosed owing to mere carelessness or to want of knowledge. (4) That the disorders most liable to be confounded with typhoid fever are—typhus fever, tuberculosis, pneumonia, influenza, febricula, or unnamed continued fever, Malta fever, malarial fever, and paratyphoid. (5) That it is frequently impossible by non-bacteriological methods to differentiate between typhoid fever and the diseases named above in four days or even a week and more. (6) That our safety from a public health point of view lies in regarding all doubtful cases as typhoid until they have been proved to be something else. (7) That the anomalous cases are more numerous, and the difficulties in the way of diagnosis greater, in military than in civil life.

University of Pennsylvania.—Dr. James K. Young has been appointed assistant professor of orthopedic surgery, and chief of the orthopedic section of the University Hospital.

Bacteriology as Applied to the Examination of Shell-fish.

It has been stated ofttimes of late that shell-fish spread typhoid fever very frequently; in fact, that shell-fish play an important part in the dissemination of the disease. Proof, too, has been forthcoming from many quarters that such is indeed the case, and the striking evidence to this effect which has been brought forward cannot be disregarded. According to the *British Medical Journal*, February 13, the British Royal Commission on Sewage Disposal has recently handed in its report, a part of which is taken up by conclusions as to bacteriology applied to the examination of shell-fish. Dr. Klein stated before this commission that he had not found that the normal oyster harbored within its shell or within its body the bacillus coli communis or other bacillus closely allied to it, and that he regarded the presence of the bacillus coli as indicating sewage contamination when found "in considerable numbers of oysters in a series of samples from a particular locality." The commission instructed Dr. Houston to investigate the premises on which Dr. Klein's conclusions were based. Dr. Houston examined over one thousand oysters, some from the purest waters in which oysters are grown or fattened in Great Britain, and some from layings, etc., obviously liable to pollution. The results showed that nearly all the oysters so examined, from whatever layings they were taken, contained bacillus coli communis or other bacillus coli closely allied to it. The results as to deep-sea oysters were not quite decisive, but "pointed strongly to the conclusion that not only the typhoid bacillus, but even bacilli resembling this or the colon bacillus were absent from them."

The whole matter was summed up by the commission as follows: "We accept the view that, for the present, results of bacteriological examination must be interpreted in the light of topographical observations. As a corollary, it would seem that the bacteriologist can at present do little more than urge that results he is obtaining point to the need of a further and more careful examination of local conditions of the shell-fish or water samples submitted to him; that for the present topographical observations must determine whether any laying or portion is or is not to be considered free from risk of objectionable contamination." The commission also express the opinion that the mere presence of bacillus coli in an oyster does not constitute a justification for the wholesale condemnation of oysters; and that, furthermore, a single examination of a chance sample of oysters may be most misleading. Generally speaking, comparative examination of samples of water from the different layings gave results similar to those furnished by the oysters from the same layings, except that the water was generally purer than the oysters themselves, the oysters seeming to collect and retain within their shells these microorganisms. The evidence in support of the contention that shell-fish are important factors in the conveyance of typhoid is too weighty to be overcome. Although perhaps the presence of the bacillus coli does not justify the wholesale condemnation of oysters, yet, on the other hand, so many epidemics of typhoid fever have been traced to shell-fish, that it is better to destroy any members of this family open to suspicion rather than to run the risk of spreading the infection.

A Forecast of Radium in Fiction.

To the late novelist Lord Lytton is attributed the forecast of the discovery of radium. In his marvelous imaginative work "The Coming Race," in many respects the most remarkable of his writings,

novelist gave an account of the life led by a race uman beings far down in the bowels of the earth. distinctive feature of the book, in fact the ot upon which the plot hinges, is the possession these underground dwellers of a mysterious stance named vril, and which, as described by tton, is, according to Hornblow, writing in *The tic* for March, identical with radium. There is space in these pages, nor is it needful to enter utely into the matter, but the aforesaid writer nmarizes the similarities between radium and substance hatched in the brain of the author follows: "(1) Lytton says a small amount of could destroy a city as large as London, and t a child could destroy an army by merely ting at it a staff charged with the substance; nce assures us to-day that the power of radium almost limitless, that two pounds of it could troy three millions of people and that one ounce ld blow up a battle ship. (2) Lytton's subranean race lighted their streets with vril. nce tells us that radium gives out light and heat hout waste or diminution. It is, therefore, only question of quantity and proper adaptation, en the world will use radium for lighting purposes. This wonderful vril of the novelist could, he med, cure diseases. Indeed, the race depended olly on it to restore or invigorate life. Experints recently made with radium in hospitals monstrate that it will cure certain forms of ease, such as lupus and other skin diseases. is also believed that it will cure cancer; on the er hand, if applied differently, it will burn the and destroy life. Physicians declare that air dered radioactive will cure consumption, and at water rendered radioactive will relieve stomach ubles."

Could then, asks Hornblow, Lytton have been herwise than inspired when he wrote half a tury ago of vril: "It enables the physical organiza n to reëstablish the equilibrium of its natural wers and thereby to cure itself."

The writer in *The Critic* has taken the exaggerated ews of the properties of radium, so widely disminated by a portion of the lay press and by a rtain number of the medical profession. The uth is that the properties of radium are not yet finitely known. It may be that its limits have t been gauged and that its powers are even eater than its most ardent advocates believe. ut at present we are somewhat in a state of spectancy with regard to radium. True, what known of the substance is wonderful enough, and is to be hoped that the glowing anticipations rmed in the minds of some of its eulogists as to s potency may be fully realized, and that Lytton's onderful vril may be equalled by radium.

Dr. William Pepper.

A life of the late Dr. William Pepper of Philadelphia has recently been published which provides an object lesson to medical men and to men of ideas generally. Mr. Thorpe's life of Dr. Pepper cannot but intensify the feeling of admiration universally felt by Americans and also by Englishmen for that great man. Dr. Pepper's sole aim in life was the advance of education. To this end he labored incessantly, and although in his later years afflicted with an incurable and most painful malady, he still endeavored to carry out his views. He was provost of the University of Pennsylvania, and the writer of many important medical works, and conducting an extensive practice, but at the same time he pursued his plans for the advancement of his fellow man.

Mr. Thorpe tells of the work Dr. Pepper had done by the time he had reached fifty:

Institutions founded, the University Hospital, the Commercial Museums, and the Philadelphia Free Library; institutions reorganized and re-treated, the University of Pennsylvania; public reforms, the improvement of the city's water supply and an entire change in the attitude of the public mind toward education and the ideals of life. To carry out these plans Dr. Pepper raised above $10,000,000 and secured about 100 acres of land from the municipality, lying near the heart of Philadelphia. To the execution of this task he gave the service of one of the most acute and, at the same time, the most practical minds ever vouchsafed to man. To this service of his genius he added the personal gift of $500,000, which he earned in the practice of an exacting profession. It may be doubted whether any other American has run a like career.

When the fact is borne in mind that Dr. Pepper died at the age of fifty-three, it seems almost incredible that he should have crowded into so short a life the amount of solid endurable work that he did. He undertook no project which he did not carry to a successful issue, and as Mr. Thorpe says "His love of work and ceaseless activity were a disease incurable, but encouraged by more activity." He had a very large practice, but "his gratuitous practice was equal to the entire practice of many a well-established physician, and on no occasion was he known to refuse his aid because the patient was poor."

The noble deeds of William Pepper add lustre to the whole profession of medicine in America, for like Virchow he was not only foremost in medicine but was also a most admirable citizen and public-spirited man. His works are his monument, more enduring than brass, and the history of his life will call attention to the good that he has wrought, and act as an incentive to others.

News of the Week.

The Visit of Professor Ehrlich to Deliver the Herter Lectures at Johns Hopkins Hospital.—Professor Ehrlich, who is the director of the Institute for Experimental Therapeutics in Frankfort a. M., Germany, was invited by the University of Chicago to deliver an address on immunity on the 18th of March, and was honored with the degree of L.L.D. from that institution. He was also entertained by the University of Ann Arbor, and on his way to New York by the members of the Medical Faculty of the University of Buffalo. On the 1st and 2d of April he was the guest of the Association of American Pathologists and Bacteriologists, which held its annual meeting in New York, and delivered an address on the therapeutics of trypanosomiasis on the basis of experiments carried out by Shiga and himself.

On April 12, 13, and 14 Ehrlich will deliver the Herter Lectures at the Johns Hopkins University (in McCoy Hall, 4.30 P.M.). The subjects will be: (1) "The Mutual Relations between Toxin and Antitoxin;" (2) "Physical Chemistry versus Biology in the Doctrines of Immunity;" (3) "Cytoxin and Cytotoxic Immunity." The lectures will be delivered in the German language. On April 18 a banquet will be tendered to him by the German Medical Society of the City of New York. On the 19th he will be the guest of the Harvard Medical School. He sails for Europe on the 26th. He is accompanied by wife and daughter.

Mortality in February in New York State Greatest on Record.—The bulletin of the New York State Department of Health for the month of February

shows that there were 12,749 deaths in the State during that period, or an average of about 440 deaths a day. The bulletin goes on to say that this number exceeds by almost 2,000 the average for the month during the past five years. Pneumonia was the chief cause of the increase, there being 1,800 deaths from that disease.

Gift to Eye Infirmary.—Mrs. John E. Parsons, daughter of the late Benjamin H. Field, ex-president of the New York Eye and Ear Infirmary, has sent $1,000 to go toward a fund to be used for the perpetual endowment of the institution.

Anti-canteen Victory.—The House of Representatives, on March 31, adopted an amendment to the Sundry Civil Appropriation bill, providing that no appropriation should be made to any State or Territorial home for soldiers that maintains a bar or canteen at which intoxicating liquors are sold.

Verdict against Dr. Conrad.—Dr. Edward E. Conrad of 127 West Forty-seventh Street was found guilty on March 31, by a jury in Part II of the Court of General Sessions, of having attempted to perform a criminal operation.

The Santa Barbara County Medical Society and the Army Medical Bill.—At a meeting of the Santa Barbara County Medical Society, held on March 15, a resolution was adopted with regard to the Army Medical bill now pending before Congress. On the whole the resolution commended the bill, but exception was taken to the last five lines of Section 9, which reads as follows: "*Provided*, That no officer of the Medical Reserve Corps shall be entitled to retirement or retirement pay; nor shall he be entitled to pension except for physical disability incurred while on active duty and in line of duty."

The gist of the argument brought forward by the Santa Barbara Society was that the enactment of such a regulation makes it harder on an officer of the Medical Reserve Corps than on a private soldier, who, as the law stands to-day, is entitled to pension for disability from disease or accident after he leaves the service if it interferes with his gaining his livelihood by manual labor. The society thinks that the discrimination made between officers of the Medical Corps and officers of the Army Medical Reserve Corps is unjust and request their Senators and Representatives in Congress to use all their influence to have the last five lines of Section 9 omitted and an amendment inserted that these officers be treated in this respect as are the officers of the Army Medical Corps.

Summer Home for City Children.—Dr. Edward Martin, Director of Public Health and Charities of the city of Philadelphia, has purchased, at his own expense, a mansion and twenty acres of grass and woodland on the banks of Crum Creek in Delaware County, Pennsylvania, for the purpose of providing a place where ill-treated, poorly fed and sickly children can, during the summer, obtain fresh air and good food and spend a life in the open.

Hygienic Talks to Mothers.—Arrangements are being made to continue the health-talks to mothers inaugurated by the Philadelphia Department of Health and Charities last summer. A number of physicians have volunteered to deliver lectures in different parts of the city under the auspices of various charitable organizations.

The Late Dr. Aimée Raymond Schroeder.—The following preamble and resolutions were adopted at a recent meeting of the Women's Medical Association of New York City:

"Aimée Raymond Schroeder, M.D., died in New York City on December 25, 1903, eight days after an operation for appendicitis. She was the youngest daughter of the late Henry J. Raymond, founder of the *New York Times*, who was a strong supporter of the Doctors Elizabeth and Emily Blackwell in their early struggles for the medical education of women.

"Dr. Schroeder was born in Montreux, Switzerland, August 21, 1857. Many years of her youth were spent in Europe, and she then acquired that proficiency in music and modern languages for which she was so well known in after life. After graduating from the Women's Medical College of the New York Infirmary in the class of 1889, she served in the out-practice and dispensary, but retired from active practice upon her marriage in 1893, and thereafter devoted herself to literary medicine. She translated and revised various medical works, wrote the foreign abstracts in the pediatric department of the *Journal of Obstetrics* for some years, and at the time of her death was a valued member of the editorial staff of the MEDICAL RECORD.

"Dr. Schroeder showed a constant interest in the medical education of women. She was indefatigable as secretary of the Association for the Advancement of the Medical Education of Women, and was always an active worker for the Infirmary.

"The grace and charm of a woman of broad culture and rare accomplishments brought her the admiration of many friends; while her generosity, her kindness, her perfect truth and loyalty, the attributes of her noble personality, endeared her to an even wider circle. Therefore,

"*Resolved*, That in the death of Dr. Aimée Raymond Schroeder this association and the medical profession have lost a beloved and honored member, and

Resolved, That this be spread upon the minutes, sent to the family, and published in the city medical journals."

"*Committee:* { MARTHA WOLLSTEIN, MARY PUTNAM JACOBI, ELIZABETH STOW BROWN.

Dr. Wm. Duffield Robinson of Philadelphia has been, without assigned reason, removed by Governor Pennypacker as a member of the Board of Inspectors of the Eastern Penitentiary. Political influences are believed to underlie the removal. Dr. Robinson has been particularly active in investigating and exposing abuses in the management of the Penitentiary in which he was for several years resident physician. His work in the Board of Inspectors was only recently commended by the Governor.

Death Rate on the Isthmus of Panama.—According to the New York *Sun*, April 3, a high death rate prevails at present on the Isthmus of Panama, and in the opinion of the Marine Hospital Service, whose surgeons are stationed at Colon and Panama, the medical officers connected with the Isthmian Canal Commission have a large task before them. Official reports from both sides of the Isthmus show that there were many cases of death from several causes during the week ending March 13. In Panama, where there is a population of about 18,000, there were thirty-one deaths during the week. This is equivalent to an annual death rate of about 90 per 1000 of population. The annual death rate of Colon for the same period figures out at 52 per 1000. No one died, so far as was reported, of yellow fever, but there was a high mortality from other fevers and from tuberculosis.

The Kaiser's Condition.—The lay journals of New York for April 3, have all something to say concerning the Kaiser's health. A special cable to the *New York Times* reported as follows: While foreign newspaper reports of the condition of the Kaiser's health

are exaggerated, they have a basis of truth. It is learned from a reliable source that leading medical authorities differ as to just what is the matter with him, but in order to check any possible existing inherited tendencies advised his present trip. The health of three other German monarchs, the Prince Regent of Bavaria, the Grand Duke of Baden, and the King of Saxony, also causes concern.

Columbia Medical Changes.—The announcement of the College of Physicians and Surgeons, the Medical School of Columbia University, has just been issued for the coming year, 1904–1905. Two new names appear among the officers of instruction—Dr. Harry McMahon Painter, Professor of Clinical Obstetrics, and Dr. Gorham Bacon, Clinical Professor of Otology. Four new names have been added to the Faculty of Medicine—Profs. Joseph A. Blake, Samuel W. Lambert, William J. Gies, and Harry McM. Painter. The most important change to be made next year will be in the increase of the tuition fee from $200 to $250, and at the same time in the establishment of fourteen scholarships available to all students, and of an annual value of $250 each. —*New York Times.*

Changes in Stations of Medical Officers of the Army.—The following officers of the Medical Department who recently completed a course of instruction at the Army Medical School in Washington, have been assigned to stations: First Lieut. Jay R. Shook, to Fort Leavenworth, Kan., relieving First Lieut. Ralph S. Porter, assigned to Fort Niobrara, Neb.; First Lieut. Reuben B. Miller, to Fort Screven, Ga., relieving First Lieut. Harry L. Gilchrist, assigned to the General Hospital, Washington Barracks; First Lieut. F. Juenemann, to Fort Ringold, Tex.; First Lieut. Edgar W. Miller, to Fort Clark, Tex.; First Lieut. William H. Tefft, to Fort Snelling, Minn., to relieve Capt. George A. Skinner, ordered to Fort Harrison, Mont., relieving Capt. George J. Newgarden, ordered to the Philippines; First Lieut. Robert E. Noble, to General Hospital, Washington Barracks; First Lieut. G. McD. Van Poole, to Fort Stevens, Ore.; James I. Mabee, to Fort Casey, Wash.; Percy L. Jones, to Fort Monroe, Va.; F. W. Palmer, to Jefferson Barracks, Mo.; John R. Bosley, to Fort Thomas, Ky.; Chester J. Stedman, to Columbus Barracks, Ohio; Joseph L. Siler, to Fort Logan, Col.; Capt. L. P. Williamson, from New Haven to St. Louis; First Lieut. W. De Witt, from New Haven to St. Louis.

The College of Physicians of Philadelphia at a largely attended special meeting held on March 30, decided by a large majority to remove from its present location at Thirteenth and Locust streets, to the site already purchased at Twenty-second and Ludlow streets, for $77,000. It is proposed to erect a modern and commodious building at a cost that may reach $250,000, a part of which sum will be obtained from the sale (for $175,000 or more) of the present building, which has been occupied for about a quarter of a century.

Transformation of Consumptive Hospital.—The Board of County Commissioners of Cook County, Ill., has authorized the transformation of the old consumptive hospital at Dunning into one for the sick insane, at a cost estimated at $10,000

The American Neurological Association has fixed the time of its meeting at St. Louis for September 15, 16, and 17. This will be immediately followed by the sessions of the various medical departments of the Congress of Arts and Sciences, beginning September 19.

Vital Statistics of Philadelphia.—Typhoid fever still prevails to an undue degree in Philadelphia, 321 new cases and 24 deaths having been reported for the week ended April 2, as compared with 148 new cases and 17 deaths for the preceding week. There were reported also 92 cases of scarlet fever and 7 deaths; 67 cases of diphtheria and 8 deaths; and 32 cases of smallpox and 7 deaths. The total number of deaths for the week was 588, as compared with 585 for the preceding week and with 535 for the corresponding week of 1903. The causes contributing to the largest number of deaths were as follows: Pulmonary tuberculosis 74, heart-disease 64, pneumonia 61, nephritis 36.

Obituary Notes.—Dr. James Brownlee Sanford, Speaker of the House of Representatives of Colorado, died in Denver, Col., March 16, 1904, from the effects of an operation for appendicitis, in the thirty-fifth year of his age. Dr. Sanford's career presented some remarkable features. He graduated from the medical department of the Baltimore University. After graduating he passed the State board examination in New York and received its license. In the fall of 1900 he located in Castle Rock, Col., and very quickly developed a large practice, and he was highly successful both in medicine and surgery. In the following January he was appointed county physician and health officer. In the fall of 1902 he was elected a member of the Colorado House of Representatives, and on organization of the House he was chosen speaker and discharged the duties of that position with such credit that he received at the close of the session a unanimous vote of thanks. But his great work in the Legislature was his medical bill, which provided for an efficient State board of examiners and that no one should practise medicine in the State unless he is a graduate of a recognized chartered medical college, or shall have passed the State board examinations. It was provided that the State board could refuse to grant or could revoke a license for fraud in examinations, for unprofessional conduct, such as aiding in producing criminal abortion, for obtaining a fee for assurance to cure a manifestly incurable disease, for advertising medicine or means whereby monthly periods of women may be reëstablished, or for publishing advertisements relative to diseases of the sexual organs, tending to injure the morals of the public. A person was to be regarded as practising medicine when he attached to his name a medical degree, or styles himself "Doctor" or "Surgeon" in a medical sense, or advertises to perform the duties of a physician. The penalty for practising medicine without such license was both fine and imprisonment. The bill met with determined and bitter opposition, but Doctor Sanford fought out the battle successfully and his bill passed both houses with but few dissenting votes. Such pressure, however, was brought to bear upon the Governor, by interested parties, that he failed to sign the bill. The State and County medical societies passed resolutions of strong approval and the deepest regret when his death was announced. At the time of his death he was secretary of the State Medical Legislative League, and also of the National Medical Legislative Council, the last meeting of which was recently held in Washington, D. C., at which meeting he was one of the two State delegates.

Dr. George H. Hammond, who had practised as a physician at Freeport, L. I., since 1872, died of pneumonia in that town on March 29. Dr. Hammond was born in 1846, and was graduated from Wesleyan and later from the medical department of New York University. Dr. Hammond who was married three

times, has a widow and two sons survive him. The deceased was a prominent Freemason.

Dr. GEORGE H. BULLER died on March 28, in the sixty-second year of his age, at his residence, 964 Fifth Avenue, New York. He was graduated from the Bellevue Medical College in 1869. He was a member of the Medical Society of the County of New York, the New York Physicians' Mutual Aid Association, the New York Academy of Medicine, and the New York Chemists' Association.

Dr. A. B. ARNOLD, for many years well known in Baltimore, died recently at San Francisco. He was graduated in medicine at Jefferson College and was professor of nervous diseases at the Baltimore College of Physicians and Surgeons from 1876 to 1898, when he left Baltimore for California. He contributed largely to medical and literary magazines.

Dr. JOHN GILWEE died suddenly at his home in St. Louis, on March 23, of heart failure. He was sitting at his desk writing out a death certificate when he was attacked and died in a few minutes. He was born at Farnham, Canada, sixty-nine years ago, but at an early age removed to Bloomington, Ill. The deceased was graduated in medicine from the St. Louis Medical College in 1877, and practised his profession for over a quarter of a century in the city of St. Louis. Dr. Gilwee made a provision in his will setting aside $2,000 for the care of his horse Tony which he had driven for twenty-three years.

Dr. STEPHEN P. TRUAX of Brooklyn, while performing an operation in the Brunswick Central Hospital in Brooklyn, on March 31, died suddenly of heart disease. Dr. Truax was born in Oswego and was graduated from the Long Island College Hospital in 1891. He was the visiting gynecologist of the Bushwick Central and a lecturer on obstetrics and gynecology in the Post-Graduate Hospital. The deceased had been affected with heart disease for some time and had recently been a sufferer from grip. Dr. Truax belonged to the Kings County Medical Society and to several Masonic organizations.

Dr. WALTER BURROWS, seventy-five years of age, a retired physician, died in April 2, at his residence, 138 Shilton Street, Newark. He was a son of the Rev. Dr. Burrows, en eminent Methodist clergyman, and was a graduate of Dickinson College and of the College of Physicians and Surgeons of New York City. A widow and three sons survive him.

Dr. WASHINGTON H. BAKER died in Philadelphia on April 1 at the age of fifty-seven years. He was a lineal descendant of George Emlen, who came over from England with William Penn. He was a great great grandson of George Ross, a signer of the Declaration of Independence. He was a graduate of Lehigh University and of the Medical Department of the University of Pennsylvania. He became later a resident physician in the German Hospital and then an assistant to Professor Penrose in the University of Pennsylvania. He was a visiting physician to St. Joseph's Hospital and surgeon to the Second Regiment N. G. P. He was also a trustee of Lehigh University.

Dr. CLINTON MUNSON, a retired physician of Tacoma, Wash., died at San Francisco on March 20, at the age of sixty.

Dr A. STANLEY DOLAN, until recently Assistant Superintendent of the Southern California Hospital for the Insane, at Highlands, died at Riverside on March 22, as a result of heart disease.

Dr. GEORGE IVINS, a native of New Jersey, but for the last twenty-five years a resident of Los Angeles, Cal., died at San Jose on March 24, at the age of sixty-four.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

HOSPITAL MEETINGS AND FUNDS—IRISH GRADUATES' ASSOCIATION—PROPOSED SCHOOL FOR DISTRICT MIDWIVES—THE CARDIAC DULNESS IN CANCER—PROPERITONEAL HERNIA—INFANTILISM—FOREIGN BODIES IN THE AIR PASSAGE—ANTIVACCINATIONISTS—SIR L. BRUNTON—S. WILKS—OBITUARY NOTES.

LONDON, March 18, 1904.

THE Mansion House meeting on behalf of Kings College Hospital was held last Friday and may be considered a successful. The sum estimated to be necessary for the new hospital is £300,000 and the treasurer was able to announce that £106,762 had been subscribed. A telegram arrived at the meeting promising to deliver 50,000 bricks on the site of the new hospital "as a thank-offering for in-[illegible] attention forty-five years ago."

On Tuesday, at the Mansion House, the Lord Mayor presided over the annual meeting of the East London Nursing Society which has twenty-seven nurses working thirty-four parishes among the poor, and whose work has been reported as "very satisfactory" by the Inspector of Queen Victoria's Jubilee Institute. The report stated that 4,652 cases had been nursed during the year, and 1,[illegible] removed to hospitals. The work of this society deserves to be more generally known. When it is understood that it is in the poorest neighborhoods that the society works among the sick, the few hundreds required to meet necessities will be forthcoming.

On Wednesday the Lord Mayor presided at the annual meeting of the Royal Hospital for Chest Diseases. The income had fallen during the year and a great struggle has been necessary to keep all the wards open. The year commenced with a debt of £1,200 and now £1,3[illegible] owing to tradesmen. The Lord Mayor regretted that so valuable and old a charity should be in such low water especially at this unpropitious time for appealing when three great hospitals are asking for a million. Sir T. De la Rue, the chairman of the committee, said unless money was forthcoming for immediate debts, one of the wards must be closed. The large appeals to which the Lord Mayor had referred seriously affected the smaller hospitals in which equally good work was done, though it did not strike the public eye so forcibly.

This lament is being made in many directions, and I have hinted to you on former occasions, the partiality the funds is in some cases called in question. The trouble appears to be that they have laid down certain rules of distribution which are exceedingly rigid, whereas some elasticity is required to do justice all round. Another annual meeting held this week—that of the South London Ophthalmic Hospital—affords an apt illustration. This excellent charity wants money to enable it to enlarge its buildings to meet the great pressure on its resources. Professor McHardy said that £8,000 were really required and then he referred to the point I have mentioned above. He said as they did not get into debt they were awarded a very small sum from the King's Fund—in fact, not one fortieth of the grant given to the Royal Ophthalmic, but it is certain that the Royal does not do double as much work as the South London. He hoped the managers of the King's Fund when they became more acquainted with the facts in this case would act more liberally.

For my part I would say act more justly. The truth is the Distribution Committee of the Sunday Fund set its face tone of these agencies under an amount of prejudice against the smaller institutions which was quite inexcusable, and they went about to establish their own notions in a manner sure to bring about reaction.

The Temperance Hospital annual meeting was held last night, Sir Geo. Livesey presiding. The in-patients during the year were 1,376, out-patients 8,413, and casualty cases 14,524. Sir W. Collins, the senior surgeon, commented on the progress of the hospital from the point of view of the medical staff. Dr. D. Burns pleaded for more subscriptions, and the proposal to rebuild the out-patients department was approved.

The amalgamation of the two orthopedic hospitals is now practically complete. The Royal has sold its premises and vacates them on Lady Day, moving to the National which will be enlarged so as to accommodate 200 beds. It is also intended to have a branch in a northern suburb to contain 100 beds for cases which have made some progress but are not quite fit to be discharged.

The Irish Medical Graduates and Schools Association held their annual festival last night, Surgeon-General Sibthorpe, president, in the chair. There was a good muster of members and after the loyal toasts the Arnott medal was awarded to Mr. P. J. Freyer, who is a retired lieutenant-colonel of the Indian Medical Service and whose position as a surgeon is well known to you. Dr. MacNaug[illegible]

-Jones, who introduced him, said he held the record for largest fee ever received by a medical man, and when government wanted a part of that fee Mr. Freyer was, all Irishmen, "agin the government." He added that Freyer originated an operation the value of which is ognized all over the world and has increased the relief rded to human suffering and the prolongation of life. e medal was then presented by the president, and Mr. yer said that any merit of his work was due to his cation in Irish medical schools, and the development of t education in the Indian Medical Service.

A meeting of ladies was held at the Mansion House on nday at the invitation of the Lady Mayoress in support a proposed national training school for district mid-es.

Miss Gregory has propounded a scheme with the view ttracting educated women to this employment. Some er single ladies spoke in its support. It seems as if subject might be more appropriate to married women, t perhaps they have not so much time at their disposal. is proposed to build a hospital with seventy beds in ich the school should be carried on, where gentlewomen uld be trained in general and monthly nursing and rward in midwifery proper for six months. Hygiene, itation, physiology, etc., are to be taught, the whole rse occupying two years. The multiplication of pitals has already proved unsatisfactory, and the good ntions of the ladies might just as well be carried out in e that already exist. Either of our lying-in hospitals capable of doing all that Miss Gregory and her co-utors propose, and considering the many demands of se on the charitable it would be wiser to utilize them n to attempt to build another which is quite unneces-y.

Dr. Gordon of Exeter has communicated to the Medico-rurgical Society a somewhat curious observation which has made in certain cases of gastric cancer. He iced in several cases that the cardiac dulness was greatly ced and sometimes obliterated in the recumbent ture. He was so impressed with this that in five cases, finding it, he diagnosed cancer, and that was found to be Of course the normal dulness is not the same in the mbent as the erect posture and the observation ap-s to the recumbent only. The sign is not constant. ay precede cachexia, wasting and loss of skin elasticity. absent in the early stage it may develop slowly toward close. It is rarely found in other diseases—even in coma. Other causes of alteration in the area of cardiac lness must of course be rigidly excluded.

The explanation was suggested that the margins of the gs extended across the front of the heart, and this found so on post-mortem, owing to loss of elasticity, h as is often observed in the skin over an abdominal cer.

Sir D. Powell asked if any microscopical investigation had n made as to the condition of the lung tissue, as it med desirable for a long series of cases to be examined. e cancer hospitals might make observations. Dr. rdon replied that he had examined the lung tissue of e case with a microscope, but had not detected any nge. He thought the loss of elasticity was due to a ndition which could not be shown microscopically.

Mr. Betham Robinson then described a typical case of operitoneal hernia and exhibited the specimen which wed the anatomical features of these rare cases. The c is an extensive one and its approximation to the adder remarkably close, but the differences from pre-ical hernia are obvious. A small diverticulum to the ner side of the sac agrees with Rokitansky's description. Mr. McAdam Eccles remarked on the great preponder-nce of this form of hernia in vesicles. In fact, he believed only occurred in them, though the interstitial variety more common in females. Mr. Robinson, however, held at a crural form of properitoneal hernia does occur in males.

Two years ago Dr. Byron Bramwell showed a case of fantilism to the Edinburgh Medico-Chirurgical Society. he case was a boy of nineteen, who looked not more than leven. He was four feet four and one-eighth inches in eight and weighed four stones seven pounds. For some ine years he had stopped growing, had suffered from hronic diarrhœa, five or six motions daily, otherwise he as well formed and there was no sign of sporadic cretin-m. Dr. Bramwell attributed his state to defective ancreatic secretion. This appeared from (1) excess of at in the fæces which diminished under pancreatic ex-tract; (2) urine on a milk diet contained a small amount of phosphoric acid which increased much under the ex-tract; (3) capsules containing iodoform in a covering in-soluble in gastric juice but soluble in the pancreatic secre-tion were given; on testing the saliva an hour afterward there was no evidence of iodine or iodates; but when the capsules were given along with pancreatic extract the reaction was readily perceived. Dr. Bramwell has now brought the boy before the society again to show that under treatment by pancreatic extract he has grown five inches in height and increased in weight to eight stones eight pounds, looks much older and his sexual organs have developed. Not having found records of similar cases, Dr. Bramwell pronounces this a new disease, happily curable by supplying the deficient secretion. Dr. J. Thomson showed two similar cases of infantilism—both males, eighteen and twenty-four, but with the general appearance and size of boys of seven or eight and ten respectively. Both have suffered for years more or less from dyspepsia, abdominal distension and diarrhœa, and it may be that in these also the pancreas is at fault. In one of these cases the diarrhœa is not constant but recurs some six or seven times a year. They have not been long under observation, but will, no doubt, be put on pancreatic extract and careful notes made of their cases.

Foreign bodies in the air passages often call for resourcefulness in dealing with them, as well as for diagnostic acumen in being sure of their position, or even of their presence. A case was communicated to the Clinical Society last week in which a boy of five was admitted to hospital four days after swallowing a glass stopper. There was a temperature of 102.8 and wheezing on deep inspiration. Consultation indicated obstruction in the left bronchus, and *x*-rays showed an indefinite shadow there. On tracheotomy the foreign body could be felt by a probe passed down. On failure to extract it with forceps, a loop of wire was passed with success and the wound closed after cleansing from some pus. Four days later the wound was nearly healed and the physical signs normal.

Dr. Taylor mentioned a case supposed to be phthisis, for which the patient was sent on a sea voyage, but one day he expectorated a little blood and a bit of a broken tooth, after which he soon regained health. Dr. Eastes thought inversion valuable when the body is loose. Mr. Makins mentioned a case of suspected foreign body which proved fatal and was found to be due to a caseating bronchial gland. Mr. Hutchinson, Jr., thought the stopper was probably virulently septic, hence the pus. He found silver wire the best means of extraction.

The antivaccinationists have been holding high revel in a two days' conference when their leaders denounced the "conscience-clause" and demanded "perfect freedom" to go unvaccinated. The action of some of the magistrates was described by one speaker as "insensate folly and insolence" and declared that the Government disregarded cases to which their attention was called in Parliament or otherwise. The managers of the Children's Country Holiday Fund were called to account for requiring the children they benefited to show they had been vaccinated, and it was proposed to raise another fund to take the excluded children for a holiday. Mr. Grant, M.P., counseled a policy of resistance, "holding the fort," but making no attempt to press forward at the present time.

A two days' trial for libel brought by the antivaccination surgeon, Mr. Hadwen, has ended in a verdict for one farthing damages against Mr. Price, surgeon, who had written to the Local Government Board that a child's death certified by the plaintiff as due to some other disease had been caused by smallpox. The defence was that the communication was privileged.

Sir Lander Brunton has resigned the physiciancy to St. Bartholomew's Hospital and has been appointed consulting physician.

Sir Samuel Wilks has continued very ill during the week but yesterday's bulletin is rather more cheerful. It reads: "Sir Samuel has had a better night, and is taking nourishment with some pleasure."

The Edinburgh Obstetrical Society has adjourned for a month as a mark of respect for the late Dr. Milne Murray, whose death I mentioned to you February 19.

The deaths are announced of Mr. George Welford, consulting surgeon to the Sunderland Infirmary, aged eighty-nine, on the 11th inst.

Mr. George Archer, a nonagenarian, born in 1811, a veteran Poor-Law Medical Officer who was awarded a pension.

Dr. Augustus Brown, formerly demonstrator at St. George's Hospital and a London practitioner, who later retired into Kent on account of failing health. He died on February 17, aged seventy-five.

Mr. John S. Bartrum of Bath, aged eighty-seven. He was surgeon to the Mineral Water Hospital and Eastern Dispensary for many years. He had twice been Mayor of Bath, his native city, and took great interest in public matters. He was a J. P.

Dr. John R. B. Dove, on January 27, aged sixty-seven. He was a distinguished alumnus of the London Hospital, where he carried off many honors, as he did also at the University of London, where he took his M.B. and B.S. in 1867 with honors in medicine, surgery, and midwifery. He settled at Pinner, and was surgeon to the West Hunts

Infirmary, which his fellow students and teachers thought scarcely gave him scope for his remarkable abilities. He retired two years ago from ill health and was the recipient of a handsome testimonial.

OUR BERLIN LETTER.

(From Our Special Correspondent.)

SYPHILIS DYING OUT—ETIOLOGY OF TABES—INFANTILE TUBERCULOSIS—MILK NO CAUSE OF TUBERCULOSIS—EXPEDITION FOR YELLOW FEVER—DR. MUGDAN AND THE REICHSTAG—OBITUARY.

BERLIN, March 1, 1904.

SYPHILIS, which for centuries has been a disease of the severest kind, seems to be on the decline. Dr. Iwan Bloch made this statement at a meeting of the Society for Prevention of Venereal Diseases. We know that since syphilis was brought from Haiti by the sailors of Columbus to Europe, according to the bishop, Las Casas, it has lost its great virulence. The symptoms do not appear as severe as they did some hundred years ago. The very fact that for generations syphilis has been prevailing, has rendered the people immune against the disease.

In France, where the disease was at the time of Louis XIV an every-day disease, it is now less frequent. Besides our knowledge of the treatment of syphilis has increased, and mercury combined with iodides has no doubt a specific effect. The difficulty lies in attributing many symptoms to the syphilitic infection. The words of Professor Fournier, the well-known syphilologist in Paris, must be remembered: "On m'a reproché d'avoir vu partout la syphilis; jeregrette de ne l'avoir pas vu assez souvent."

Indeed, is syphilis the cause of so many diseases of the nervous system? The old dispute whether tabes dorsalis is caused by syphilis has recently been again discussed by Professor Erb of Heidelberg. According to his statistics he has proved a syphilitic infection of eleven hundred patients with tabes. Erb goes even so far to pretend that hereditary syphilis may cause tabes.

At a recent meeting of the Berlin Medical Society, Dr. Westenhöffer read a paper on the origin of tuberculous infection. He had studied this question under the late Professor Virchow and has continued his researches with Professor Orth. His experiments made on guinea-pigs, rabbits, and cows led him to believe that an inflammation of the vaccinated spot takes place, then the glands become inflamed, and of the organs the spleen and liver become infected, very rarely the lungs. The infection goes through the lymphatic system, but the nearest situated glands do not become inflamed first. Westenhöffer concludes from this fact that there must be in the human organism some communications between the lymphatic vessels, so that the infection is carried to some distant spot, a fact which seems to be proved in the case of carcinomatous infection when not always the nearest glands become infected.

Considering infantile tuberculosis, he noted the fact that infants never become infected until they are three months old. Dentition begins in the third month, and the mucous membranes of the gums are affected. It is known to what an extent children take playthings into the mouth, and it is to be supposed that the bacillus tuberculosis comes with these playthings into the child's mouth and then penetrates through the affected mucous membranes of the gums. Either an inflammation of the cervical glands results, which is operated upon and extirpated, or bronchial tuberculosis occurs which may lead to phthisis, or to miliary tuberculosis. Many children, however, do not show any signs of tuberculosis for some years, and only at a later age when life's pressure comes upon the person, the tuberculous process, phthisis pulmonis, results. Westenhöffer believes that meat cannot cause tuberculous infection. Professor Orth, discussing Westenhöffer's communication, said tuberculosis of the intestines of infants' was rarely noticed. Of 1522 dissections made at the Berlin Pathological Institute, only 3.4 per cent. showed signs of a tuberculous process of the intestines. He also thought tuberculous infection at a later age was caused through inhalation, contrary to Behring's opinion, who holds that the seeds of tuberculosis take root laid in the first year.

Dr. Arthur Meyer called attention to the fact that milk is given in England not boiled, and though we have been told that milk contains many tubercle bacilli, yet the the mortality of tuberculosis is not as large in England as it is in Germany. He believed that Behring was wrong in denying an infection through inhalation. The formalin-milk recommended by Behring caused an inflammation of the palate. Dr. Ruhemann thought that influenza was a predisposing cause of the tuberculous process. Experience shows that a tuberculous person gets rapidly worse when the bacillus of influenza affects him. He wished to see the phthisical patients wear, as in former days, a mask against a renewed infection of any kind.

An expedition to study yellow fever is to be sent to South America at the expense of several Hamburg business men. Dr. Otto and Dr. Neumann of the Berlin Hygienic Institute have been appointed as medical superintendents.

Dr. Mugdan, who became a member of the Reichstag at the last elections, has demanded in the Reichstag that club patients should be allowed to consult the doctors they choose, and that they should not be compelled to consult the club doctor alone. Dr. Mugdan's proposal met with the approval of the Reichstag in general, and Count Posadowsky, minister for home affairs, granted this demand. The Minister has informed the Reichstag that the Government had thought it necessary to create a new professorship at the University of Berlin, devoted to diseases of the working classes and of some special trades.

Prof. Adolf Gusserow, professor of obstetrics and gynecology at the University of Berlin, will soon retire from his post. His successor is to be Dr. Bumm, professor at the University of Halle. Dr. Gusserow has been for many years an active member of the medical profession in Berlin, and his clinic paid special attention to the instruction of students and nurses in midwifery.

Dr. Jurasz, professor of diseases of the nose and throat at the University of Heidelberg, has been appointed "professor ordinarius" at the University of Lemberg. Of all German universities only Rostock enjoys professores ordinarii, *i.e.* professors with a fixed income given by the university. The foundation of this professorship for nose and throat diseases is due to the Grand Duke of Mecklenburg-Schwerin.

Dr. Ziehen, professor at the University of Halle has been appointed professor of psychiatry to succeed the late Professor Jolly.

Dr. Emil Ahting, assistant at the Hamburg Eppendorf Hospital, died of septicæmia following infection during an operation.

Progress of Medical Science.

The Boston Medical and Surgical Journal, March 17, 1904.

Forcible Correction in Lateral Curvature of the Spine.—Robert W. Lovett declares that the problem to be met in the treatment of severe lateral curvature with fixed bony changes is a perfectly definite one. To expect free muscular exercise to straighten, to any extent, curves caused by deformity of the vertebral bodies seems unreasonable. Gymnastic treatment after forcible correction and in connection with effective support is, however, of the greatest value, and is one of the essentials of successful treatment. As to intermittent force and gymnastics, the correction or other part of the treatment is to be obtained by general and special muscular exercises, including the raising of heavy weights, etc. The best development of such corrective work is to be found in the form of apparatus devised by Schulthess. The corrective effect of braces in straightening the curves in severe scoliosis is a very slight one. Braces and corsets are, however, of the greatest use in maintaining the correction obtained by the use of force or by other means. Prolonged recumbency in the treatment of scoliosis is the relic of a bygone tradition and need not be discussed. The question of the operative relief of scoliosis is still *sub judice*. The writer believes that the best chance of improvement in cases of severe scoliosis is to use severe force to secure an improved, and if possible an over-corrected position temporarily; to retain as much as possible of the position thus secured during some part of the growing period. The writer believes that even in adults, much correction may be accomplished by the use of properly directed side force. He describes two excellent retention jackets. With regard to the relative merits of the suspended and the prone position, suspension works on the whole spine, and distributes itself and untwists the rotation while it straightens the lateral curve, but it is not corrective enough by itself. In the prone position fainting is less likely; there is less discomfort, and far less force is required to obtain a definite amount of correction, because the force is more economically applied, and the back can be inspected through the early part of the process. The writer thinks it a great advantage to have the lumbar curve held by the jacket as flat as possible, as he believes that a corrective extending force is thus exerted upon the dorsal curve. In presenting the claims of efficiency of the apparatus, he says that the most economical use possible is made of the corrective force by applying it sideways, and thus less force is required, or the same amount of force will do more than in extension of the spine. The force is applied to the spine while slack, and not made tense by extension. Side correction is made by one part of the appliance. Correction of rotation is made by another part of the appliance. The pelvis is held in a position which ensures some flattening of the lumbar curve

ich in the upright position tends, on account of the bal-ce of the patient, to bring about straightening of the rsal curve. General pathological considerations would m to indicate that retention in the corrected position uld induce changes in the shape and relations of the sshapen bones.

urnal of the American Medical Association, April 2, 1904.

A Study of Gonococcus Metastasis; with Report of a se.—J. M. Cooper reviews the literature of the subject d reports the case of a married woman of forty years, ose husband had been under treatment for gonorrhœa. e month later she complained of sharp, shooting pains und the base of the right thumb and index finger—lead-g up to a swelling of the whole hand. In about a week incision was made over the proximal phalanx of the lex finger and a little pus evacuated. Immediate lief followed, but two weeks later it became necessary make free incisions into the palm and dorsum of the nd. Considerable pus was evacuated. The pus sacs re curetted and washed out thoroughly with a hot car-lic solution. The subsequent treatment consisted of hot chlorid irrigations and antiseptic dressings. Recovery s uninterrupted, but the involvement of the flexor don resulted in its shortening, which prevents the com-te extension of the index finger. There was no anky-is of any of the neighboring joints. This fact, together th the evident involvement of the flexor tendon, indi-es that the condition was purely a tendovaginitis. cteriological examination of the pus gave the reactions gonococci.

Treatment of Typhoid Perforations.—This subject is cussed by L. Frank, who reports a personal case result-g fatally. His general conclusions are as follows: (1) nforations are to be expected in about 2.5 per cent. of all es of typhoid fever. (2) Prompt surgical intervention the best and only logical treatment. (3) Early diag-sis is most desirable, and will be the means of greatly ducing the mortality, as 55 to 60 per cent. would recover.) Diagnosis, sufficiently early to achieve these results, n only be made by careful watching, treating all cases serious ones, and properly interpreting the early, even e preperforative, symptoms. At the first indication of s stage the surgeon should be in consultation and pre-ed to operate. (5) The sphygmomanometer should me into general use as an important aid to diagnosis.) More cases die from delay than from errors in surgical chnic. Therefore, in doubtful cases, though a mistake y be made and no perforation found, we should operate.) No case, unless dying, is so desperate as to be beyond me hope of saving. So, in operating, we must lose no me, and be sure to drain. (8) We should get into and t of the abdomen as quickly as possible.

Stricture of the Female Urethra.—H. L. E. Johnson gives general description of this condition and reports six sonal cases due respectively to gonorrhœa (one), gun-t wound (one), and unknown causes (four). In one e there were five strictures. He lays down the follow-general rules for treatment: Acquired stenosis or resia calls for gradual or rapid dilatation with olive-nted sounds, bougies, metal catheters, urethral or erine dilators, and, in some cases, cutting or incision. nstitutional medication should invariably follow sur-al correction of stenosis or atresia from urethral chancre. catricial bands in the vagina contracting the urethra ould be incised, stretched and loosened up. Bladder nd urethral irrigation and flushing should be practised all cases. Treatment of congenital atresia will depend on the extent and the character of complications. It may be necessary, in extreme distention, to puncture the blad-der to evacuate its contents, or incise, making either a vesicovaginal or a urethrovaginal fistula, before opening the atresia, closing the incision or fistula after the integrity of the reconstructed urethra is assured. Atresia com-plicated with vesicovaginal fistula should be dilated or incised, subsequently closing the fistula. Atresia com-plicated with urine escape at umbilicus through patulous urachus, should be dilated or incised without making a vesical fistula. After changing the course of the urine the patulous urachus is supposed to close and atrophy.

The Medical News, April 2, 1904.

Abdominal Ascites with 150 Tappings.—E. K. Browd reports the history of a patient under his care. During the ten years of her ailment the patient has been tapped 150 times. The first 3 tappings gave 45 quarts, and next 147 tappings at 9½ quarts, 1,396½ quarts; or, together, 1,441½ quarts, or 2,883 pints, or fluid pounds; or, 360⅜ gallons. The patient is sixty-nine years old, and is in tolerably good health, unimpaired by the long, continuous drain of the constitution and obstructive circulation to the vital organs. The patient has always refused surgical interference, in spite of the possibility of a permanent cure of the chronic abdominal ascites by a radical operation which would tend to break up the old adhesions and fasten the omentum to the parietal peritoneum, thus relieving the obstructive portal circulation, and establishing a peritoneal circulation.

The Importance of Dropsy as a Symptom.—A. C. Morgan states that, as a general rule, the significance of this symptom can be interpreted as follows: (1) Initial dropsy of Bright's appears as œdema, and under the lower eyelids, seen upon arising in the morning, but disappearing by night; (2) in valvular heart disease, myocarditis, lung or blood conditions its first appearance is in the ankles, appearing late in the day and increasing toward night, and (3) hydroperitoneum or ascites is the first dropsy due to failure of compensation in the portal circulation, as in cirrhosis of the liver. The local œdema resulting from a small abcess is slight in importance, but becomes increased in value in œdema of the chest wall as indicating empyema. The early œdema of valvular heart disease such seen in the ankles, indicates the gradual weakening of the right ventricle, due to fatty degeneration of the muscle. This may be present for years and not advance much, until some sudden strain or intercurrent disease such as bronchitis or grip overcomes all the reserve force, and the patient dies from sudden pulmonary œdema. General dropsy or anasarca, due to Bright's or heart disease, may be recovered from if the patient be in the prime of life, possessed of good muscle tissue, and if the poison or factor that has caused the condition be entirely removed. A patient who has once been the subject of general dropsy, regardless of the cause, is in imminent danger of a recurrence, and a fatal termination. When dropsy ensues during the course of any cachectic conditions, as tuberculosis or cancer, it can be inferred that the patient is nearing the last stage of the disease. Unless he respond to treatment, the end is not far off. Dropsy is an important symptom, and the cause must always be sought for and removed.

New York Medical Journal, April 2, 1904.

A Case of Infection with the Bacillus Aerogenes Capsulatus.—The first patient of S. W. Sappington was a widower of thirty-nine years, brought to the hospital with the history of sudden illness and a fall on the street. A diagnosis of acute alcoholism was made. Later vomiting of coffee-ground material, and of dark clotted blood came on. Eighteen hours afterward he died in a cyanotic condition. Autopsy revealed an emphysema of the subcutaneous tissues. The liver was the seat of an atrophic cirrhosis. Bacteriological examinations of the spleen and heart were made. The superficial portions of the latter showed ordinary staphylococci while the deeper portions showed the bacillus aerogenes capsulatus. The second patient was a man of sixty-five years, who died some fourteen hours after coming under observation, having presented marked œdema of the legs, effusion in both pleural cavities and a rapidly failing heart. Autopsy showed the presence of local interstitial emphysema, and of a remarkable amount of gas in a blood-vessel, and it was possible to demonstrate from the blood a bacillus corresponding precisely in points of form and staining reactions with Welch's bacillus, a condition forming with the conspicuous absence of gas cysts in the organs an atypical group of phenomena. It was not possible to demonstrate the channel of the entrance of the infection.

Some Drug and Alcoholic Habitues.—S. B. Lyon reports a series of cases. One was that of a woman of good position addicted to drinking sherry, who chose to live in shabby quarters and associate with people much beneath her. Her mind became dull, she quarreled with her neighbors, was finally adjudged insane and committed. Withdrawal of the liquor and the institution of a tonic regimen restored her after a few months to a normal state. A second case was that of a woman of high social standing who, from alcoholic excess, became acutely maniacal, noisy, destructive and controlled by hallucinations. Six months were required for a cure. Similar cases are narrated in men. Lyon thinks that in the treatment of such cases from the higher walks of life, the moral treatment is, as concerns permanent results, more important than the medicinal. His therapeutic treatment of drug cases has for several years involved the sudden withdrawal of the drug and the substitution of a sustaining agent, such as strychnine and capsicum, etc., upon the theory that a more thorough elimination of the opium from the system is obtained by the copious discharges which occur. The alcohol may be more gradually withdrawn, but a very quick return to the natural conditions is his usual practice. He has found the systematic bathing that he uses relieves the discomfort, itching, etc., which sometimes follow drug withdrawal, and produces a good mental impression.

American Medicine, April 2, 1904.

Toxæmia Associated with Tuberculosis of the Cervical Lymphatic Glands, with Report of a Case.—Arthur W. Elting reports the case of a man aged twenty-six. The right side of the neck presented an extensive tumor mass. On admission to the hospital his condition seemed most critical. He showed marked symptoms of toxæmia. Under ether anæsthesia the enlarged glands were carefully excised. They presented the typical macroscopic picture of tuberculosis. Tubercle bacilli were demonstrated. Ten days after his entrance to the hospital he was discharged in excellent general condition. The writer has not been able to find in the literature reference to a similar case in which so profound a toxæmia has developed in association with a localized focus of tuberculosis of the lymphatic glands, and in which so rapid a recovery followed the removal of the focus.

Sarcoma of the Nasal Passages: An Inductive Study Based on the Records of 150 Cases.—J. A. Watson reports that since the middle of the last century about 200 cases of sarcoma of the nasal passages have been put on record. Any of the different varieties of sarcoma may be found in this region. Round-celled sarcoma, and especially small round-celled sarcoma, is most frequent. It is questionable whether the comparative frequency of melanosarcoma (about 7 per cent.) is paralleled in any part of the body except the skin and choroid. Sarcomas of the nasal passages are usually soft, succulent, and vascular. The particular point of origin of nasal sarcomas is of great interest. The middle turbinate and ethmoid region seem to be the most common site, though closely followed by the septum. The average life of the patients is a little less than thirty-nine years. The male sex is far more often affected than the female. Nasal stenosis is the most constant symptom. Spontaneous hemorrhages constitute the next most common symptom. It is probably true that sarcoma of this region manifests a less malignant tendency than when occurring elsewhere. The occurrence of metastasis is an extremely rare event. Apart from surgical measures, the only treatment worthy of consideration is that by toxins. The writer has not observed any noticeable improvement in this series of cases from this treatment. Out of forty-eight cases the percentage of cures obtained by radical external operation was 39.58. In sixty-four cases in which intranasal operation was performed, the percentage of recoveries was 54.68. These results surely justify the adoption of the milder measures in selected instances, at least. Dawbarn's procedure of exsecting the external carotid artery appears to be an improvement on simple ligation, and gives promise of at least rendering operable many otherwise inoperable growths.

The Lancet, March 26, 1904.

Acute Yellow Atrophy of the Liver.—The patient of J. Edwards and M. H. Smith was a man whose first symptom was jaundice, increasing in spite of all remedies. In about a week he became delirious and uncontrollable, with diminution in the area of liver dulness, while that of the spleen was somewhat increased. The heart and lungs presented nothing abnormal. Considerable bile pigment appeared in the urine, which was passed in bed. The bowels were obstinately constipated. In the course of two days coma developed, in which he died. No fever was present at any time. A diagnosis had been made of acute yellow atrophy of the liver, and its correctness was confirmed by autopsy.

Hysterectomy for Uterine Cancer with Co-existent Pregnancy.—I. Macdonald and W. A. Mackay report the case of a primipara, aged thirty-six years, who for six years had suffered from lumbar pain, menstrual disturbances, and leucorrhœa. In addition, she had had several recent gushes of an offensive fluid. The condition was diagnosticated as cervical cancer and pregnancy. The abdomen was opened below the umbilicus, the uterus lifted forward, while the upper borders of the broad ligaments which lay perpendicularly were divided between two ligatures outside each ovary, and the round ligaments were similarly treated. The patient was now placed in the Trendelenburg position, which, added to the weight of the uterus, pulled the cervical portion well out of the pelvis. By means of a sound the relations of the bladder, which lay lower than would have been supposed were determined. Peeling the bladder downward, the uterine arteries were ligatured on both sides and the anterior vaginal fornix was opened on a curved sound. The section of the vagina was carried rapidly round, the wall on the left side being cut well beyond the disease. The operation was concluded in the usual manner. In six weeks the patient was walking about, and was remaining well six months later.

On Treatment with Antituberculous Serum.—A. Mar morek gives the results received by the use of the serum prepared according to his general methods. In gener they are distinctly favorable. He finds that some pa tients manifested an intolerance to the injections, an this he ascribed to the formation of antibodies of a albuminoid substance, for when he changed the tec niques, he noticed that the reactive effects of the serum- such as fever, infiltration, and œdema at the point injections, and even swellings of the glands—became mo and more rare, and even when they did appear, were wea unimportant, and transient. The tolerance of the serum is to-day, according to his method of application, abs lute, and as the injections continue, they seem to agr more and more with the patient. This point of toleran is reached by a graded series of injections with intervals rest. As a general statement, the doses should be adapt to the individual constitution and the state of the disea of the patient. A series of daily doses during from fo to five days agrees well with the patient, especially if t tween each two series there is an interval of three or fo days. After two or three series of injections, it is well discontinue them for a week or a fortnight. The do for rather chronic cases is ordinarily five cubic centimete while in acute cases as much as from twenty to thir cubic centimeters can be used daily during the we Even children support this dose without danger. T day the reactions take the form generally of the w known erythemata, which quickly disappear.

Pathology and Surgery of Certain Diseases of the Pa creas.—A. W. Mayo-Robson concludes the third Hu terian lecture, with some statistics as to the after-resu of operation in certain cases of pancreatic disease. one case, in which the cause was due to pancreatic calc these were removed both from Wirsung's and Santorin ducts, with complete recovery, and the patient now well. In 27 cases of catarrhal or interstit pancreatitis, in which gallstones were found obstruct the pancreatic portion of the common duct, choledoch omy in 19, cholecystotomy in 5, and cholecystenter tomy in 3, were followed not only by immediate recove but, as ascertained by recent reports, the patients now well, except one who has since died from acute br chitis, one who is suffering from cirrhosis of the liver, a one who, eight and a half years subsequently to operati is apparently well, though sugar has recently been fou in the urine. In 24 cases, in which obstruction to the co mon bile-duct was due to an inflammatory condition the pancreas compressing the bile-duct, though probab in many of the cases originally due to gallstones, in which gallstones were not actually present at the ti of operation, the bile-ducts, and thus indirectly the pa creatic ducts, were drained, in 12 cases by simple cho cystotomy, and in 9 by cholecystenterostomy; in 3 ca adhesions were separated, and no drainage of bile-du was performed. Of these 24 cases 22 recovered. T out of 51 patients died as a direct result of the operati one a cholecystotomy undertaken in a patient reduced the last stage of exhaustion before a surgical opinion w sought, and in which at the necropsy a cirrhotic condit of the head of the pancreas was found, and a second which a cholecystenterostomy was undertaken in presence of adhesions that appeared too formidable deal with, considering the poor condition of the patie who succumbed a few hours later. In this case necro revealed a stone in the pancreatic portion of the comm duct, which should have been discovered had the patien condition permitted a thorough exploration. Eight completely recovered. Of three patients in whom the pa creas was found enlarged at operation, nothing beyo separation of adhesions and manipulation being done, recovered.

Deutsche medizinische Wochenschrift, March 17, 1904.

Is There a Differential Diagnostic Method for Human and Animal Blood by Means of the Precipitins?—A. Wasserman asserts his claims to be considered the originator of the precipitin method for the differentiation of albumins from different species of animals, and states that the term "differential blood test" applied to the method or modifications of it by Uhlenhut and other authors is a misnomer. What the method does is simply to provide an accurate means of determining whether a certain albumin is of human or animal origin, but further than this it cannot go, for spermatic fluid, milk, saliva, pus, etc., all give the same reactions as blood. The application of the method to forensic uses makes misconceptions as to its nature of importance, and to avoid confusion the term "blood differentiation method" should be discontinued, and the correct one, "albumin differentiation method," adopted. No biological method for the differentiation of human and animal blood exists, and the precipitin method, which was

scovered by Tchistovitch and Bordet, was first elaborated d applied to the practical differentiation of human and imal albumins by A. Wasserman.

Blood-pressure Determinations in Arteriosclerosis.—Sada made records of the arterial tension in two hunred and six cases of arteriosclerosis, using for the purpose e sphygmomanometer of Riva-Rocci as modified by v. ecklinghausen. The improvement consists in the arm ece, which is made 14 cm. in breadth and is surrounded y an unyielding metal collar. The author regards the rmal pressure range as varying between 90 and 100 mm. Hg., and considers as abnormally high pressures above o mm. of Hg. Between 120 and 130 mm. of Hg. lies indeterminate range of 10 mm. which cannot be held sitively abnormal. Of the patients examined only 12.3 r cent. showed a definite rise in pressure, which usually aried between 130 and 160 mm. of Hg. In two-thirds of ese cases the aortic second sound was accentuated, and in ese the pressure exceeded 140 mm. of Hg. An accenated aortic second sound was found in a larger proporon of cases than this without the coexistence of any monstrable rise in pressure in the brachial artery. The ddition of interstitial nephritis to the arteriosclerosis used higher blood-pressures than the latter alone, the essure always exceeding 150 mm. In general it may be id that pressures above 160 to 170 mm. of Hg. always ve reason to suspect the presence of an interstitial phritis, even if, as is often the case, the urine contains albumin at the time of examination.

Berliner klinische Wochenschrift, March 14, 1904.

Tabes, Aneurysm of the Aorta, and Syphilis.—Ruge has ne over the statistics of the Friedrichshain Hospital ith the intention of checking the figures of Lesser, who und that evidence of syphilis was present in 28 per cent. ninety-six cases of tabes autopsied in the Moabit and rban Hospitals and that the percentage for aortic neurysm was about the same. In his ninety-six cases of bes, aneurysm occurred eighteen times; that is, about one betic in five had an aneurysm. The author's figures ken from the records of 11,000 autopsies done in the last ne years give a much lower proportion of aneurysms to bes. Out of sixty-four cases of tabes only three had also d aneurysms, that is, only one in twenty-one. Of the xty-four cases eighteen gave positive evidence of syphilis the post-mortem table, but this figure does not inude suspicious cases or those in which the patient had mitted infection; but the cadaver exhibited no signs of e disease. The author's figure of 28.5 per cent. of yphilitics out of sixty-four tabetics corresponds closely the percentage of Lesser based on ninety-six cases. ne hundred and thirty-two cases of aneurysm were und, but only 12.8 per cent. of these showed post-mortem aces of syphilis.

V. Behring's Theory of Tuberculous Infection.—Spengler scusses the theory v. Behring has recently promulgated regard to the mode of infection of tuberculosis and mes to the conclusion that the latter's views are untenble. He does not accept the fundamental assumption v. Behring that human tubercle bacilli and those of erlsucht are identical, and points out that marked ultural and morphological differences exist between the o. For example, the bacilli of perlsucht thrive better hen air is excluded from the culture medium, whereas a rtain degree of ventilation is essential for the tubercle cillus. The discovery of the permeability of the intesnal mucosa was adapted to lead to premature conclusions and the post-mortem findings do not bear out the eory of universal primary intestinal infection. The thor's observations have invariably been to the effect at the bronchial glands are the site of the first infection and that the intestine and mesenteric glands are free from cilli and tuberculous foci. In order for the tubercle cillus to remain in the body in an inactive condition for fteen to thirty years as v. Behring assumes it does, bercle formation is absolutely essential. The tubercle cillus when immersed constantly in fluid, as it would be if free in the body, dies in a short time even in the best trient medium and the formation of the nonvascular bercle is its means of escaping this adverse environment in the body.

What Are the Least Demands to Be Made of a Milk for Infant Feeding?—Engel says that in Germany the only milk consumed by the lower classes that approaches the hygienic standard is that produced by the large dairy concerns. The special "children's milk" must conform to such stringent regulations that its production becomes very expensive, while the regulations for ordinary milk are far too lax. The percentage of fat required is only 2.7 per cent., which permits extensive adulteration with skimmed milk or water, and very little stress is laid on the health of the cows, the cleanliness of their surroundings or the bacterial content of the milk. The lowest requirements which, according to the author, should be made are that the cows shall be healthy, that the milk shall be obtained in a cleanly way, and that it shall be cooled immediately after milking. By enforcing these regulations satisfactory milk can be produced without greatly increasing the cost. Pasteurizing or sterilizing the milk, while the only way of making an impure product safe, is undesirable, as it not only alters the digestive properties of the milk, but is insufficient since it does not destroy the products of bacterial growth; and furthermore it kills the lactic acid bacilli, which are a useful protection against the overgrowth of other organisms. The author also suggests the following formula for humanized milk. One-half liter of clean milk, the same amount of water, 15 gm. of butter (or about a level tablespoonful), and 36 gm. (or about two tablespoonfuls) of milk sugar are boiled together and cooled to a tepid heat. Then one-half an egg is added, under constant beating. This mixture is cheap, is very digestible, and has almost the same composition as human milk.

Münchener medizinische Wochenschrift, March 15, 1904.

The Agglutination of Typhoid Bacilli by the Serum of Jaundice Patients.—Steinberg tested the agglutinating power of typhoid bacilli in twenty-two patients suffering from jaundice due to various causes. In fifteen the reaction was positive only in dilutions of 1–20 or 1–40. These comprised six cases of catarrhal jaundice, two of gallstones, three of carcinoma of the biliary passages, one tumor of the gall-bladder, one of acute yellow atrophy, one of general sepsis, and one of febrile jaundice. In the seven other cases agglutination was produced at dilutions greater than 1–40, the two highest being in patients who had previously had typhoid fever. The other five cases included two of catarrhal nature, and one each of carcinoma of the liver, febrile icterus and icterus of doubtful etiology. The author explains the occurrence of the agglutination by assuming that it is due, not to the jaundice, but to some infection (proteus, coli communis) accompanying or causing the icteric condition.

The Occurrence of Typhoid Bacilli in the Urine and Fæces of Typhoid Convalescents.—Herbert had an unusually favorable opportunity for studying the persistence of the bacilli in typhoid convalescents during an epidemic of the disease in the Insane Asylum at Göttingen. The urine and fæces of ninety-eight patients were examined, first eight days after defervescence, and a second time eight days later. If both examinations were negative the patient was considered free from bacilli, but if the result at either time was positive, the examinations were repeated at intervals of eight days until they proved negative on two successive occasions. The method employed in making these very numerous cultures was that of Drigalski and Conradi, which was found very satisfactory. "Two hundred and twenty-eight examinations of urine were made and two hundred and sixteen of fæces. Out of the ninety-eight cases, bacilli were found in the urine in 18 per cent. of the number, and in the fæces in only 3 per cent. It was observed that the bacilli persisted longest in the excretions of those patients who had suffered the most severe course of the disease, or had had relapses. In only one case could the bacilli be demonstrated after the first four weeks of convalescence, the time before disappearance ranging between eight and twenty-seven days after defervescence, and averaging fifteen days. The most important feature of the investigation is the fact that it is principally the urine which harbors the bacilli and forms a source for their dissemination.

The Origin of Tuberculosis with Special Reference to v. Behring's Theory.—Cornet takes a stand against the recent teaching of v. Behring to the effect that inhalation tuberculosis is too infrequent to be considered, and that it is primarily the infants who are infected, and these principally through milk. Adults who develop the disease do so as a sequence of infantile infection which has been latent since that time. Cornet takes up the various dicta of v. Behring in detail and refutes them wholly. The mortality statistics of Prussia show that the maximum mortality from tuberculosis is late in life and not during infancy, as should follow the widespread infantile infection v. Behring postulates. The author's experiments on several thousand animals show that tuberculous infection always leaves its mark either directly at the site of entry, or else in the nearest lymphatic glands. From here the infection proceeds only gradually along definite lines which can always be demonstrated after death unless general dissemination of the bacilli has taken place. This is not in accord with v. Behring's idea that the bacilli, having obtained entrance to the body by piercing the alimentary mucosa, are free to select any gland in the body in which to settle without leaving any

trace of their progress. The author's experiments have demonstrated the existence of inhalation infection, and a further ground for disbelieving v. Behring's views lies in the enormous preponderance of tuberculosis among workers at certain trades (stone-cutters, metal-grinders, etc.) who must have been in infancy exposed to the same chance of tuberculous infection as all others. Another fact of telling force in judging the question lies in the great diminution in morbidity from the disease which has followed the prophylactic efforts to prevent infection through safe disposal of tuberculous sputum.

French and Italian Journals.

Acetonæmic Vomiting in Pregnancy.—Lamacq, after reviewing the symptoms of acetonæmic vomiting in children, reports the history of a patient under his care. The patient, when about six months pregnant, after becoming extremely fatigued, was attacked by severe vomiting. This attack passed through several stages, till finally the vomitus became glairy, of a yellow color and flecked with blood. The color deepened to that of bile; the liver was large and painful. The breath had a pronounced odor of acetone. Acetone was found in the urine. Lamacq believes that the acetonæmic vomiting of pregnancy comes, as in the case of children, from hepatic insufficiency, at least in the cases in which there is a rapid absorption of albuminoids.—*Journal de Médecine de Bordeaux*, March 13, 1904.

Observation of a Patient Who for Ten Months Harbored a Foreign Body in the Bronchi; Recovery.—Georges Alexandre reports this unusual case. The patient was supposed at first to be suffering with acute bronchitis. The various ordinary remedies were administered, but to no avail. The patient became extremely emaciated. Insomnia and extreme fatigue were prominent symptoms. There was a little fever. The sputum was examined several times for tubercle bacilli, but these were never found. Ten months after the cough began, the patient ejected a bit of beef bone. She gave an account of the swallowing of the bone, being almost strangulated at the time that it happened. The symptoms grew gradually less, and after a year and a half, the cough ceased. The abscess which had been caused by the bone, and from which pus had freely flowed, healed. The fever disappeared, and the patient was restored to health.—*Journal de Médicine de Paris*, March 13, 1904.

A Conical Apparatus for Limiting the Action of the X-rays.—Carlo Luraschi has arranged a new apparatus for limiting the action of the *x*-rays to the diseased area which it is desired to treat. He endeavored to attain the maximum adaptability, lightness, ease of application to the desired part, ease of transportation, etc. He used thin plates of lead over tin for the sake of lightness combined with strength, and made his instrument in the form of a cone in order to intercept the maximum number of rays, and added a narrow flange at the base of the cone. The apparatus is provided with rings at its base and higher up, to which cords may be attached in order to suspend it in any desired position. He offers this shield to the public, as by its form, lightness, ease of adaptation to all regions of the body, and special constitution, the best device of the kind for limiting the anticathodal cone of the *x*-rays. It is most easy of application, of transportation, and as light and small as such an instrument can be made.—*Annali di Elettricita Medica e Terapia Fisica*, February, 1904.

Epilepsy; Pathogeny and Therapeutic Indications.—Alexandre Paris declares that epilepsy is the expression of a disproportion between the original constitution, from the point of view of the sensitiveness and susceptibility of the cerebral nerve centers, and their habitual stimulants emanating from the glandular organs, whose function is that of reproduction—the ovaries or testicles, which not only assume reproduction by the association of their secretions, but which by a certain stimulating effect on the nerve centers, forming to a certain extent the complement of the function of the thyroid body, foster reproduction. When the functional activity of these glands is too great, or the elimination insufficient, that is, when the accumulation is abnormal, the result of the action of exciting products in the nerve centers will be an epileptic manifestation, if these centers have a special susceptibility which might be termed an epileptogenous constitution. Thus considered, the writer thinks the pathogeny very simple. The ends to be attained in treating epilepsy are: to diminish cerebral excitability; to moderate the functional activity of the thyroid gland especially, and that of the genital glands; to assure the regular elimination of their secretions by preventing their accumulation in the organism; to prevent all causes of excitement, such as the accidental accumulations of toxins. The writer's results in the treatment of epilepsy have been excellent.—*Archives de Neurologie*, March, 1904.

A Case of Typhoid Without Any Grüber-Widal Reaction.—C. Battignani reports a case of typical typhoid, with all the classical symptoms of high continued fevor, bowel disturbances, delirium, and heart weakness, in which there was at no time any Grüber-Widal reaction to be obtained. Malarial infection was excluded by blood examination. The spleen was enlarged, there were a characteristic roseola, diarrhœa, and ileocæcal gurgles. The blood was tested daily even during convalescence, but no reaction was ever obtained. In the examinations for the bacilli, a bacillus was found that resembled exactly Eberth's bacillus.—*La Riforma Medica*, March 2, 1904.

Sclerosing Epithelioma of the Right Lower Eyelid Resection of the Whole Eyelid with Autoplastic Operation.—Morax reports this case. The interesting points are, first, the age of the patient, who was only twenty-seven years old. The type of tumor—that form of cutaneous epithelioma which gradually extends, but heals partly as it goes by the production of cicatricial tissue is seen in the middle-aged and later, but is rare at the age of twenty-seven. The evolution of this lesion was extremely slow, for after ten years the entire surface of the eyelid was not involved. On the other hand the recurrence was very rapid. For one month after the first intervention regulations developed which were larger than the cutaneous epitheliomatous nodules. An extensive dissection was then made and the lower lid replaced by an autoplastic operation. No recurrence has taken place since.—*Pecueil d'Ophtalmologie*, February, 1904.

The Hydroelectric Bath and Disturbances of Pregnancy.—Giulio Moglie believes that the hydroelectric bath is one of the best remedies for the cure of many nervous maladies and especially of those that result from changed organic conditions. He has experimented with the disturbances of pregnancy, especially those referred to the stomach. He cites four cases of severe vomiting of pregnancy, one in which life was threatened by the inability to take any nourishment. In these cases electric baths were used with excellent results. In each case, after about ten baths, there was complete and permanent relief from the nausea and vomiting, return of appetite and a perfect normal digestion. He considers it demonstrated that this treatment is an excellent one for disturbances of this kind in the pregnant woman.—*Rivista Internazionale di Terapia Fisica*, March 1, 1904.

Acute Diffuse Hepatitis with Icterus Gravis in the Course of Secondary Syphilis.—Armand Siredey and Henri Lemaire state that although jaundice is often noted in the course of secondary syphilis, nevertheless icterus gravis is exceptional. Fournier cites only about twenty-five cases. The writers then mention a case in point. The patient was a girl of eighteen years, showing a secondary syphilitic eruption. Suddenly delirium developed and the patient finally fell into a comatose condition. The patellar reflexes were exaggerated; there was generalized hyperæsthesia, and dilatation of the pupil. Abundant biliary pigments and albumin appeared in the urine. The liver was rather diminished in size. Death occurred about thirty hours after the patient's entrance to the hospital. At autopsy diffuse hepatitis was found with progressive destruction of the cells coincident with diffuse peri-cellular sclerosis.—*Journal des Praticiens*, March 12, 1904.

The So-called Pericarditic Pseudocirrhosis of the Liver.—Ferruccio Schupfer illustrates the subject by a case under his care, which came to autopsy after two years of observation. There was total adhesion of the pericardium, calcareous pleurisy of the right side, adhesive pleurisy of the left; perilobular cirrhosis of the liver, perihepatitis, ectasia of the hepatic veins, left crupous pneumonia; recent fibrinous peritonitis. There was marked ascites, effusion into the pleural cavities, an enlarged liver and spleen and chronic kidney disturbances, as well as heart symptoms. After comparing his cases with those reported by other writers, he closes with the following conclusions: (1) In patients with pericardial adhesion you may have the common picture of asystole, with a marked ascites simulating hepatic cirrhosis; (2) In one form of case you may find a small amount of ascites, associated with œdema of other parts of the body; (3) When ascites is abundant and not accompanied by œdema in other parts, it may be of different origin; very rarely it may arise from hepatic cirrhosis of cardiac, alcoholic or tuberculous origin. In most cases it is due to a chronic peritonitis, slowly progressive; (4) In regard to the cause of the ascites great weight must be given to the alteration in the capsule of the liver and the central tendon of the diaphragm. (5) In the author's case there was a polyserositis, slow, subacute and progressive; (6) Even when cirrhotic lesions exist, whether of cardiac origin or capsullar ascites is not always the result, provided it leaves a normal caliber to the vessels of the liver.—*La Riforma Medica*, March 2, 190

The American Journal of the Medical Sciences, February, 1904.

A Fatal Case of Poisoning with Oil of Gaultheria.—J. Woods Price and Edward M. L'Engle report this case. The patient was a girl aged two years. She had swallowed about a drachm of commercial oil of wintergreen. She had vomited several times, and continued to do so until lavage could be done. There was nothing abnormal in the child's appearance, and she showed no evidences of suffering pain. There were no further symptoms for two hours, when the patient seemed to have pain in the abdomen, was drowsy, and complained of great thirst. The pulse rate increased to 150. The respirations became somewhat labored and irregular and there were evidences of impaired hearing and some hallucinations of vision. Later, convulsions took place, the symptoms increased in severity, and the child died of respiratory failure, ten hours after the ingestion of the poison.

A Case of Seborrhœa Nigricans (Black Mask of the Face).—Arthur Van Harlingen reports this unusual case. The patient was a girl of twenty-three years who had been bedridden for several years. Her general condition was that of an hysterical person. No areas of insensibility were disclosed, but the scalp was hyperæsthetic. The forehead and nose were covered with an extraordinary mask or crust, more than quarter of an inch thick, resembling a slice of ham—soft, greasy, sharply defined about the edges, and rounded. It could be easily broken off, and the forceps could be thrust in at any point as if the crust were comprised of soft fat. The color of the crust was exteriorly of an inky blackness. The attendants were instructed to wash the mask daily with a solution of sapo viridis in water. At the end of a week, however, the mask had not been at all cleaned off. It was loosened, and there was no difficulty in stripping off the entire coating. The writer believes this to have been a severe case of oily seborrhœa, giving rise to a dusky secretion upon the surface. This had been allowed to accumulate for several years, and had perhaps been added to by the application of ointments, together with accretions from the surrounding apartment.

A Case of Typhoid Fever Presenting an Arterial Complication—Probably an Arteritis.—Walter R. Steiner reports this case. The patient was a boy of nine years suffering from an attack of typhoid fever. On the evening of the forty-first day, he complained of numbness and tingling of the right index-finger. There was no difference between the right and left radials. On the following day the right radial pulse was distinctly smaller in volume than the left, but differences between the axillaries and brachials could not be made out. On the day following, the pulse was wanting in the right radial, brachial, and axillary arteries. Much pain was complained of on palpation, and the axillary and radial arteries had a hard, cord-like feel. The right arm was colder than the left, and there was some blueness of the finger-nails. The arm became extremely cold and the finger-nails intensely cyanotic. The patient's condition became desperate. But gradually he began to improve, and thirty-five days after the onset of the arteritis there was noted a return of pulsation in the right radial and brachial arteries. In three days there was no difference between the two sides. The writer regards the arterial complication as one of the peripheral arteritides.

The Nervous Complications and Sequelæ of Smallpox.—Charles T. Aldrich declares that smallpox, like other infectious diseases, may present various nervous complications and sequelæ. Almost the first effect of the variolous poison is observed in the violent frontal headache, which instantly is an early symptom. These affections may be gross anatomical, purely functional, or both. They include all possible provinces of the nervous system—the brain, spinal cord, and peripheral nerves. At least four types of the febrile deliria and psychoses are recognized; initial delirium, febrile delirium, collapse or exhaustion delirium, and true post variolous insanity. True dementia paralytica has been observed to follow variola. Meningitis is a rare complication. It is usually purulent, and probably a metastasis from the skin lesions. The occurrence of paralysis in smallpox has been commented upon. Areas of simple softening and blood extravasations may occur in the brain and produce aphasia, monoplegia, or hemiplegia. The relative frequency of cord affections in variola has long been known. The writer believes that a disseminated encephalomyelitis occurs as a complication or sequel of smallpox, which possesses clinical features and pathological changes entitling it to be recognized as a clinical entity. The writer has found fifteen cases in the literature. He concludes by giving a report of various cases.

Circumcorneal Hypertrophy (Vernal Conjunctivitis) in the Negro.—Swan M. Burnett states that the distinguishing mark of circumcorneal hypertrophy is that it is not destructive. It is a true hyperplasia. Identical changes in the conjunctiva of the lid have been revealed. Hypertrophy is everywhere, but destruction of tissue is nowhere found. The usual and characteristic complaint is not of pain, but of an intense itching of the eyes and sometimes of a "burning sensation," quite distinct from the subjective symptoms of phlyctenulæ. The objective appearance is strikingly distinctive. The dirty gray elevations at the base of the cornea, when marked, bear no resemblance to any other pathological condition found there. The circumcorneal epithelial changes vary greatly in degree. Some lacrymation may occur, but the irritative symptoms are slight. In this disease the palpebral aperture has a dull, soggy look, and a dusky appearance, as though it had been smoked. The cause of this peculiar appearance is a pigmentation of the conjunctiva. The writer believes that both the bulbar and palpebral forms exist together. He also believes that the disease is the manifestation of a dyscrasia—but it is not so certain what that dyscrasia is. Although "scrofula" can never be excluded in a colored patient, still there is nothing about the appearance of the condition itself or in the patient's which would justify the acceptance of any such stigma as a cause. It occurs often in the most robust looking. The disease is most prevalent during the hot months. Strictly speaking, the affection is not a conjunctivitis at all, taking conjunctivitis to mean an inflammation of the conjunctiva. The similarity of the disease to trachoma is only superficial. As to treatment, the indications are for palliative local measures. Operative measures are not advisable. Attention to nutrition and an improvement in the general condition are called for. Most authorities approve of the administration of arsenic in some form.

A Discussion of the Surgery of Tumors of the Brain, with a Résumé of the Operative Records of Four Craniotomies.—Charles H. Frazier sums up his paper as follows: (1) All measures recognized as prophylactic of shock should be observed stringently. In these we have the most effectual means of reducing the mortality. The most important of them are (*a*) the avoidance of prolonged operation; (*b*) the prevention of excessive hemorrhage, and (*c*) the avoidance of unnecessarily rough manipulation of the brain substance. (2) A given area of brain can be exposed with the least minimum degree of traumatism and greatest economy of time by the electric engine. (3) Temporary closure of the carotids in operations upon the brain is effectual and not unattended by danger. It should be reserved for extreme cases, and practised on one side only. (4) Observations should be made upon the blood-pressure immediately before and at frequent intervals during the operation. Object of same twofold: (*a*) as the most reliable index of patient's condition; (*b*) as the only exact method of determining whether operation should or should not be carried out in two stages. (5) Two-stage operation is indicated when there has been a decided fall in blood-pressure after the relief from intracranial tension, such as follows reflection of the Wagner flap and dura. (6) Lumbar puncture as a means of relieving pressure is a temporary, not to say dangerous, procedure. (7) Bulging of the brain is one of the most embarrassing features of cerebral operations. A distinction may be made between that which occurs immediately after reflecting the dura, "initial" bulging, and that which follows as a result of subsequent exploratory manipulation, "consecutive" bulging. (8) "Initial" bulging is due to the increased tension exerted by a tumor. It is not always present, is often not excessive, and is not likely to be followed by "consecutive" bulging. (9) "Consecutive" bulging is due to the cerebral œdema set up in normal brain tissue by trauma inflicted by the exploratory manipulations. "Consecutive" bulging far exceeds in magnitude initial bulging, and suggests the absence of a tumor of considerable size at the seat of operation. (10) In order to avoid this "consecutive" bulging, which is a most embarrassing feature of these operations, exploration should be carried out in the most expeditious manner. (11) When the edges of the dural wound cannot be approximated without undue tension or without great laceration of brain substance, the gap should be closed by a graft taken from the pericranium, providing the tumor has not been found and there is reason to question the accuracy of the diagnosis. (12) When there is every assurance of a tumor being present, but it proves to be inoperable or was imperfectly localized, no attempt should be made to close the dura, as in so doing the best possible palliative effects of the operation would be counteracted. (13) Palliative operations should be regarded not merely as operations of propriety, but should be considered imperative whenever the tumor cannot be found or cannot be removed. (14) A statistical study of the results of the last five years is encouraging. The mortality, both immediate and subsequent, has been reduced materially. Recurrence after operations for malignant growths of the brain is no greater than after operations for malignant growths of other structures.

Book Reviews.

THE INTERNATIONAL MEDICAL ANNUAL: A Year Book of Treatment and Practitioner's Index. Twenty-second Year. New York: E. B. Treat & Company, 1904.

THE 1904 edition of this volume—the twenty-second annual—is an excellent index of the literature of the past year. The editors have given preference to the practical work that has been accomplished. A new departure in this volume consists in the stereoscopic views that have been introduced. The examination of these with the little instrument provided, greatly facilitates the study of structures which by other methods are very difficult to illustrate. The section devoted to diseases of the ear is specially illustrated by a set of twelve stereograms. There is a series of plates representing the distribution and nature of the eruption in certain of the infectious diseases such as smallpox, scarlet fever, measles, typhoid and typhus fevers. The text is compact, and has been kept within moderate dimensions. In this way the real value of the book is undoubtedly enhanced. The literature of the past year so teems with new matter that this annual is correspondingly interesting. The sections on serum therapy, radio-activity, and electro-therapeutics represent a great deal of careful observation. Although in the past year no great discovery in therapeutics has been made, nevertheless the number of new synthetic remedies has been maintained. Several new hypnotics and analgesics are now on the market, most of which are still on trial. The present volume compares well with its predecessors.

ATLAS AND EPITOME OF OPERATIVE GYNECOLOGY. By Dr. OSKAR SCHAEFFER, Privatdocent of Obstetrics and Gynecology in the University of Heidelberg. Authorized Translation from the German with Editorial Notes and Additions. Edited by J. Clarence Webster, M.D., Edin. F.R.C.P.E., F.R.S.E., Professor of Obstetrics and Gynecology in Rush Medical College. With 42 colored Lithographic Plates and many Text Illustrations, some in colors. Philadelphia, New York, London: W. B. Saunders & Company, 1904.

THIS is a fitting companion piece to the "Atlas and Epitome of Gynecology" by the same author that preceded it in this series of beautifully executed atlases. The plan is much the same as that followed in the volume devoted to pathology and diagnosis, viz., short sections of text discuss very concisely the important topics and the accompanying plates elucidate the letter press. Short paragraphs opposite the plate serve to point out the significance of the features illustrated. The method is a good one, and is carried out with such attention to detail that the volume should prove most helpful to students and others in grasping details usually to be acquired only in the amphitheater itself. The technique indicated is of course essentially continental and differs in some respects from that practised in this country, but the frequent paragraphs of editorial comment serve to discount this drawback.

HOWE'S HANDBOOK OF PARLIAMENTARY USAGE. Arranged for the instant use of Legislative and Mass Meetings, etc. By FRANK WILLIAM HOWE. New York: Hinds and Noble, 1904.

BY an ingenious method of graduating the length of the leaves the "rules of order" are so arranged as to be available for instant reference.

MEDICAL UNION NUMBER SIX. By WILLIAM HARVEY KING. New York: The Monograph Press, 1904.

WE heartily wish for this clever little book a widespread dissemination. In a most humorous, but at the same time keenly satirical, manner it points out the weaknesses of trades unionism by depicting conditions supposed to exist in the middle of the century. Even the doctors and clergymen have organized, and through strict adhesion to the rules of unionism the country is depopulated and ruined.

ELÉMENTS DE PATHOLOGIE ET DE CLINIQUE CHIRURGICALES. Par le Dr. LÉON MOYNAC (de Bayonne). Ancien Interne des Hôpitaux de Paris. Ancien Professeur Libre de Pathologie et de Clinique. Huitième Édition, en trois tomes. Paris: G. Steinheil, 1903.

IT must be admitted that this work on surgical pathology and treatment suffers greatly on comparison with more recent American treatises. The illustrations are crude wood cuts, the paper and print are poor, and nowhere do we see any of the devices to attract readers that are so abundant in modern books. Yet the fact that this is the eighth edition stands for a more than passing popularity, and on closer examination it does not seem so strange that it should have made many friends. The work is really a *multum in parvo*, almost encyclopedic in its comprehensiveness of scope, which covers all the theory and practice of surgery as ordinarily understood, together with such specialties as the eye, ear, nose, throat, etc. In its method of treatment the work stands midway between our quizz books, which it far surpasses in point of completeness, and particularly in evidence of the author's practical experience, and the larger treatises which its diffuseness prevents it from equalling. The first volume is devoted to the general principles of surgery and the surgical pathology of the tissues, the second to regional surgery, comprising the head, chest, abdomen, and extremities. The third volume is concerned with the ear, larynx, eye, genitourinary tract, and gynecology. All of these subjects are treated with a most agreeable vivacity of style, which does much to cause one to overlook the lack of freshness in some of the views expressed. In short, it is a relic of the days when one man could and did cover the whole domain of surgery in his teaching and practice and is well adapted to the needs of the student who requires condensed information. It has little value, however, for non-gallic readers, except as a mirror of the old surgical methods of its country of origin.

GESAMMELTE ARBEITEN ZUR IMMUNITÄTSFORSCHUNG. Herausgegeben von Professor Dr. P. EHRLICH, Geheimer Medicinal-Rath. Mit 12 Figuren. Berlin: August Hirschwald, 1904.

THIS volume of nearly eight hundred pages will no doubt be most gratefully accepted by laboratory workers all over the world. It comprises the most important of the papers on immunity and kindred subjects which during the last four or five years have eminated in such profusion from the laboratory of Ehrlich. It comprises thirty-eight essays, of which about a third are the work of Ehrlich alone or in collaboration, and the others are mainly by his most prominent disciples, such as Morgenroth, Neisser, and Sachs.

Although the side-chain theory has now been officially recognized at nearly every scientific court, there are still some opponents of Ehrlich's views, and one of the most interesting papers in the book is the very last in which Ehrlich defends himself against the attacks which Gruber lately directed against him. Each step in the building up of the theory, together with its underlying experimental evidence, is given with masterly clearness, and the papers forms an excellent means of gaining an understanding of the intricacies of this complex subject. Two other communications of great practical value are those by Morgenroth and Neisser dealing with the technique of studies in hæmolysis and bacteriolysis, and which were written especially for this volume.

The collection forms a most useful work of reference which will be found almost indispensable by workers in this field.

LECTURES ON DISEASES OF THE NERVOUS SYSTEM. (Second Series.) By Sir WILLIAM GOWERS, M.D., F.R.C.P., F.R.S. Philadelphia: P. Blakiston's Son & Co., 1904.

THIS series consists of ten lectures that have been revised for publication. The subjects are as follows: (1) Subjective Visual Sensations. (2) Subjective Sensations of Sound. (3) Abiotrophy; Diseases from Defect of Life. (4) Myopathy and a Distal Form. (5) Metallic Poisoning. (6) Syphilitic Diseases of the Nervous System. (7) Inevitable Failure. (8) Syringal Hemorrhage into the Spinal Cord. (9) Myasthenia and Ophthalmoplegia. (10) The Use of Drugs. These lectures will not fail to prove instructive reading to those interested in neurological literature. That on "Abiotrophy" (an original term by the author) is of exceptional interest, for it helps to elucidate a class of diseases, such as idiopathic muscular atrophy, the various myopathies, and primary degeneration of neuron systems, as being due to failure of nutrition from an inherent defect in vitality. The other lectures are equally valuable and bear evidence of wide clinical experience and close observation.

A TEXTBOOK UPON THE PATHOGENIC BACTERIA, for Students of Medicine and Physicians. By JOSEPH McFARLAND, M.D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College, Philadelphia; Pathologist to the Philadelphia Hospital and to the Medico-Chirurgical Hospital, Philadelphia; Fellow of the College of Physicians of Philadelphia, etc. Fourth edition. Philadelphia, New York, London: W. B. Saunders & Company, 1903.

THE student of bacteriology is at no loss in these days for textbooks. New books and new editions of older books are continually dropping from the presses, but there must be no lack of purchasers, else the shower would cease. The truth is there is so much activity in this young science that every new writer has something new to say and so his book has value. The work before us is not a general treatise on bacteriology but deals only, or chiefly, with the pathogenic bacteria; nevertheless, it contains much useful material on bacteriological technique as well as hints on laboratory methods. In this new edition the author has brought the whole book thoroughly up to date.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held March 17, 1904.

DR. ANDREW H. SMITH, M.D., IN THE CHAIR.

ns meeting was held under the auspices of the section ophthalmology.

Presentation of Portrait of Ex-President Robert F. Weir. Dr. Jos. D. BRYANT said that it was indeed a welcome vilege for him to be permitted to speak of a friend on an asion of this kind. Under these circumstances one was lined to tell of the professional attainments of the nd, and under all proper surroundings one should clare the friend's loyal adherence to probity and to his n friends, speaking also of his kind and genial nature, r shedding its sunshine, without shadows, on all who ne within the sphere of his influence. If the entire fession were here he said it would be a supererogation his part to recite the achievements of their much-pected Fellow in the field of his choice. For along the away of surgical endeavor, both at home and abroad, nearly a quarter of a century were frequently noted l-recognized and enduring evidences of Dr. Weir's ughtful and beneficent labors. His teachings, his tings, and his practical illustrations in surgery had ever n constructive, and his ideas of surgical problems and rgical policies were both wise and refreshing. Fitting, ed, was it that the excellent likeness of their friend uld be made fast to the wall of the Academy, near portraits of those who were pioneers in the art ich their esteemed Fellow so aptly graced—Valentine tt, Van Buren, Hamilton, and Wood. While they dly did him honor at this time, he asked that they be unmindful of the fact that already he had been ly honored abroad. It was not at all strange, he ought, that one who had attained well-grounded inence in a special field of thought or effort, requiring r the purpose earnest actions based on honest con-ptions, should be alike loyal to wholesome principles and wholesome friends. If this was true, then Dr. Weir's ributes in these respects were but the logical heritage an honest heart. His genial greeting, his warm, ndly grasp of the hand, and his frequent verbal con-ts were like unto summer showers, delightful and re-shing, serving equally to lighten his own burdens and to en the stress of those of his Fellows. He said that were here at that moment, might he not properly exclaim, n speaking of Dr. Weir, please, sir, do not longer weary e indulgent listeners?" Therefore, heeding this im-native admonition, he humbly requested, through the sident, that the Fellows of the Academy accept the ness of the late President, Dr. Robert F. Weir, and ce it where it would ever be an earnest to all whose rthy ambitions might prompt them to emulate the ny virtues of him whom that work of art so well rtrayed.

Dr. ANDREW H. SMITH then graciously accepted the rtrait in behalf of the Fellows of the Academy.

Subject of the evening: "The Eye in Its Relation to nctional Nervous Disease."

Mental Disturbances Produced by Eyestrain.—Dr. C. L. ANA read this paper. He said that the term "eyestrain" as not found in works on psychiatry and was not men-ioned at all in recent works on ophthalmology. The eye eemed to be the only organ which was popularly as-ociated with strain, and as a convenient word it probably carried a definite meaning to most minds. Eyestrain was of two varieties: (1) An automatic effort of the brain and oculomotor nerves to adjust the eye so as to overcome abnormalities in refraction and accommodation and im-perfect muscular balance. This was largely done un-consciously and was a kind of spinal eyestrain. (2) The eyestrain that occurred when the eye was more seriously defective and the receiving apparatus of the brain fatigued. Then the cortical centers were brought into play and the imperfect vision was appreciated with some sense of a distinct and fatiguing effort to supplement the ordinary automatic mechanism of the eye. This effort was not recognized as an effort for better vision, but simply as something wrong. This kind of an eyestrain was really a brain strain and was the only kind of a strain that could do any harm. Most minor ocular defects could exist without doing any harm, the organ compensating perfectly like a leaky heart. Psychoses might also be divided into two groups—insanity, technically speaking, and minor psychoses, as hysteria, neurasthenia, mild melancholia, etc. Alienists, without exception, did not recognize eyestrain as a factor in producing major psychoses, and in fact did not even refer to it. He cited several attempts that had been made in State hospitals by competent oculists to cure or help cases of insanity by treating the eyes, but without success. He had been watchful for eye defects in psychoses and neuroses and had investigated Dr. Steven's views in regard to eyestrain in epilepsy and chorea, but had seen only a few cases of eyestrain with bad results mentally, and these were in secondary schools where the young men worked very hard. It seemed as though the eyestrain in these cases led to a kind of exhaustion psychosis. In only one of these cases was the exhaustion so prolonged and so marked that there was danger of dementia præcox. Nevertheless he considered it wise to have the eyes of psychopathic children examined. In men in the forties who do hard clerical work, presbyopia might come on insidiously, and produce a condition of mental depression and irritability, but these cases were rare. After twenty years of careful watching he had found hardly any cases in which eyestrain was an important or direct factor in establishing even a minor psychosis, though it might modify symptoms and add to the disturbance. Dr. Gould gave sixty-eight reasons why success is not generally attained by treating the eyes in these cases, and he could add that success was generally obtained without treating the eyes. When the mind is a good mind, the visual machinery does not overthrow or seriously affect it. He would be sorry to believe that our mental balance and nervous well-being were so entirely at the mercy of slight defects in an organ that had been perfected by centuries of use and misuse. Happily there was, as yet, no such a psychosis as visual hypochondria. Civilization was making us use our eyes more and more in near vision and psychoses were increasing, but these conditions had not as yet led to any more alarming results than the extraordinary prevalence of glasses and the spectacular success of opticians. Glassing was enormously overdone as well as underdone and had become in a way a real psychosis.

Headache, Migraine, and Other Sensory Disturbances Produced by Eyestrain.—Dr. C. W. CUTLER read this paper and said that migraine was considered by most writers clinically as a paroxysmal neurosis, having as its chief symptoms headache and a variety of sensory phenomena, characterized also by heredity, periodicity, and commencement in early life. He suggested that migraine or sick-headache was a manifestation of an unstable nervous organism, influenced in many cases by various peripheral excitations, and that these, or rather their anatomical bases, were frequently transmitted from one generation to another in members of the same family, and formed the hereditary feature upon which stress had been laid as an essential characteristic of migraine. It was evident that the periodic attack could not characterize migraine, for periodicity did not exclude the constant cause. In Jacksonian epilepsy the cause was constant when it followed a fractured skull, for instance, although the symptoms were in the highest degree periodic. Migraine occurring in families was handed down with direct inheritance, and it was relatively uncommon to find any variation of the type of disease, such as alternation in epilepsy, in other members of the family. It was often

strikingly similar in detail in different members of the same family. The fact that ocular defects were handed down in families with great uniformity was a common experience. Putting these facts together, the heredity of migraine of a fairly constant type with the transmission of certain forms of ocular defects in members of the same family, the correction of which in some cases relieved the sick-headache, and we had a fair basis for the assumption that sick-headache, having all the clinical features of migraine, was often a reflex neurosis of ocular origin. No doubt there were many other sources of peripheral irritation—the pelvic organs, the nose, the digestion, which, however, need not be discussed here. The question raised was this: Where no peripheral factor in the etiology of sick headache was apparent, was not the fault in our defective means of diagnosis? The two obstacles to a solution of this question were a mistaken or confused idea of migraine, and imperfect methods of diagnosis. Many cases in which headaches occurred, which were indistinguishable clinically from true migraine, and could only be differentiated from it by the fact that they followed some peripheral cause, and were removed when that was removed. But those who suffered in this way were subject to attacks from irritations disproportionately small. Thus, when a patient had sick-headache and was cured by correction of ⅛ d. of astigmatism, the fault was not with the eyes, primarily, but with the unstable nervous organism which made him susceptible, and this was what migraine resolved itself into. But the fact remained that the disease must be approached at the periphery, and with more hope of success as our diagnostic and therapeutic measures became more perfect. There were, no doubt, many cases of migraine which were or had become inveterate, and we were tempted to accept the visitations as inevitable, and limit the treatment to the attacks. This attitude was to be regretted, as it was possible, in many of these cases, as a more perfect knowledge of their nature was acquired the conception of hereditary migraine would be modified, and it would be recognized as a reflex neurosis, consisting of an unstable organism, excited by certain peripheral strains which formed the hereditary influence. The chief danger in the passive acceptance of the idiopathic idea was that thereby all effort was abandoned to determine the excitable and removable factor in the etiology. Migraine should be studied statistically, not only with regard to its prognosis and results of treatment, but as regards its natural history; and data, to be valuable, must contain information regarding family history and the family anomalies of structure, as well as the character of the attacks and the relation to the kinds of strain.

The Relation of Epilepsy, Chorea, and Other Motor Disturbances of the Nervous System to Eye Disease.—Dr. B. Sachs read this paper. He said his part in the discussion was limited to the consideration, chiefly, of the bearing of ocular disturbances upon the development and occurrence of epilepsy, of chorea, and of the convulsive tics. He believed that the dependence of these motor neuroses upon disease of the eye had been greatly exaggerated. It was curious that the claim of the relation of ocular affections to epilepsy and chorea was mainly maintained by American writers, by oculists and pseudo-oculists rather than by neurologists. All who were competent to discuss the subject of epilepsy were agreed that it was a serious chronic affection of the nervous system due to some deeply rooted changes, and the effect of such changes became manifest early in the life of the individual. If one wished to prove that epilepsy was due to some disturbance of the eyes, he said, the argument must rest upon evidence that such ocular disturbance had existed as long as, if not longer than, the epilepsy itself, and that with the correction or cure of the ocular affection, the epileptic attacks would cease. From an argument he put forth, the just inference was that if the epileptic patient presented any marked physical disturbance, whether it be a nasal obstruction, a narrow prepuce, a discharging ear, or other physical disturbance, let that condition be remedied, for it might be the exciting cause of the individual epileptic attack; but he asked them not to suppose for an instant that the existence of such physical condition was the actual cause of the epilepsy. From his personal experience he did not know of a single case in which the epileptic seizures had been altogether inhibited or even diminished in number by the wearing of glasses, by the cutting of muscles, or by any other ocular measures which had been adopted.

He said that what had been said regarding epilepsy would apply with equal force to the relation of eyestrain and other ocular disturbances to chorea minor, or St. Vitus' dance. The idea that St. Vitus' dance might be due to some slight lack of adjustment in the ocular apparatus was too absurd to be considered.

There was another disease entirely distinct from St. Vitus' dance, but which bore a superficial resemblance to it and which might sometimes be caused by eyestrain, and this was the condition known as habit chorea, characterized in some by blinking of the eyes—in fact, by all forms of grimaces, by irregular movements of shoulders, of the hands, of the feet, etc. In such cases it would be well to have the ocular apparatus carefully examined, as well as the nasal condition, and any existing defect, however slight, should be remedied.

In summing up all that possibly could be said with due regard for truth, it might be stated that the relationship between ocular affections and epilepsy, chorea, and convulsive tic might be a close one in the minds of some faddists, but it must remain a very remote one in the minds of those who have no special axes to grind and no special therapeutic territory to exploit.

The Eye Symptoms of Hysteria, Neurasthenia, and the Traumatic Neuroses.—Dr. Ward A. Holden read this paper. He said that since the functional eye disturbances in hysteria and neurasthenia were not always characteristic of one condition or the other and the disturbances of traumatic neurasthenia did not differ from the non-traumatic varieties it was not necessary to classify symptoms according to the underlying neuroses or psychoses. The morbid states which gave rise to these symptoms were: (1) The cornea and conjunctiva might be anæsthetic or hyperæsthetic. (2) The eye muscles might be relaxed from fatigue or might be in a state of spasmodic contraction. (3) The visual perceptive apparatus might show signs of fatigue and there might be psychical perversions of visual perceptions. The subjective symptoms were pain and paræsthesia in various parts of the head after using the eyes, clouds or bright spots before the eyes, and apparent increase or decrease in the size of objects looked at. The print might fade away because the muscles of accommodation had relaxed from fatigue, or it might be doubled because convergence could not be maintained, or the print might flutter or become confused because of the abnormally prolonged duration of after-images in the retina. When the lids were gently closed a fine tremor was always noticed. There might be lacrymation, and also photophobia. Complete forcible closure of one or both eyes from tonic or clonic spasm of the orbicular muscle might occur. The reflex closure when the cornea or conjunctiva was touched might be slow or wanting, indicating anæsthesia. The pupils were usually normal in size and reaction. The extraocular muscles often exhibited a lack of balance or exaphoria. A spasm of any of these muscles might give rise to diplopia, but this might be distinguished from actual paralysis by the anomalous behavior of the double images in different directions of the gaze, and the presence of corroborative symptoms. Uniocular diplopia of a purely psychical nature was absolutely characteristic of hysteria. The acuteness of vision in these cases was usually normal, but the patient read slowly and apparently with great effort, often only after much urging. Blindness of one or both eyes might be simulated. Anomal-

s of the visual fields were the most frequent and characristic eye disturbances in neurasthenia and hysteria. he typical condition was a normal field for the usual hite-test object and a concentric contraction of the color elds in their regular order with a diminution of central olor perception. Beside the typical concentric conaction of the color fields in their regular order there was ccasionally a reversal of the sequence, but rarely was ere a central defect in the field or a defect of a hemianopic ype. The size of the fields varied from time to time. he forms of the color fields in hysteria were sometimes so arre that they did not simulate any organic lesion. hough a number of cases of functional eye disturbance young women were cited the trouble was by no means nfined to this class. Some of the most marked and nsistent disturbances were found in strong men with steria following injury or nervous shock.

Dr. G. E. DE SCHWEINITZ of Philadelphia was interested what Dr. Dana said regarding melancholia. He ought it was a condition frequently encountered, parularly among middle-aged school teachers who went o the choreas and states of mental depression. He lieved that Dr. Dana's description of the disturbances of ntality from eyestrain was correct. Certainly many es were seen in the so-called backwardness occurring children; when the eyestrain was corrected the mental ndition became better, and this was a point already well ognized in schools for training where the correction eye defects was gone into carefully. His neurologist nds had stated this to be a trifling affair, but he said was the trifling errors which produced these troubles. was the constant effort to correct small faults which re out the nervous mechanism.

He was glad to hear Dr. Cutler's description of migraine. never thought he could cure a true case of migraine any correction of refractive errors, although he might sen the number of attacks, because the condition was e sometimes caused by peripheral irritation.

He agreed with what Dr. Sachs had stated and he had ver seen a case of chorea cured by glasses. He believed ough the correction of any error of refraction by glasses uld be a part of the treatment, same as the removal of noids, etc. This same was true of epilepsy. He was d to hear such a firm stand was taken by many on the nservative side of the question.

In referring to Dr. Holden's paper he said that bilateral aurosis in hysteria was not a common symptom, some- ng like fifty cases only being reported, and these were es of absolute blindness. So many of the cases apared suddenly and lasted for a few minutes, or a few urs or, in exceptional cases, days. There had been reted intermittent hysterical amaurosis occurring in a w. In hysteria there might occur concentric contracons in the visual field which was sometimes referred to as tubular field. Hemianopsia he said was a subject much itten about, some saying that they never saw a case in steria and others saying that they never saw a case thout its presence. He believed that in a certain numr of hysterical amaurosis, bilateral or unilateral, there as a period of hemianopsia that occurred between the ppearance of the amaurosis and the appearance of rmal vision. Sometimes when the amaurosis appeared rly, with a central scotoma would often be found hemiopsia and restoration of the visual field.

Dr. JOHN E. WEEKS continued the discussion, giving the sults of his clinical observations. He said there were wo lines of experimentation: first, of the results which llowed more or less complete relief of eyestrain by the rrections of the errors of refraction; and second, obsertions on the mental disturbances which occurred as the sult of eyestrain due to malcorrection of errors of reaction and malcorrection of errors of muscles. His remarks were based on observations of such cases.

No cases of migraine had been cured, but the number of ttacks had been lessened by the correction either of errors of refraction or errors of muscles. Many mental disturbances had been relieved by treatment of eye conditions, and headaches of certain varieties might be permanently relieved, as well as vertigos of certain varieties, etc. Certain functional nervous disturbances might be relieved in cases of facial spasms, and in which, certain eye muscles were totally or partially affected in one or both eyes. He thought that the motor nervous disturbances which might be modified by attention to the eyes were chorea and some cases of epilepsy.

Dr. JOSEPH COLLINS said that after fifteen years' experience he had never encountered a frank mental disease which itself could be in any way attributed to an anomaly or defect of the eye or muscular apparatus of the eye. The melancholic conditions mentioned occurring at the ages of forty or fifty years he presumed should be looked upon as marked involutional melancholias, and here the eye condition should be considered as an effect rather than a cause of the mental state. Regarding the condition of the eyes found in backward children it seemed to him that this was susceptible of an easy explanation. There were many children whose educations were hampered and intelligence retarded by certain conditions which went without saying; for instance, if they could not get books they were retarded, and if they could not get glasses then too were they retarded. So far as he could see, no cases of dementia præcox, or involutional melancholia were in any way genetically related to the eyes. There was no relationship between eyestrain and the cure of epileptics. One case out of sixty-seven had been benefited at the Craig Colony by attention to the eyes.

So far as chorea was concerned, he did not think it should be discussed at all, because he did not doubt but that it was caused by a microorganism, the same that produced polyarthritis. When the microorganism of chorea was found he believed it would be found to be the same that caused polyarthritis. In looking through the statistics of a large number of cases of migraine one would not find even one case that had been cured, remedied, or benefited by the adoption of glasses. But, on the other hand, he knew of a number of cases of pseudo-migraine that had been cured by the adoption of proper glasses. Migraine and pseudo-migraine were as different as paresis and pseudo-paresis. True migraine was a true neurosis and was due to a lack of proper and harmonious development dating back for years.

Dr. W. P. MARPLE related some interesting cases that had occurred in his experience.

Dr. HERMANN KNAPP said that eyestrain was due to overexertion of the eye. The eye could be overtaxed the same as any other organ. If the eyes are overtaxed the individual must wear glasses or suffer the consequences; and these consequences will be shown possibly in any weakened spot in the body. It may show itself in the nervous system, or in the circulatory system or elsewhere, wherever there is a weakening of a part.

Dr. ANDREW H. SMITH reported the case of amaurosis occurring in a very nervous woman who lived unhappily with her husband, and who strongly opposed her doing what she wished one evening. In a brief time she became absolutely blind and continued to be so for thirty-six hours. The pupils were moderately dilated and fixed.

He also reported a case of migraine occurring in a woman. The attacks occurred every three, four, or five weeks and were of very intense character. She had a slight internal strabismus of the left eye which she was entreated to have corrected. This was done under cocaine and she suffered no more from migraine.

Street Accidents in London.—It was stated recently in the British House of Commons that during 1903 1425 accidents resulting in personal injuries had been caused by covered vans in the streets of London, of which twenty-nine had been fatal.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON PEDIATRICS.

Stated Meeting, Held February 11, 1904.

DAVID BOVAIRD, JR., M.D., IN THE CHAIR.

Sporadic Cretinism.—Dr. LOUIS FISCHER presented several cases.

CASE I.—R. H., now over two years old, was first seen by him eighteen months ago. The child was breast-fed for seven months and later received equal parts of milk and water. Always constipated, and at times had severe tenesmus. She had course, sparse hair and a very rough skin. Tongue and lips were thick and the tongue protruded from the mouth. There was difficult breathing and snoring. The thorax was rachitic, there was a funnel-shaped depression, a kyphosis, and an umbilical hernia. The child could neither talk nor stand. There was no evidence of teething. The temperature was subnormal. The pulse was 100, small and feeble. The heart sounds were muffled. There was a hæmic murmur. There was a marked leucocytosis. The circulation was decidedly poor. The anterior fontanelle was widely open. Growth was decidedly stunted, the length of the body being only 55 c.mm. The naked weight when one and a half years old was 11 pounds and 13 ounces. At twenty-two months the first tooth appeared. The muscles of the body were limp and flabby. The child could not support its head and there was no tone to the spinal column. The patient was given fresh raw milk warmed; also steak juice, orange juice, potato flour, and the usual antiscorbutic remedies. Fresh albumin and vegetable proteids were well assimilated. Thyroid extract was given. Also Fowler's solution was administered in one-drop doses, increased to three drops, three times a day. During the six months' treatment the child had grown in length from 55 c.mm. to 69 c.mm. and the weight had greatly increased.

CASE II.—F. P. was first seen by him December 8, 1902, when the child was two years and two months old. She could neither walk nor talk. The tongue was thick and protruded constantly. The lips and skin of the face were thickened, coarse and rough. The nose was short and flat. The fontanelle was widely opened. The face was broad and eyes set widely apart. There was a marked depression on each side of the temporal bone and a marked frontal prominence. When twenty-two months old the child had nine teeth. The first tooth appeared one month after the thyroid treatment was begun, or when the child was sixteen months old. This treatment had been given at the Babies' Hospital. There was no evidence of rachitis. The body length was 50½ c.mm., or about 20 inches. Secretions of the body were torpid and constipation very obstinate. Thyroid gland could not be felt. The pulse was 90 and of a bounding character. The temperature was subnormal, and never higher than 98° F. in the evening. Respiration was 16 while quiet, and 24 while crying. One grain of thyroid extract was given three times a day and increased gradually to two and a half grains. There followed no cardiac disturbances. Ten drops of pure cod-liver oil were given three times a day. Cereals, milk, chicken soup, broths, acid fruits, etc., were given. The general hygienic surroundings were attended to. The body length at the end of the first month of treatment was 58½ c.mm., amounting to an increase of 3⅛ inches. The bowels became regular. The teeth have appeared at regular intervals. The child had begun to walk and talk. At the end of one year's treatment the body length was 85 c.mm., showing she had grown in one year 15½ inches.

CASE III.—R. N. was first seen by him June 28, 1902, when she was seventeen months old. The infant was nursed for about sixteen months, but did not seem to thrive since she was three months old. Severe constipation had always existed. She could neither stand, talk, nor walk. Backwardness in development was very apparent. The hair was coarse and straight. The extremities were short and growth much stunted. The lips were thick and the tongue large and protruding. Facial expression was senile. She had two lower incisors, but no other evidences of dentition. Equal parts of barley-water and milk were fed the child every few hours. One-half grain of desiccated powdered thyroids was ordered three times a day. This dose was gradually increased, and the child was now receiving three grains three times a day and without evidence of cardiac disturbance. Lemon and orange juices, raw albumin, vegetable soups, etc., were ordered. The condition of the child improved very much and the specific effect of the thyroid was very apparent.

Hernia of the Appendix.—Dr. HENRY L. K. SHAW of Albany presented specimen and drawings of this condition which occurred in a child, aged eleven months, who was an inmate of the Albany Orphan Asylum. The interest in the case was shown at autopsy. The abdominal cavity was free from fluid and the appendix was found extending into the inguinal canal; by traction on the appendix the testicle could be drawn up into the inguinal canal. The left testicle was very much thickened with fibrous tissue, as was its capsule. Section of the testicle showed a marked increase in the fibrous tissue. There was an orchitis as well as a periorchitis. He said that hernia of the appendix was a very uncommon condition, and was first described by Morgagni in 1750. In all since then probably as many as one hundred and thirty cases had been reported. This condition may be congenital or acquired. The majority of cases occurred in adults, and from fifteen to twenty in infants under twelve months of age. When the appendix passed through the inguinal canal into the scrotum adhesions took place between the appendix and the wall of the sac, peritoneum or testicle. Only two cases had been reported in which the adhesions occurred between the appendix and the testicle, and was supposed to be due to the persistence of the folds of peritoneum normally present, but undeveloped in the fœtus. Another theory was that there had been a fetal peritonitis, and this seemed to be the most plausible one. Quite frequently the appendix was situated extraperitoneally and situated close to the testicle before its descent into the scrotum; as a result of the orchitis and periorchitis, which were undoubtedly present, the two organs might have become attached and descended together. He referred to another theory of the persistence of the gubernaculum testis. He spoke of the fact that there had been reported eighteen cases of appendicitis occurring in infants and in six or one-third of these, there was found a hernia of the appendix.

A Clinical Study of Sixty-two Cases of Intestinal Infection by the Bacillus Dysenteriæ (Shiga).—Drs. L. E. LAFETRA and JOHN HOWLAND presented this paper. The report was entirely a clinical one. They said that it was now universally regarded that the Shiga bacillus was the etiological factor in dysentery occurring in adults. The studies had been made at the Rockefeller Institute of Medical Research. The cases under observation were seen at the Vanderbilt Clinic during July, August, and September, 1903. Several were visited and treated at their homes. All cases of even mild diarrhœa or intestinal indigestion were examined. Some patients were seen but once and undoubtedly some recovered quickly and so were not brought back to the clinic. There were sixty-two cases of infection by the dysenteric bacilli. From an analysis of the cases it was shown that there was an increased mortality with the increase in age, probably due to the fact that the majority of the infants were breast-fed. Of the sixty-two cases, sixteen were very mild, thirty-one moderately severe and fourteen severe. They made the following classification of the cases: (1) Mild cases, with temperatures under 100.5°, F. with the passages containing but little mucus. (2) Moderate cases, with temperatures over 100.5° F. and the passages containing mucus and some blood. (3) Severe cases, with marked constitutional symptoms with frequent mucous stools and often with

much blood. Thirty-four of the cases did not show a temperature over 100.5° F. The number of the stools in twenty-four hours varied greatly. In two cases the stools contained no mucus. Blood was present in seventeen of the cases. No clots of blood were noticed in any. Fourteen infants were breast-fed exclusively and none of these died. Forty-two of the cases were of the acid type and fifteen were infected with the true Shiga bacillus, while the rest were a mixed type. From an analysis of the sixty-two cases it seemed to them that the following conclusions were warranted: (1) There was a greater prevalence of dysentery in the so-called diarrhœas occurring in infants during the summer months than was generally supposed. (2) All types of diarrhœal diseases which were characterised by clinical symptoms were included; for example, both the mild and severe attacks of iliocolitis; even mild forms of intestinal indigestion were included. (3) As compared with the summer diarrhœas occurring in other years the small number was due to a cooler summer and to increased knowledge among the tenement population. (4) The striking number of breast-fed infants. (5) The serum treatment was not given in a sufficient number of cases to warrant any definite conclusion.

Dr. R. G. FREEMAN said there seemed to be a difference of opinion regarding the Shiga cases and the so-called acid type; it was not known whether they were due to the same organism or to varieties of the same. The cases that had come under his observation were of the acid type. In an epidemic quite near New York the real Shiga organism had been found.

Dr. HENRY L. K. SHAW of Albany said he had had some experience in Albany, and there was no doubt but that the cases seen by him were true cases of Shiga dysentery, occurring both in adults and in children. The Shiga bacillus had not been uniformly found in the stools of ordinary diarrhœas. Again in some true cases of dysentery the Shiga bacillus had not been found.

Dr. WILLIAM L. BANER said he had examined thirty cases in which the stools were watery or contained a little mucus, and he had never found the bacillus dysenteriæ in either the acid or alkaline type of the disease. In examining cases with mucus and blood in the stools there appeared so many varieties of bacillus dysenteriæ that he hardly could say whether acid or alkalide type of the bacillus, *i.e.* whether it was the true Shiga, or Flexner, or the one described by Duvall.

Dr. E. LIBMAN drew attention to certain defects in the work that was being done and which should be remedied. It seemed as if the bacillus was found when mucus was present and especially when there was also blood present. Therefore it looked as if they were dealing with an organism which might possibly be present normally in the upper part of the intestinal tract and which would multiply under certain conditions. As a rule when mucus was found in the discharge the bacillus was found. The upper part of the intestinal tract should be examined, a work that so far had not been done.

Diseases of the Accessory Sinuses of the Nose in Children.—Dr. LEWIS A. COFFIN presented this paper illustrating parts of it with lantern slides. An acute catarrhal or non-suppurative sinusitis was probably the most common and troublesome of these diseases. This affection occurring during the course of one of the infections, the sinuses of the nose, one or all, became infected and there resulted a suppurative sinusitis, the severity depending upon the character of the infection, the intranasal structure, the condition of the nasal mucus, and the physical equation of the patient. Those infectious diseases most likely to be accompanied or followed by sinusitis were the various exanthems, acute coryza and, above all, influenza. Trauma was an exciting cause. In the ordinary cases two symptoms were present, viz., profuse nasal discharge and pain. The discharge might be mucoid, mucopurulent, or purulent, and if confined to one side was most significant. The location of the pain in the head by no means located the disease, although this was a symptom of importance. In the more severe cases the pain was greater and might be felt in and about the eye, and there might be swelling of the lids and exophthalmia. This might occur with diseases of the anterior ethmoidal cells, frontal sinus and antrum, the point of greatest swelling, position of the eye or possibly a sinus opening, indicated which sinus was involved. Severe occipital pain, pain back of the eye, together with pus seen in the superior meatus, pointed to the severer type of sphenoidal disease. In the less severe cases every effort should be made to establish free drainage, and to this end sprays of a weak solution of cocaine and adrenalin should be used several times a day, together with frequent steaming of the parts. The internal administration of suprarenal extract had been of value in his hands. Intranasal probing and catheterizing in children was not practical, and one of the external openings and radical operations must be done. In adults various openings and routes to reach the various sinuses had been resorted to.

Dr. C. G. COAKLEY stated that Harper had performed autopsies on thirty children who had died of various infectious diseases and had found a suppurative involvement of the accessory sinuses in all.

Dr. W. L. STOWELL felt quite sure that many cases that were reported to be meningitis that recovered and that did not present any definite symptoms were not cases of meningitis at all but ethmoidal or other sinus disease.

Dr. EMIL MAYER said there were two definite conditions to be considered: (1) external injuries producing bone disease, terminating in fistula and an entrance into the accessory sinuses; (2) infections from such diseases as scarlet fever, diphtheria, etc.

CINCINNATI RESEARCH SOCIETY.

At a regular monthly meeting of the Research Society, held March 17, Dr. Wylie McLane Ayres demonstrated a variety of lesions of the optic retina by means of the new Thorner ophthalmoscope. Following this, Dr. J. Henry Schroeder and Dr. Henry W. Bettman presented a paper "Concerning the Acidimetry of the Gastric Juice" with demonstration. The paper was a practical consideration of the value of tropeolin OO, Toepfers dimethylamidoazobenzol, and Congo, as indicators for the quantitative determination (titration of free HCl in the chyme). After reviewing experimentally the typical behavior of these indicators with aqueous HCl solutions, their affinity for acetic and lactic acid was studied. All these indicators showed a greater affinity for lactic acid in even dilute solutions than for acetic acid.

The authors also gave the analyses of thirty specimens of gastric contents, as made with these indicators, showing the wide variations obtained with tropeolin OO and Toepfers reagent, due to the want of a good end-reaction with these indicators. They advocated the extraction of gastric contents with chloroform, when necessary, to remove organic acids. Drs. Schroeder and Bettmann, by the results as shown in their paper, refute entirely the claim of M. I. Knapp of New York, that he can estimate within the same specimen of chyme, by successive titration with tropeolin OO and Toepfer's indicator, the quantity of free HCl and organic acids respectively. They also showed that a test paper of Congo (for free HCl) must be allowed to dry before judging of the reaction; the weak reaction with organic acids usually disappears when the test paper is dried. Alizarin as an indicator was also discussed; the want of definite end-reaction pointed out. The authors stated that alizarin does not react with the phosphates (acid) of the gastric juice, as is usually believed.

To Remove the Odor of Iodoform and similar substances from glassware, etc., A. Haase advises washing with mustard.

Cincinnati Academy of Medicine.

At a regular meeting, on March 21, the following cases were reported: Dr. J. M. Withrow presented a "Tumor of the Uterus," removed at operation. The uterus was enlarged and contained a tumor the size of a small orange embedded in its upper anterior wall, hypertrophic uterine tissue being found both external and internal to it. It had a calcareous shell one-quarter inch in thickness which had to be opened by means of a saw, the center was soft and had not been examined microscopically as yet. The patient, Mrs. B., aged fifty years, was sent to Dr. Withrow by Dr. I. P. Gould of Bellevue, Ky. She had one child who died three years ago, at the age of twenty-seven years. She bore a dead child nineteen years ago. Eighteen years ago the patient thought she was pregnant, as menstruation had failed for three months, the abdomen enlarged rapidly for seven months, the tumor being loose and soft; repeated hemorrhage occurred. The patient received local electric treatment, and the tumor diminished greatly in size, hemorrhage ceased, and normal menstruation returned. The patient had three or four polypi removed from the uterus, the first in 1891. Thirteen years ago she miscarried at four months, later at eight months, and again at six months with twins. About six months ago she had hemorrhage from uterus, which had continued to the present time, a large amount of blood being lost at intervals. Then the tumor began to enlarge and pressure symptoms developed in the rectum and bladder, and legs felt tired and heavy. Physical examination showed the uterus to be movable with a large mass in its anterior upper part. The diagnosis of fibroid of the uterus was made and the organ was removed without difficulty on March 12. Dr. Withrow called attention to the failure of menstruation for three months eighteen years before, with abdominal enlargement and irregular hemorrhage, and gave it as his opinion that the tumor was the result of an ectopic gestation that had occurred in that part of the tube which lies within the uterine wall.

Dr. W. D. Haines presented an "Aneurysm of the Femoral Artery," which he had removed by operation. It was about as large as a hen's egg, and its anterior surface showed a rupture of all the arterial coats, while posteriorly the coats were intact, except for a few sclerotic patches. The patient, Mrs. M. Mc., age twenty-seven years; married, with nine healthy children, admitted alcoholism but denied syphilis. Late in February the patient lifted a wash tub and was taken with severe pain in the thigh, and soon noticed a pulsating tumor at the junction of the middle and lower thirds of the thigh. She found out for herself that pressure on the thigh above the tumor relieved her pain. After three weeks' rest in bed with the administration of potassium iodide, operation was done, the artery being tied above and below, and the sac dissected out. It lay in Hunter's canal between the profunda above and the anastomotica magna below. The operation was followed by delirium tremens, but at the time of the report the patient was doing well.

At a business meeting held the same evening, presided over by Dr. S. P. Kramer, the president, Dr. C. A. L. Reed, presented a letter addressed to the U. S. Senate, which he wished to have sent in the name of the academy. The letter urged the speedy passage of House Bill, 6295, entitled "A Bill for Preventing the Adulteration or Misbranding of Foods or Drugs, and for Regulating Traffic Therein, and for Other Purposes," as amended by the Senate Committee on Manufactures and now pending before the Senate. It was unanimously voted to send the letter to the Senate.

President Kramer then announced the following committees for the ensuing year: *Committee on Program*, Drs. Wm. Muhlberg, Samuel E. Allen, and Samuel Rothenberg. *On Hygiene*, Drs. Clark W. Davis, A. G. Drury, and Byron Stanton. *On Legislation*, Drs. Edwin Ricketts, Louis Schwab, a C. A. L. Reed. *The Committee on Progress* is composed of one man from eadh ward and from each township, and is constituted as follows: *Wards*, Drs. Stow Garlick, C. E. Caldwell, Samuel Iglauer, H. Kattenhorn, John Greine, W. E. Schenck, F. A. Kantz, Jr., Robt. Carothers, H. J. Whitacre, T. W. Hays, Edwin Khuon, G. S. Buttemiller, E. W. Mitchell, John Mitchell, Ambrose Johnston, John L. Cleveland, F. J. Erdhaus, Stephen R. Cone, J. H. Macready, B. F. Beebe, Geo. B. Twitchell, E. F. Landy, Louis Schwab, A. D. Stapleford. *Townships:* Drs. F. W. Lamb, R. C. Belt, Arthur Knight, John G. Williams, B. F. Lehman, C. W. Tangeman, W. C. Kendig. The following delegates were then elected for the Ohio State Society: Drs. S. P. Kramer, C. A. L. Reed, Louis Schwab, and Mark Brown; Drs. C. L. Bonifield, Geo. Fackler, D. I. Wolfstein, and Louis Stricker were elected as alternates.

Chicago Pediatric Society.

Dr. James W. Van Derslice read a paper before the March meeting on "Treatment of Bronchitis, Bronchopneumonia, and Pneumonia in Children." Among other things, he said that in many children there was a tendency toward catarrhal inflammations of the air passages. How to remove this tendency was a hard problem. No amount of cod-liver oil and tonics would overcome this predisposition without good hygiene. The temperature of rooms was kept too high. The temperature of living rooms should be 68° to 70°. Children should be accustomed to outdoor air. This should be begun in the summer and continued throughout the year every day except in case of a storm, when the child should be dressed for outdoors and taken into a room, with windows wide open, for twenty minutes to half an hour. A cold sponge bath of the chest and arms every morning was of value. The child's underclothing should be of wool, the lightest weight in summer, and only medium weight in winter. Chest protectors should be discountenanced. Care must be taken that the feet were kept warm and dry. The mistake in dressing the child was almost always on the side of too much rather than too little clothing. The sleeping room should always be supplied with fresh air, and the child should sleep in flannel night clothes. The sending of patients to a warmer climate during the winter season was necessary in a few cases, but he believed the majority of them did better in a dry, cold climate. He urged the use of inhalations of steam, which were best given in a tent by placing the medicament in a quantity of boiling water, as the use of lamps in a tent was objectionable. Three quarts of boiling water in an earthen vessel would produce steam for ten minutes, which was about the length of time these inhalations were usually given. They should be repeated every two to four hours. Simple lime-water inhalations were the best; later creosote, pine-needle oil, compound tincture of benzoin, terebene, turpentine, camphor, oil of eucalyptus, or eucalyptol might be used. Internal medication should be entirely symptomatic. The indications for treatment, in the main, were nutritional, stimulant, and hygienic.

Dr. S. V. Balderston read a paper on "Thoracic Difficulties of Childhood Exclusive of Cardiac; Differential Diagnosis." He urged a closer study of the physical signs in thoracic disease of children. Auscultation alone was not sufficient. Pile-driver percussion was not suited to the child's chest. In these conditions, dyspnœa, cough, cyanosis, and nervous manifestations might be called cardinal symptoms. One should study the conditions within the air passages and cavities which prevented free admission of air or caused irritation; also the conditions in the lungs and chest walls. Finally, the reflex and central conditions should be carefully studied. Croup was used as a comprehensive term to include a variety of conditions in which these was a tendency to spasm of the glottis. Enlarged tonsils and adenoids were usually present as an exciting cause. Cotarrhal spasm of the larynx might be confused with acute bronchopneumonia at the outset. History of afternoon hoarseness, amen-

ility to antispasmodics, and return of attack the follow- night indicated catarrhal spasm.

In mild cases of acute bronchitis the question was whether was merely a complication of another disease. At the st severe bronchitis could not be differentiated from umonia. Exaggerated, not bronchial, breathing was erved all over the chest. Any impairment of resonance suggestion of bronchial breathing excluded bronchitis. capillary bronchitis no attempt was made to differenti- the condition from bronchopneumonia.

Bronchopneumonia signified a low resisting power. It ented the symptoms of a mixed infection. At the on- there were marked prostration and cyanosis and a iable temperature, either very high or very low. There re indefinite areas of consolidation and bronchial thing, marked dyspnœa, and great mortality. In ar pneumonia the physical signs were all-important; re was the most difficulty in central consolidation. physician should watch for bronchial fremitus. The racteristic signs were defined area of dulness and chial breathing. He presented the following table the differential signs in *bronchopneumonia and lobar umonia* in childhood:

Bronchopneumonia	*Lobar Pneumonia*
Usually secondary to an acute disease.	1. Frequently primary.
Usually in children under two years.	2. Common after second year.
Convulsions and vomiting common at onset.	3. Not so common.
Cyanosis at onset.	4. Not usual at this stage.
Both lungs usually affected.	5. Usually one lung only.
No well-marked area of dulness, and bronchial breathing.	6. Area well defined.
Irregular temperature.	7. Temperature steadily high.
Rarely terminates by crisis.	8. Usually terminates by crisis.
Recovery rare.	9. Percentage of recovery high.

In chronic conditions the question was as to whether or there was infection by the tubercle bacillus. In es of chronic cough and chronic pneumonia following ertussis and measles, enlarged tonsils and adenoids ght serve to keep up the cough. Enlargement of the nchial glands irritated the recurrent laryngeal. This largement might be tuberculous or not. In children berculous infection of the lungs probably started from e center through infection from these glands; hence there s rarely infection of the extremes of the lung. Cavern- s breathing and cracked-pot sound did not indicate ity, but consolidation about a bronchus. The family tory should be carefully investigated, likewise the su- ndings, and an examination should be made for foci in her parts of the body.

OLLEGE OF PHYSICIANS OF PHILADELPHIA, SECTION ON GENERAL MEDICINE.

At a stated meeting, held March 14, Dr. Clifford B. er exhibited "A Case of Hernial Protrusion of the ung." The patient was an elderly woman, with per- tent cough, from the violence of which a pouch, ap- rently of lung structure, was projected above the ft clavicle, receding with inspiration. The mass was ft, vesicular, and tympanitic. The jugular veins also come filled with the violent expiration of cough. While the condition may not be infrequent, it has received tle attention in the literature, and but a small number f cases are on record. Dr. W. B. Stanton exhibited "A Patient with Pulsating Empyema." The case ccurred in a young man, employed as a car conductor, n whom the signs of left-sided pneumothorax were iscovered in the absence of a history of sudden onset, ith pain and other characteristic symptoms. Tubercle- acilli were present in the sputum. Under treatment in he open air and with over-feeding marked improvement nsued, while the signs of pneumothorax disappeared nd were replaced by those of pleural effusion. A moderate amount of slightly purulent fluid was removed by aspiration. At a later period signs were found of the presence of a considerable amount of fluid in the chest on the left side, the heart being displaced markedly to the right, and pulsation of the intercostal spaces on the left being distinctly visible. The pulsation became less pronounced after the removal of a moderate amount of fluid. Dr. Stanton referred to several other cases in which pneumothorax had developed insidiously in tuberculous subjects without the symptoms considered characteristic. Dr. Herman B. Allyn read a paper entitled "Remarks on a Severe Case of Appendicitis Ending in Recovery without Operation." The patient was an elderly man, who on two occasions was seized with abdominal pain, nausea and vomiting, with constipation, attributed to oysters that had been previously eaten. There was some rigidity of the abdominal wall, and in a day or two a mass was clearly distinguishable in the right iliac fossa. A surgeon called in consultation was unwilling to operate on account of the poor condition of the patient, expressing the opinion that the man's chances of recovery were better without surgical intervention. A second clinician, who saw the case in consultation, concurred with the first in the suggestion of operation, but the surgeon maintained his original decision. The patient eventually recovered. It was pointed out that surgeons, from having been considered the more radical, are now apparently the more conservative, while clinicians have become the more radical with respect to operation for the relief of appendicitis. In the discussion it was stated that the recovery under medicinal treatment of a patient suffering from appendicitis means the death of several others, in whom the hope of recovery without surgical treatment will give rise to disastrous delay. Observation has shown that the results are better at the hands of surgeons who operate on all cases of appendicitis at the earliest possible moment, that is as soon as the diagnosis is made, than at the hands of those who are unwilling to operate or defer operation for more propitious conditions. Drs. J. H. Musser, James W. Wister, and Norman B. Gwyn reported "A Case of Acute Hemorrhagic Leukæmia." The patient was a large, vigorous man, fifty-three years old, in whose urine albumin and tube casts had for some time been present, and who without obvious cause began to feel ill. A number of hemorrhagic extravasations appeared about the forehead where pressure was made by the hatband. The temperature rose, and the parotid, submaxillary and cervical glands became enlarged. The structures of the throat were red and swollen. Examination of the blood disclosed a reduction of the hæmoglobin to about 60 per cent., with a corresponding reduction in the number of red corpuscles, but with an increase in the number of colorless corpuscles to nearly 300,000, lymphocytes preponderating to the proportion of about 98 per cent. The condition of the patient grew progressively worse, and death took place on the forty-third day of the final illness. Dr. Robert N. Willson, Jr., read a paper entitled "The Diagnosis of Incipient Phthisis, with Special Reference to the Physical Signs and the Frequency of Bacilli in the Sputum." He dwelt upon the importance of a careful physical exploration of the chest in cases with obscure symptomatology, particularly with cough of unexplained origin, wasting, languor, malaise, chilliness, and sweating, and upon the necessity of prolonged and repeated examination of the sputum in cases attended with expectoration. He cited cases with slight symptoms and physical signs in which tubercle bacilli could be demonstrated in the sputum only on most careful and repeated examination, and other cases in which, despite marked physical signs, characteristic symptoms were wanting. Dr. Henry M. Fisher exhibited "A Large Urinary Calculus Passed by the Urethra." The pear-shaped concretion appeared to be composed of uric acid and weighed 17 grains. It was voided, with some pain by a woman,

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

IMMUNE SERA, HÆMOLYSINS, CYTOTOXINS, AND PRECIPITINS. By Prof. A. WASSERMANN, M.D. Authorized Translation by Charles Bolduan, M.D. First edition. 12mo, 76 pages, illustrated, cloth. John Wiley & Sons. New York. Price, $1.

AIR, FOOD, AND EXERCISES, AN ESSAY ON THE PREDISPOSING CAUSES OF DISEASE. By A. RABAGLIATI, M.A., M.D., F.R.C.S. Third edition. 8vo, 559 pages, muslin. William Wood & Company, New York. Price, $3.

LECTURES, CHIEFLY CLINICAL AND PRACTICAL, ON DISEASES OF THE LUNGS AND THE HEART. By JAMES ALEXANDER LINDSAY, M.D., F.R.C.P., M.A. 8vo, 447 pages, muslin. William Wood & Company, New York. Price, $3.50.

PAIN AND ITS INDICATIONS, AN ANALYTICAL OUTLINE OF DIAGNOSIS AND TREATMENT. By EDWARD C. HILL, M.S., M.D. 12mo, 328 pages, muslin. G. P. Englehard & Co., Chicago.

LES ACTUALITES MEDICALES. TRAITMENT CHIRURGICAL DES NEPHRITES MEDICALES. Par Dr. A. POUSSON. 12mo, 96 pages. J. B. Baillière & Fils, Paris.

NINTH BIENNIAL REPORT OF THE NORTH CAROLINA BOARD OF HEALTH, 1901–1902. 8vo, 148 pages. E. M. Uzzell & Co., Raleigh, N. C.

CONTRIBUTIONS TO PRACTICAL MEDICINE. By Dr. JAMES SAWYER. 8vo, 227 pages, muslin, fourth edition. Cornish Bros., Birmingham.

ORGANES GENITO-URINAIRES DE L'HOMME. Par Dr. HENRI HARTMANN. 4to, 432 pages. Illustrated G. Steinheil, Paris, France.

EIGHTEENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH AND VITAL STATISTICS OF THE COMMONWEALTH OF PENNSYLVANIA. 8vo, 782 pages. Muslin. Illustrated. Wm. Stanley Ray, Philadelphia.

THE COMPLETE MEDICAL POCKET FORMULARY. By Dr. J. C. WILSON. 8vo, 267 pages. Leather. J. B. Lippincott, Philadelphia. Price, $1.75.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending April 2, 1904:

	Cases.	Deaths.
Measles	1265	28
Diphtheria and croup	343	39
Scarlet fever	393	30
Smallpox	...	
Varicella	56	...
Tuberculosis	289	185
Typhoid fever	19	12
Cerebrospinal meningitis	...	31

An Unusual Accident.—An accident somewhat out of the ordinary occurred in Chicago's suburbs not long ago. A man crossing the tracks was struck by the New York limited while it was running at full speed. The thermometer was 10 below zero at the time. Instead of being killed outright, he was thrown in the air by the cowcatcher, fell back on the top of the latter, and saved himself by clinging to some rods. In this position, with a broken leg and two broken ribs, he remained for four miles, until the train was stopped. Several bystanders saw the man struck by the train, and after it had passed searched the vicinity with lanterns for the body. Not finding even a shred of clothing, it occurred to someone that he might be on the engine. The first stop of the limited is seventy-five miles out, but by telegraphing ahead it was finally stopped, the man extricated and taken to a hospital, where he was reported as resting well at last accounts.—*The Railway Surgeon.*

Drainage of the Pericardium.—Mintz has elaborated the following technique, which is a modification of a method proposed by Larrey in the early years of the last century. He has used it once on the living subject with success, in order to drain a suppurative pericarditis. The upper portion of the body is slightly elevated and the operator stands at the right. An oblique incision seven c.m. in length is made along the free border of the left seventh costal cartilage, beginning at the sternochondral angle. The muscles are separated from the lower surface of the costal cartilage, and it is divided transversely at the two ends of the incision. The flap so formed is then turned upward, the insertion of the diaphragm being pushed back. The transparent pleura and less delicate pericardium are readily identified by pushing down the diaphragm slightly with the finger. The excellence of the drainage to be attained in this way is shown by the fact that even in the normal cadaver pericardial fluid usually escapes.—*Zentralblatt für Chirurgie*, No. 3, 1904.

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, Public Health and Marine Hospital Service, during the week ended April 2, 1904:

SMALLPOX—UNITED STATES.

			CASES.	DEA
Colorado, Denver	Jan. 30-Feb. 27		22	
Florida, Jacksonville	Mar. 19-26		1	
Illinois, Chicago	Mar. 19-26		10	
Galesburg	Mar. 10-26		3	
Kentucky, Burlington	To Mar. 28		16	
Covington	Mar. 10-26		3	
Springfield	Mar. 28		6	
Louisiana, New Orleans	Mar. 19-26		2	Imp
Maine, Manawaska Region	Mar. 19-26		2	
Maryland, Baltimore	Mar. 19-26		3	
Massachusetts, Lowell	Mar. 19-26		..	
Michigan, Detroit	Mar. 19-26		2	
Grand Rapids	Mar. 19-26		2	
At 22 Localities	Mar. 12-19		Present	
Missouri, St. Louis	Mar. 12-26		4	
New Jersey, Camden	Mar. 19-26		2	
Jersey City	Mar. 20-27		1	
Trenton	Mar. 19-26		1	
New York, New York	Mar. 19-26		1	
Ohio, Cincinnati	Mar. 11-18		1	
Cleveland	Mar. 18-25		5	
Dayton	Mar. 19-26		8	
Lorain	Mar. 20-27		2	
Warren	Mar. 19-26		1	
Pennsylvania, Johnstown	Mar. 19-26		2	
Philadelphia	Mar. 19-26		35	
Pittsburgh	Mar. 19-26		8	
South Carolina, Charleston	Mar. 19-26		4	
Greenville	Mar. 12-19		4	
Tennessee, Memphis	Mar. 19-26		30	
Nashville	Mar. 19-26		2	
Wisconsin, Milwaukee	Mar. 19-26		3	

SMALLPOX—FOREIGN.

Belgium, Antwerp	Mar. 5-12		4	
Colombia, Barranquilla	Feb. 29-Mar. 13		..	
France, Lyons	Feb. 17-Mar. 5		..	
Paris	Mar. 5-12		32	
Great Britain, Birmingham	Mar. 12-19		1	
Cardiff	Mar. 12-19		1	
Edinburgh	Mar. 5-12		6	
Glasgow	Mar. 11-18		21	
Hull	Mar. 5-12		7	
Leith	Mar. 5-12		1	
London	Mar. 5-12		21	
Manchester	Mar. 5-12		3	
Newcastle-on-Tyne	Mar. 5-12		3	
Nottingham	Mar. 5-12		18	
South Shields	Mar. 5-12		3	
India, Bombay	Feb. 23-Mar. 1		..	14
Karachi	Feb. 21-28		1	1
Java, Batavia	Feb. 13-20		20	8
Mexico, Mexico	Mar. 6-13		16	7
Netherlands, Amsterdam	Mar. 12-19		3	3
Russia, Moscow	Feb. 27-Mar. 5		8	3
Odessa	Mar. 5-12		1	..
St. Petersburg	Feb. 27-Mar. 5		12	1
Spain, Santander	Mar. 7-14		4	2
Turkey, Alexandretta	Mar. 5-12		1	..
Constantinople	Mar. 6-13		8	..
Smyrna	Feb. 21-28		1	..

YELLOW FEVER.

Ecuador, Guayaquil	Feb. 27-Mar. 5		..	3
Mexico, Vera Cruz	Mar. 12-19		1	..

CHOLERA.

India, Calcutta	Feb. 13-20		..	34
Karachi	Feb. 21-28		2	1
Madras	Feb. 13-29		3	1
Turkey, in Asia, Bassra	Feb. 22		7	7
Kermit Ali	Feb. 22		4	2

PLAGUE—INSULAR.

Philippine Islands, Manila	Feb. 6-13		1	1

PLAGUE—FOREIGN.

China, Hongkong	Feb. 6-13		..	2
India, Bombay	Feb. 23-Mar. 1		..	832
Calcutta	Feb. 13-20		..	75
Karachi	Feb. 21-28		113	90
Rangoon	Feb. 19		1	..
Mauritius	Feb. 18-25		3	2
Peru, Lima	Mar. 31		28	Reports

Medical Record

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Original Articles.

TUBERCULOSIS HOSPITALS OF THE EW YORK STATE HOSPITALS FOR THE ISANE.

By FREDERICK PETERSON, M.D.,
RESIDENT OF THE NEW YORK STATE COMMISSION IN LUNACY
AND
G. L. HEINS,
STATE ARCHITECT.

RE are in the neighborhood of 25,000 insane in pitals in the State of New York. An estimate he number of cases of tuberculosis in the State spitals has been made, and while the population

UBERCULOSIS PAVILION, "EDGEWOOD," AT THE BINGHAMTON STATE HOSPITAL, SHOWING THE STAGE OF CONSTRUCTION, DECEMBER 11, 1903.

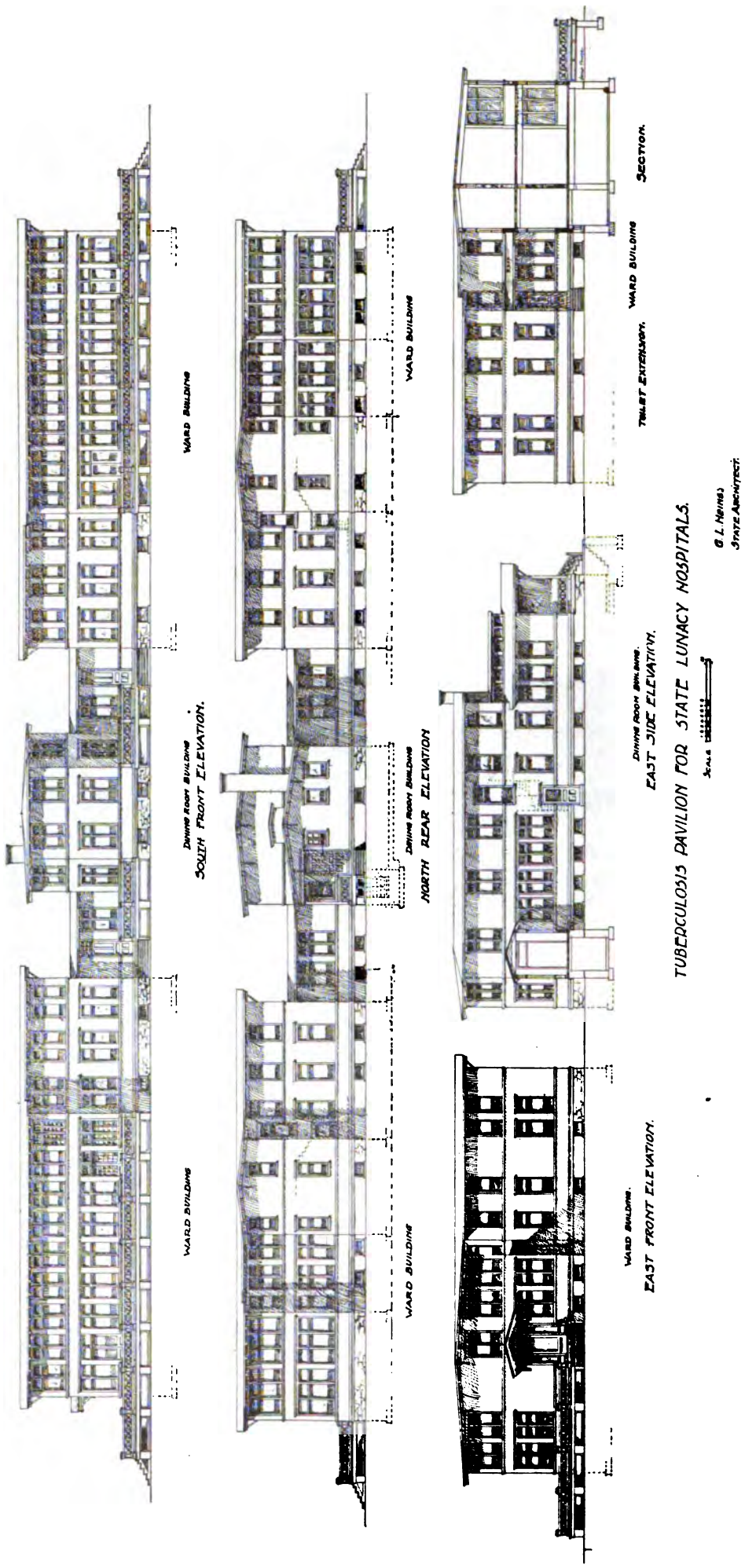
higher in the hospitals situated in the cities as mpared with those situated in the country, the erage of tuberculous patients among the insane opulation is about two per cent. This ratio is most the same as that of the London County sylums, where Dr. Mott has recently made an vestigation of the matter. In a population of ver 14,000 insane he estimates the ratio of cases f tuberculosis to be 1.72 per cent.

The Lunacy Commission of New York State has or several years favored the segregation, as far as ossible, of these patients from the others. In many of the fourteen State Hospitals under its risdiction special wards have for some years been et aside for tuberculosis cases, and where possible olariums have been added to such wards.

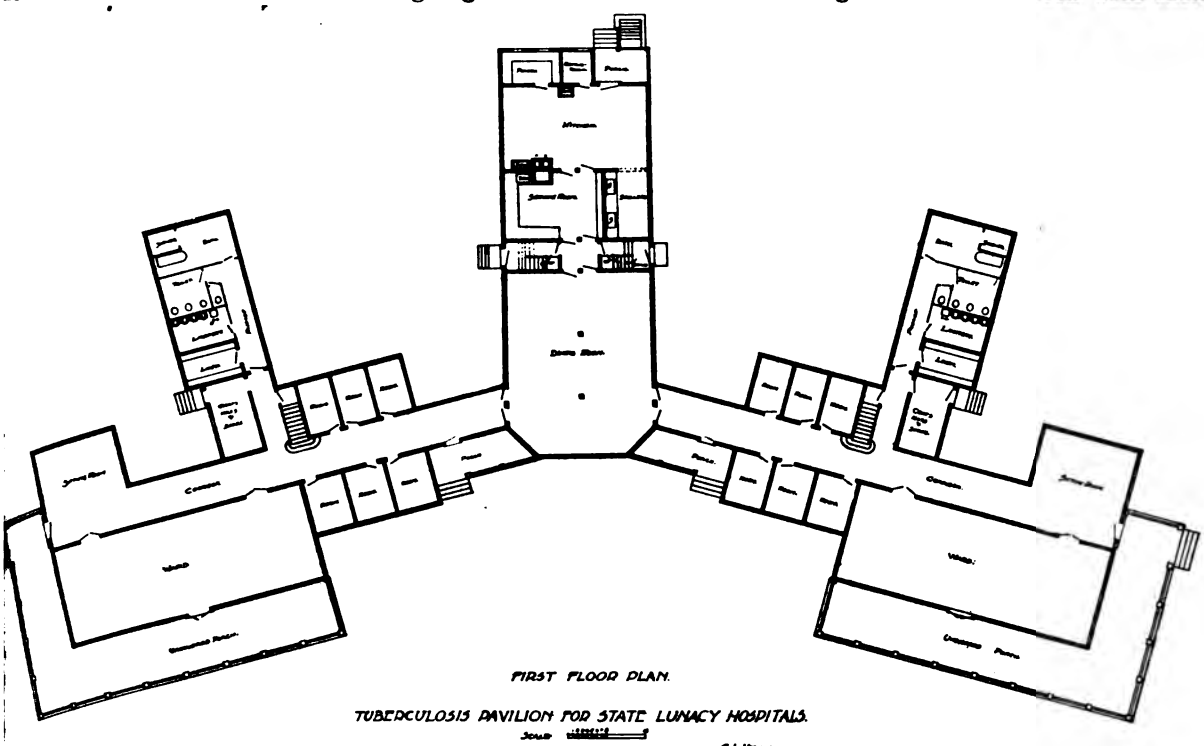
Dr. A. E. Macdonald, Superintendent of the Manhattan State Hospital, East, on Ward's Island, suggested the use of tents for patients with tuberculosis, and his suggestion was promptly acted upon by the Lunacy Commission. At first tried during the warm months only, Dr. Macdonald has found it expedient and satisfactory to keep the tents occupied all winter, having the tents warmed by stoves. This plan he has successfully carried out for three winters.

The Lunacy Commission, after ascertaining that we have in the State Hospitals upward of 500 cases of tuberculosis and a constantly growing insane population, determined to establish properly constructed tuberculosis hospitals in the State, in connection with certain of the hospitals so situated as to offer the best climatic advantages. At firs it was intended to build six hospitals, each for fifty cases of tuberculosis; but for economical reasons, centralization of heating, administration, supplying food, etc., the plans were subsequently modified. We have now three hospitals with one hundred beds each, to be established in different parts of the State, anticipating a later provision for two or three hundred tuberculous patients at the proposed new colony for the insane in the northeastern portion of the State.

In dealing with insanity as well as tuberculosis, our problem in construction has necessarily differed somewhat from the plans evolved for tuberculosis sanatoria in general. In the matter of constant watching of patients, for instance, the need of dormitories with a few single rooms only in place of many single rooms is a pertinent feature.


WARD BUILDING
DINING ROOM BUILDING
SOUTH FRONT ELEVATION.
WARD BUILDING
DINING ROOM BUILDING
NORTH REAR ELEVATION
WARD BUILDING
TOILET EXTENSION.
WARD BUILDING
SECTION.
DINING ROOM BUILDING.
EAST SIDE ELEVATION.
WARD BUILDING.
EAST FRONT ELEVATION.
TUBERCULOSIS PAVILION FOR STATE LUNACY HOSPITALS.
SCALE
G. L. HEINS
STATE ARCHITECT.

The plans as presented in the illustrations almost plain themselves, aud attention should be called a few points which have been kept in mind by e Lunacy Commission and the State Architect ho have devised them. In designing these

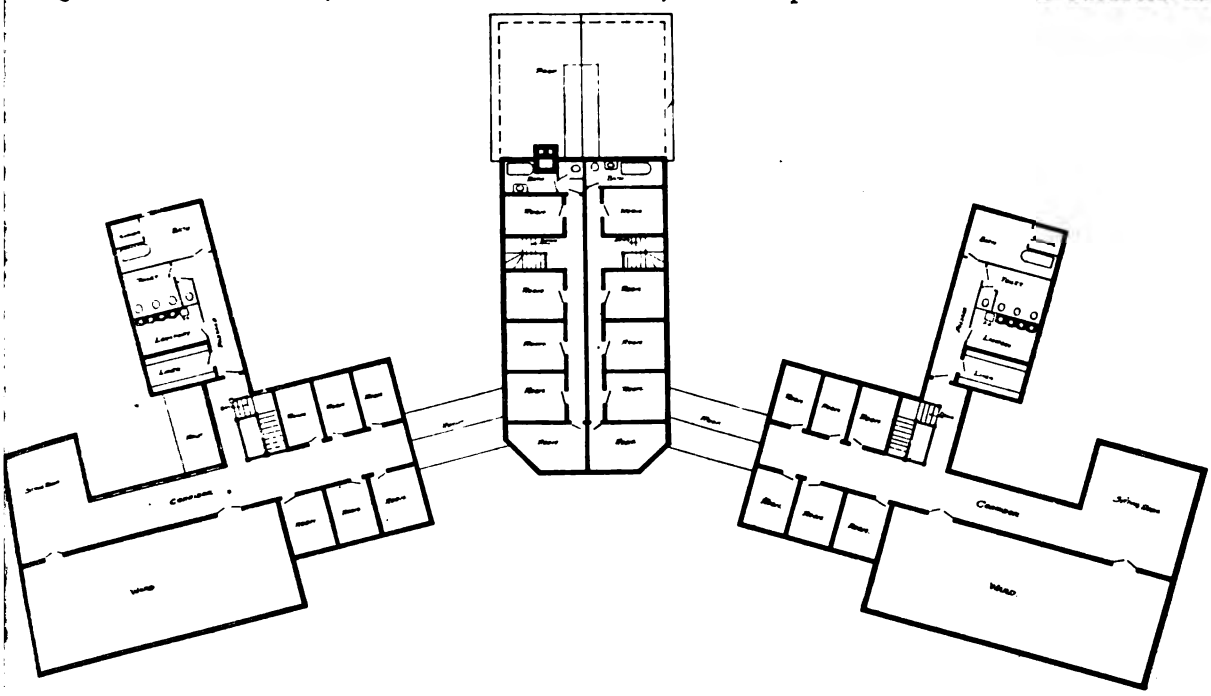


FIRST FLOOR PLAN.

TUBERCULOSIS PAVILION FOR STATE LUNACY HOSPITALS.

G. L. HEINS.
STATE ARCHITECT.

spitals for our special needs we have had recourse all the literature on such construction, notably the essays offered in the contest for the prize of e King Edward Sanatorium, and we are under



SECOND FLOOR PLAN

TUBERCULOSIS PAVILION FOR STATE LUNACY HOSPITALS.

G. L. HEINS.
STATE ARCHITECT.

bligations to Dr. Trudeau for courteously examining the plans and offering suggestions.

It will be observed that there is a central building with two wings joined by one-story corridors. The buildings are two stories high. The central building has a kitchen, pantry, and dining room on the first floor and bed room for employees above. The second stories of the wings are for able-bodied patients, the first floors for the bed-ridden.

Each ward has space for sixteen or seventeen beds, and there are six single rooms connected with each ward. The water section, with baths, toilet, etc. is effectively separated from the main body of the structure. Sitting-room space has been made very small, so that patients shall remain outdoors as much as possible. The hospital has a southerly exposure for both wings. Taking the first floor (for bed-ridden patients) as an example, there are practically two verandas—one uncovered to the south, to which the beds may be wheeled and the patients given sun baths in suitable weather, with

bed awnings to shade the face and eyes. There is one on the north which is almost wholly glass, and which serves both as a corridor and veranda. To this northern veranda the beds can be wheeled in inclement weather or for the sake of coolness in the heat of summer. The dormitory of the ward is practically surrounded with glass—the whole front is glass and there is glass some distance along each side. The wall between the corridor and veranda is lined with transoms opening into the corridor its whole length. Thus, whatever may be the weather or prevailing wind, two or three sides of the dormitory may be always open if desired. All of the windows reach to the ceilings, and all are provided with transoms flush with the ceilings, so that there can be no stagnant air in the high strata of the room. These transoms are hinged at the top and open outwardly, where they open directly out of doors, in order to protect the rooms from rain. The ceilings are made rather low, as is usually advised in these hospitals, 10 feet, so they may readily be cleaned. Every effort to avoid angles and corners anywhere in the rooms is to be made. The doors are to be without panels, the angles at the junction of floors, walls, ceilings, etc., well rounded. The floors will be covered with linoleum; enamel paint will be used up several feet of the walls. The heating system is an unusual feature, and has, as far as we know, not been employed in other hospitals of this kind. It is used in the new maternity hospital built and endowed by Mr. J. Pierpont Morgan in New York City. The steam pipes are laid along on both sides of the wall dividing the dormitory from the corridor, and on available wall space in single rooms. The pipes are then completely covered with sheet iron and coated with white enamel paint. Thus no dust or expectoration can reach any part of the pipes, and the whole apparatus can be kept as clean as the floors or walls. Enclosing them thus demands, of course, a much larger supply of steam pipes and a greater radiating surface, especially in wards into which so much glass construction enters; but as tuberculosis wards should properly be kept at a temperature only a moderate degree higher than the outside air, it is expected that the plan adopted will prove satisfactory.

For each ward a drying room and a clothes closet is provided at the back of the corridor, where patients coming in from outdoors may divest themselves of heavy or wet clothing, and hang it up to dry.

Whenever possible, the southerly slope of a hill with woodland protection is selected as a site. The first of these hospitals is now nearing completion at Binghamton. The site selected is on the south side of a high hill with a forest behind. It is ideal in every respect. The slope is such that exit may be had from the second story to the hill above without going down stairs. It is so accessible that steam can be furnished from the central heating plant of the institution and easy connections with the sewer, water, and lighting systems made.

The other two tuberculosis hospitals are to be constructed on the grounds of the State Hospitals at Middletown and Ogdensburg.

4 West Fiftieth Street.

Carbon Bisulphide in Sciatica.—This substance applied to the skin over the painful areas produces the sensation of intense cold followed by a feeling of intense heat. The pain only lasts a few moments. It has also been successfully employed in abscess, neuralgia, acute inflammatory conditions, and acute rheumatism.—G. G. Corbet, in *The Maritime Medical News*.

THE DEFICIENT UREA-EXCRETION IN GOUT AND LITHÆMIA.

By RICHARD K. MACALESTER, M.D.,
GLENWOOD SPRINGS, COL.

Some four years ago, while engaged in determining the relation of uric acid to urea in gouty patients, I gained conviction that this was a very variable proportion, from which little practical diagnostic or therapeutic knowledge could be obtained. On the other hand, I was impressed by the fact that these two components were constantly present in diminished quantity in the urine of the gouty, and in a symposium paper the following observation was reported:[1] "In a goodly number of urinary analyses of gouty patients made by me during the past three years, the above enumerated findings have sometimes been obtained, but by no means in the majority of cases, even in which gout has become eminently chronic, does the urine reveal the coexistence of kidney disease. But common to all cases of gout, as well as lithæmia, its next-door neighbor, my quantitative uranalyses show, without exception, a marked diminution in the daily amount of urea excreted, quite independent of the slightest evidence, either chemical or microscopical, of a coexisting renal lesion. I report this observation here, being unable to find in the literature, notwithstanding an extended search, any record of this deficient urea excretion, except in conjunction with Bright's disease and general marasmic conditions, and I hope to be able to collect sufficient material to present more conclusive results in a future communication."

In addition to the foregoing may be mentioned such references as: in chronic or cachetic gout, the urea appearing in normal quantity, or very nearly so, unless there is renal trouble, and the amount excreted being in relation to the diet and to the extent of metabolic force available in the liver (Dyce Duckworth). Before an acute attack of gout (Garrod), and an uric-acid headache (Haig) the amount of urea being diminished. But in these and other reports no allusion is made to a permanent deficient urea-excretion as characteristic of the gouty condition.

Since the publication of my paper my views have been amply corroborated by further investigation, and in order to demonstrate my standpoint I shall, as examples, enumerate in the following twenty uranalyses of gouty and lithæmic patients with a brief synopsis of the history and principal positive findings in each case, taken from my case book at random. These are mostly examples of lithæmia and so-called incomplete or irregular gout (that is, gout manifesting itself anywhere but in a joint), in some of which, however, typical acute paroxysms have previously manifested themselves; but cases presenting any clinical evidence of nephritis, and marasmic conditions, have been purposely excluded.

The irregular forms of gout and lithæmia seem to be our most common American types of the disorder; nevertheless, I have observed in this country a few cases of regular, sthenic gout, worthy of Sydenham's classical descriptions. In England, too, incomplete gout is more prevalent at the present day, and even nearly forty years ago it was remarked that typical acute cases were less frequently met with than in earlier days (Burrows), many of the manifestations of gout being obviously modified by inheritance and mode of living. Hence it is not surprising that in the United States, under totally different surroundings, the disease should assume divers new phases and types, and it is

conviction that such forms and lithæmia—in which term much confusion exists—are of common origin, and nothing less than modified gout. Duckworth's dictum aptly puts it: "No lithæmia, no gout." My belief, that irregular gout and lithæmia are modifications of one and the same disease, is not only based upon an extended study, but also upon the urology of these disorders, the results of my uranalyses (Table II) showing uniform relations.

For the purpose of comparison with Table II, the results of the uranalysis of twenty cases of various other chronic disorders are collated in Table I.

The average daily urea-excretion in a healthy, middle-aged subject of medium weight, and on a liberal mixed diet, is given by the majority of authors as about 30 gms. The daily urea output, estimated by me, in twenty healthy persons (ten men and ten women, living approximately under the same conditions, and of ages corresponding closely with those of my patients) was 29.65 gms., the averages of their uranalysis being:

TOTAL URINE MEAS., C.C	SPEC. GRAV.	TOTAL SOLIDS.	UREA PER CENT.	TOTAL UREA.	TOTAL URIC ACID.
1362.5	1.204	68.31	2.445	29.65	.678

As aforesaid, mention is frequently made in the literature of a deficient urea-excretion in gout, in conjunction with impaired renal function, but here the kidneys were always effected, and the condition was attributed thereto. Appended are my averages in ten cases of chronic Bright's disease, without gouty symptoms, in which, the daily urea-excretion being decidedly below the normal, conforms with this conclusion:

TOTAL URINE C.C.	SPEC. GRAV.	TOTAL SOLIDS.	UREA, PER CENT.	TOTAL UREA.	TOTAL URIC ACID.
1760	1.015	56.595	1.357	21.936	.421

All the enumerated analyses were made by means of *clinical* methods, with much care and attention given to details, and in case of doubt, the estimation was always repeated.

The *solids* were obtained from the specific gravity through Haeser's coefficient.

The percentage of *urea* was determined by the *improved* Doremus' ureometer and the sodium-hypobromite solution freshly prepared for each estimation—a most essential procedure, this mixture deteriorating in a remarkably short time. In the results of the estimations, allowance was made for the altitude.

The *uric acid* was estimated by Heintz's method. Although precision is not claimed for this simple method, the inaccuracy is trivial if one observes certain precautions, such as: Using *fresh* stronger HCl, *cooling* the urine, and allowing it to stand for forty-eight hours, washing the precipitate with cold, *acidulated* water, then drying thoroughly, and adding to the amount of uric acid obtained by weight in every 200 c.cm. of urine, .0096 gm. for the quantity remaining in solution.

The patients and other subjects were instructed to adhere to a certain régime several days before, and while collecting the urine, to take exercise, drink water freely, and a liberal, mixed diet was prescribed. This last direction is a *sine quâ non*, it having been repeatedly proved that the output of nitrogenous matter is, to a great extent, dependent on the food. Thus, A. E. Taylor,[2] in a series of personal experiments, demonstrated that the average daily urea-excretion was: 59.021 gms. on a heavily proteid diet, 40.750 on a mixed normal, 23.430 on a purely vegetable, and 7.738 on a nitrogen free diet. Lehmann[3] found: On animal diet, 819 grs. of urea *per diem*, and on non-nitrogenized food, 237 grs.

On inquiry, I find that practitioners are usually content with ascertaining the percentage of urea of their patients, *i.e.* with having a sample of urine examined, without knowledge of the total for twenty-four hours. For obvious reasons—as will be seen by comparing, for instance, cases VIII and XVII, Table II—this is a useless practice, from which no deductions relative to the total urea output can be drawn.

To obtain the total urine for twenty-four hours is not always an easy task. The subjects are given, graduated two-quart jars (containing a little camphor or chloral to avoid decomposition), with explicit instructions, among others, not to fail to use them each time an inclination is felt to urinate and especially before defecation.

Case I.—Gout. Well-developed, strong man, æt. forty-nine years, weight 154½ pounds. Heredity. (In this and the following cases heredity signifies a gouty or rheumatic history in the patient's near progenitors.) Had several attacks of acute gout in feet previously, but for ten years past the disease has remained more chronic. Putty-like and harder deposits in finger-joints, elbows, feet, and knees. Widespread psoriasis vulgaris for many years.

Case II.—Gout. Man, æt. fifty-one years, weight 190 pounds. Heredity. Robust and active, though frequently feeling some mental fatigue and headache. Habits excellent. Nodular deposits in distal finger joints of both hands, and on the dorsum of left foot, which become tender and painful at times.

Case III.—Gout. Woman, æt. fifty-one years, weight 208 pounds. Sedentary habits, and always fond of high living. Deposits in, and thickening of, the epiphyses of the digits; chalky deposits (tophi) in ear lobes. Eczema squamosum of face and feet. Growing stout of late, but the gout and eczema developed over ten years previously.

Case IV.—Gout. Woman, æt. sixty-two years, weight 115½ pounds. Always delicate, though active. Had two attacks of acute rheumatism and asthma for thirty-five years. Typical gouty deposits in finger-joints and great toes.

Case V.—Gout. Woman, æt. forty-seven years, weight 138 pounds. Subject to attacks of asthma and muscular and arthritic pains for many years. Hard and soft deposits in, and thickening of, the articular cartilages of fingers and toes, and some swellings of the tendons. Periodical exacerbations, but almost constant pain.

Case VI.—Gout. Man, æt. thirty-three years, weight 121 pounds. Heredity. Always subject to urticaria, and since 1895 to attacks of pain and swelling of various tendons and joints, these last-named remaining enlarged since 1899, but with little or no pain, except on violent motion. Hard and chalky deposits in joints, tendons, and bursæ of hands, feet, and knees.

Case VII.—Gout. Woman, æt. fifty-seven years, weight 112 pounds. Gastric and rheumatic troubles preceded the onset of gout for about eight years. Now, soreness and numbness in hands and feet and stiffness in knees; thickening of epiphyseal cartilages, harder and softer deposits in finger- and great-toe joints, and periarticular swelling of

knees. Intense itching (pruritus) of skin, especially at night.

CASE VIII.—Gout. Man, æt. fifty years, weight 167 pounds. Heredity. Always had asthma. Some alcoholism, and smokes inordinately. Had first attack of gout in left foot, then in right; feet have been tender and stiff since. Tendons of feet swollen and nodular, small deposits in joints of great toes, which are puffed and extremely painful. Patient had an acute exacerbation of typical gout while taking the cure here.

CASE IX.—Gout. Man, æt. forty-four years, weight 182 pounds. Heredity duration, fourteen years. Had previously a number of acute attacks in feet, knees, and more recently in hands. Being a brewer, indulged in alcoholic beverages inordinately. Was always a hearty eater. Very robust and powerful. Status præsens: Eczema seborrhoicum, head and forehead; uratictophi; r. ear-lobe; soft, fluctuating, and harder deposits in finger-joints, bursæ, and tendons. Right elbow swollen, painful, and knotty. Crepitation and loud crackling knee-joints. Nodular deposits in various muscles and tendons.

CASE X.—Gout (rheumatic gout: Dr. Good, Paris). Woman, æt. forty-six years, weight 146 pounds. Heredity. Always robust and active, but of "catarrhal constitution," and subject to attacks of headache and relaxation. Drank wine habitually till recently. Periarticular thickening of, and deposits in, finger-joints, growing in size and consistency, and causing at times much pain and stiffness. Finger- and toe-nails atrophic and brittle, with white spots. In 1902—one year later—the total urea was estimated by me as below 17 gms., and by Dr. Gardiner of Colorado Springs as about 180 grs. per diem, in 1903.

CASE XI.—Gout. Woman, æt. forty-two years, weight 118 pounds. At age of four years inflammatory rheumatism. Since youth afflicted with hay-fever and asthma. Always rather delicate, but active. Often had rheumatic pains in muscles and joints. Gums spongy and receding. Heberden's nodes and soft deposits in extensor-tendons of fingers.

CASE XII.—Lithæmia. Man, æt. forty-eight years, weight 191 pounds. Heredity. Intense perspiration and eczema in hands and feet, for over five years. Habitual wine drinker. For many years pains and soreness in various muscles and joints, and distressing burning sensation in soles of feet.

CASE XIII.—Gout. Woman, æt. sixty years, weight 134 pounds. Heredity. Onset fifteen years ago, but symptoms increasing in severity steadily the last two years. Hard nodular enlargements, and exostoses of finger- and great-toe joints, with deformity of these extremities.

CASE XIV.—Lithæmia. Man, æt. thirty-three years, weight 153 pounds. For three years under considerable mental strain. Loss of ambition and energy, occasionally sick headaches, or neuralgic attacks starting around the eyes, paræsthesiæ (creeping sensations) in extremities, and frequently muscular pains. Not particularly depressed, but mind is apt to dwell on queer and repulsive things. "Abscessions and paræsthesiæ, at times bordering on melancholia" (Dr. F. W. Langdon). Some alcoholism and tobacco.

CASE XV.—Gout. Woman, æt. fifty-nine years, weight 197 pounds. Heredity. Fond of high living and growing stout of late. For seven years periodical attacks of pain and stiffness in knees, repeated paroxysms of pain in the soles, and gnawing in joints of the feet. Nodular swellings and tenderness in extensors of left thumb, and doughy deposits at the base of both thumbs. Hallux valgi.

CASE XVI.—Gout. Woman, æt. sixty-seven years, weight 155 pounds. Rheumatic (?) for many years. Scaly eczema over feet and legs, with intense itching. Severe pains in legs and feet, concentrating in the joints. Ankles tender. Soft swellings and deposits in tendons of both extremities.

CASE XVII.—Gout. Man, æt. sixty-seven years, weight 148½ pounds. Heredity. Robust and active; habits excellent. For twelve years occasional attacks of pain and swelling of the feet, especially the tarso-phalangeal joints of the great toes, lately involving the knees and fingers. Joints of fingers and great toes nodular and deformed, large exostoses on inner surface of left calcaneus, and tendo achillæ nodular.

CASE XVIII.—Lithæmia. Woman, æt. fifty-two years, weight 130 pounds. Heredity. Always subject to bilious attacks, and intolerant to gouty foods and beverages. Marked physical and nervous exhaustion. Five years ago sprained right foot, since when it has been entirely disabled, inflamed and very sensitive, with frequent exacerbations of inflammation, swelling and painful paræsthesiæ so that patient is permanently invalided.

CASE XIX.—Lithæmia.—Man, æt. twenty-three years, weight 138½ pounds. Indulged in much exercise (bicycling) formerly; for last two years over-ambitious doing confining, clerical work, and under considerable mental strain. Suffers from headaches, exhaustion, eye-blurring, uneasiness, worry, and fear of breaking down altogether. Has vague muscular pains in back of neck, legs and lumbago region, and feels as if he were shaking all over.

CASE XX.—Lithæmia. Woman, æt. thirty-seven years, weight 128 pounds. Heredity. Onset three years ago, following typhoid fever. Aversion to her former surroundings, anæmia, physical and mental depression, bilious attacks, digestion being fair only when adhering to a strict diet, oppression in head, painful sensations and tingling in extremities, and as if the inside of her body were not strong enough to support her. An eminent New York neurologist pronounced this a case of mild melancholia, in which Dr. F. W. Langdon of Cincinnati, who kindly referred the patient to me, could not concur, being of the opinion that her condition was dependent on defective elimination. After a two months' course of treatment at Glenwood Springs, the morbid mental symptoms abated to a great extent, and nutrition and strength improved remarkably. Now well for nearly two years. Mention of arteriosclerosis was omitted in the enumerated cases, it having been found almost invariably present in some degree.

By comparing the results of the foregoing analyses, it will be seen that the urine of the gouty is approximately normal in quantity, of rather low specific gravity, and notably poor in solids.

The average *total urea* shows a remarkable diminution in the amount excreted, it being not only below the normal in health, but considerably below the averages in all the other tabulated disorders. And even in the large majority of the enumerated individual cases, this urea-deficiency in the gouty is apparent. Hence, the relative averages of the tables demonstrate the fact that the total urea output in gout is considerably below that in chronic nephritis, about two-thirds of the amount obtained in the enumerated miscellaneous, chronic dis-

ers, and only about three-fifths of the quantity reted in health.

The average *percentage* of urea in gout is also ow that in health, and in other diseases, with exception of chronic nephritis, in which trouble, ng to the usual concomitant polyuria, the urea-centage is lower.

The *uric-acid* excretion in gout is far below that ther conditions, and in health. It not being the

E I, SHOWING THE URANALYSES OF TWENTY CASES OF VARIOUS CHRONIC DISEASES.

CASE.	DISEASE.	TOTAL URINE, C.C.	SPEC. GRAVITY.	TOTAL SOLIDS.	UREA, PER CENT.	TOTAL UREA.	TOTAL URIC ACID.
	Rheumatoid arthritis...	1200	1.030	83.88	2.74	32.88	.480
	Rheumatoid arthritis...	2500	1.011	64.07	1.19	29.75	.620
	Rheumatoid arthritis...	1750	1.020	81.55	1.80	31.50	.744
	Rheumatoid arthritis...	1600	1.019	70.83	1.51	24.16	.717
	Subacute articular rheumatism (recurrent).....	1400	1.023	75.03	1.92	26.88	.924
	Chronic muscul. rheumatism, periodical glycosuria.....	1300	1.030	90.87	2.10	27.30	.744
	Chronic articular and muscular rheumatism	1100	1.029	94.33	2.86	31.46	.687
	Obesity.....	1650	1.018	69.20	1.55	25.58	.409
	Adiposis dolorosa.....	900	1.017	35.65	2.83	25.47	.493
	Carcinoma pylori.....	900	1.020	41.94	2.25	20.25	.358
	Neurasthenia, chronic gastritis.....	1600	1.019	70.83	1.75	28.00	.475
	Gastrectasia, chronic dyspepsia.....	1900	1.015	66.40	1.47	27.93	.450
	Gastrectasia, chronic dyspepsia.....	1700	1.016	63.38	1.64	27.88	.515
	Chronic gastrointestinal dyspepsia.....	1450	1.022	74.33	1.88	27.26	.410
	Chronic gastrointestinal Dyspepsia (neurasthenia).....	1600	1.018	67.10	2.25	36.00	.837
	Tuberculosis pulmon...	1850	1.012	51.73	1.30	24.05	.690
	Tuberculosis pulmon...	1550	1.017	61.40	1.86	28.83	.618
	Tuberculosis pulmon...	1900	1.012	53.12	1.84	34.96	.542
	Tuberculosis pulmon...	1350	1.025	78.64	1.92	25.92	.908
	Tuberculosis pulmon...	1200	1.018	50.33	2.37	28.44	.568
	Averages:.....	1520	1.0195	66.23	1.95	28.225	.6099

rpose of this communication to invade the ever-plexing, dark realms of the uric-acid problem, ill suffice to note *en passant* that: a deficient c-acid excretion has already been reported as ting in chronic gout (Bartel, Duckworth, and ers). The trend of more recent opinion would m to indicate that the toxicity of, and the rôle yed by, uric acid as an etiological factor in dis-

E II. SHOWING THE URANALYSES OF TWENTY CASES OF GOUT AND LITHÆMIA.

CASE.	TOTAL URINE CCM.	SPEC. GRAVITY.	TOTAL SOLIDS.	UREA, PER CENT.	TOTAL UREA.	TOTAL URIC ACID.
I	1300	1.014	42.41	0.88	11.44	.254
II	1400	1.022	71.76	1.54	21.56	.309
III	1500	1.015	52.42	1.25	18.75	.369
IV	1250	1.013	37.86	0.94	11.75	.314
V	1550	1.012	43.34	1.31	20.30	.406
VI	900	1.017	35.65	1.60	14.40	.268
VII	1100	1.017	13.57	1.55	17.05	.268
VIII	750	1.028	48.93	2.56	19.20	.578
IX	1150	1.026	69.67	1.80	20.70	.630
X	1250	1.017	49.51	1.65	20.62	.474
XI	1350	1.016	50.33	1.35	18.22	.605
XII	1050	1.023	56.27	1.92	20.16	.497
XIII	1250	1.021	61.16	1.68	21.00	.215
XIV	1800	1.010	41.94	0.53	9.54	.356
XV	1300	1.015	45.43	1.20	15.60	.390
XVI	1300	1.014	42.41	1.19	15.47	.184
XVII	1750	1.013	53.01	1.30	22.75	.172
XVIII	1600	1.012	44.74	1.14	18.24	.274
XIX	1100	1.027	69.20	1.80	19.80	.383
XX	1800	1.012	50.33	0.98	17.64	.536
Averages:	1322	1.017	50.50	1.41	17.71	.374

ase, is much exaggerated (Billings,[4] Woods-Hutchinson[5]). And, contrary to others, my observations monstrate the uric-acid excretion to be, in a rtain degree, commensurate with that of urea, ot only in gout, but also in other disorders, and health. Thus, it is distinctly stated that there ists no definite relation between the discharge f urea and uric acid, either in cases of acute or hronic gout, the excreting functions of the kid-eys for these two substances being separate and independent of each other (Garrod, Haig). In health the ratio is given as 1:33, the excretion being found to be increased or diminished together.

Remarks: From a physiological point of view, urea is the most important solid constituent of the urine, it being the chief product of the metamorphosis of the albuminous tissues, and furnishes the form under which nearly all the N finds its way out of the body (Wm. Roberts[6]). In short, the amount of the daily urea excretions is, in a measure, an index of the changes in nitrogenous tissue metabolism as well as of the energy with which the splitting-up process of albuminous food elements in the economy takes place.

In view of the one moiety of urea, and the variations in its excretions, depending on the quality and quantity of the food, I have, as aforesaid, endeavored to preclude, as far as possible, any discrepancy in the amount of nitrogenous material consumed, by regulating the dietary of my cases, *i.e.* by prescribing the same diet for all before and during experimentation. And still the gouty cases show a remarkably low urea excretion.

What is the cause of this urea deficiency? Is it dependent, primarily, on hepatic or renal disturbance? I incline to the former view. It is now generally conceded that the liver constitutes the chief seat of urea formations, as was originally claimed by Meissner, and afterward confirmed by Brouardel, Schroeder, and Minkowski (Purdy[7]), and others. The deficient urea output, found in the tabulated cases, would seem to indicate perverted metabolism due to functional hepatic derangement, there being besides many other clinical symptoms and complications that point to the liver as being at fault, and lend color to the old Murchison hepatic theory of gout. On the other hand, we have in the cases under consideration, no clinical evidence of kidney trouble in support of the renal theory.

From a diagnostic and prognostic standpoint the presence of this urea deficiency is very important, and has frequently proved a valuable adjunct in my hands. To establish a correct diagnosis between gout and chronic rheumatic conditions, and between lithæmia and certain nervous affections due to other causes, is in some cases extremely difficult, if not impossible, at first sight. In chronic rheumatic affections—a collective term used for convenience sake, embracing chronic rheumatism, rheumatoid arthritis, osteoarthritis, etc.—the results of the urinary analyses do not appear to deviate materially from the normal.

In a number of cases, I have hesitated in pronouncing for gout or rheumtaism, and deferred making a definite diagnosis until after having obtained the uranalyses. The results thereof have cleared up the situation, and conclusions based thereon have, subsequently, been invariably substantiated by further observation, and "ex juvantibus." In my experience, gout has proved far more amenable to treatment than chronic rheumatism, and I still maintain as optimistic views relative to the beneficial results of balneotherapy in gout as expressed in a previous communication.[8] Sir Dyce Duckworth's Treatise on Gout (London, 1890) contains a complete list of the literature up to the date of publication, from which quotations not asterisked in the foregoing are taken. In concluding, I desire to express my appreciation of this excellent work, which has been a valuable aid to me in the study of the subject.

SUMMARY.

1. Persistent deficient urea-excretion is always present in, and characteristic of, chronic gouty conditions.

2. The total urea output in gout is considerably lower than that found in chronic Bright's disease, about two-thirds of the amount in other miscellaneous chronic disorders, and only about three-fifths of the quantity, excreted in health.

3. Deficient urea-excretion is an important factor in the differential diagnosis between gouty and chronic rheumatic troubles, and between lithæmia and certain nervous conditions dependent on other causes.

4. It is not present in chronic rheumatic conditions.

5. It points to perverted hepatic metabolism, and lends color to the Murchison theory of gout, there being in the cases discussed no clinical evidence of kidney trouble in support of the renal theory.

6. A diminished uric-acid excretion is to a certain degree commensurate with that of urea.

7. Gout, goutiness and lithæmia are of the same origin, and but modifications of the same disorder.

8. Chronic gouty conditions are in general more amenable to treatment, especially to balneotherapy, than chronic rheumatic affections.

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OPERATION FOR CONGENITAL SADDLE-NOSE BY INTRODUCTION OF A CELLULOID PLATE.

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Much has been written during the past few years about paraffine injections for the cure of the deformity known as saddle-nose. While the results on the

Fig. 1.

whole have been satisfactory, the procedure is not free from danger. Numerous cases of embolism have been reported, occasionally followed by serious lesions. The introduction of a celluloid plate is a simple, safe, and efficacious operation, free from the dangers attending the subcutaneous injection paraffine. Almost three years have elapsed sin the celluloid plate was introduced in the case n rated below, so that the patient can be looked up as permanently cured.

Mr. X., thirty-five years old, was referred to me his family physician in April, 1901. The man sta

Fig. 2.

that he had been born with the deformity with wh he presented himself. In place of the bridge of nose there was a marked depression between nasal bones above and the cartilage at the tip of nose. The resulting deformity was a combinat of the so-called pug-nose and saddle-nose. (Fig. 1.) A sister of the man had been born wit hare-lip. The remaining brothers and sisters had no deformity of any kind. There was no tory of congenital or acquired lues. The wife of patient had always been in good health, and given birth to several healthy children; she had no miscarriages.

On April 29, 1901, under chloroform anæsthe I made an incision one-quarter of an inch long, in median line on the under surface of the n Through this small incision, with iridectomy sors, a subcutaneous flap was made over the pressed bridge of the nose. A piece of cellu about half an inch wide, an inch long, and a thirt of an inch thick, was sterilized by boiling for a minutes in soda solution. On taking it out of hot solution, the celluloid was readily molded the shape of the bridge of the nose. The cellu plate was then introduced through the incision, pushed upward until it occupied the space cor ponding to the subcutaneous flap. It was then ticed that the skin over the plate was almost wh The plate was removed, cut down a little on side, and re-introduced. The skin over it wa longer white, but normal flesh color. The inci on the under surface of the nose was closed with fine silk suture. To avoid pressure on the plate dressing was employed. Following the opera there was no pain or discomfort. There was a li swelling for a week or ten days, but the wo healed readily. Figure 2 shows the result sho after the operation. The patient recently prese himself at my office, and the ultimate result is better than shown in Figure 2. The man stated he had had not the slightest annoyance from plate at any time subsequent to the operation. method is, I believe, worthy of trial.

1001 Madison Avenue.

HE BLADDER IN HEALTH AND DISEASE, AS DEMONSTRATED BY THE CYSTOSCOPE.*

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HE study of modern cystoscopy began in 1879, hen Nitze introduced a method of lighting with an ectric lamp, having for a principle the direct light- g of the bladder. However, the Nitze-Leiter stoscope was too complicated and too difficult to

FIG. 1.

ep in repair to be of any use to the medical pro- ession.

In 1886-87 the Leiter incandescent lamp cysto- pe made its apprearance. This was a very good actical instrument.

Later modifications of the cystoscope have been de by Brenner, Boisseau, du Rocher, Fenwick, erbock, Wallace, Casper, Albarran, Nitze, Brown, d Lewis.

These cystoscopes may be divided into two groups: 1. Cystoscopes through which one looks directly the object, where no reversion of diameters occurs. 2. Cystoscopes with prisms inserted in the vesical d of the shaft, through which one sees the object ersed in the vertical diameter, but the parts of the

FIG. 2.

ld of vision seen at the right and left are actually these positions.

Nitze and Casper give courses of instruction on stoscopy every year. Each course consists of ht demonstrations, beginning the 28th of Sep- mber—and the 28th of February. Private instruc- n can be obtained at any time from Thumin or ossidlo. In Vienna cystoscopic instruction is ven by Von Frisch and Grünfeld. Nitze's courses e the most interesting, patients being referred to m from all parts of Germany and Austria. This tumn he showed two cases of carcinoma, one cyst the bladder on which he operated intravesically, e papilloma, and two tuberculous ulcers.

It is commonly stated that after eight or ten les- sons the student will have acquired sufficient skill to catheterize the ureters. This is an erroneous impression. Out of the twelve men who completed Casper's course this fall only two succeeded in catheterizing a ureter—one of these students had been a former pupil of Dr. Cabot and the writer.

Since Fenwick's work, published in 1889, there has been no textbook on cystoscopy published in the English language. Casper's work of 1898 gives the most concise statement of the subject. Nitze's book and atlas, to be published in Berlin this March, should be read by all doctors interested in diseases of the bladder.

FIG. 3.

While any one with a little practice and patience can learn to use the cystoscope so as to see tolerably well, it takes experience to interpret correctly what is seen. Only after continuous effort and a broad understanding of genitourinary pathology can judgment be obtained for the proper selection of cases for a cystoscopic examination.

Before attempting to use the cystoscope on the living bladder, the student should practise on one of the phantom bladders. It makes very little difference which one he chooses. An apothecary's mortar lined with bees wax, to which little pieces of colored sponge can be attached will answer just as well as a phantom bladder, with an expenditure of only twenty-five cents. Practice on the dead subject is unsatisfactory, as the ureteral walls have lost their elasticity, so that the cystoscope can very rarely be passed into the bladder without having the prism and lamp so soiled that it is impossible to see anything.

FIG. 4.

The cystoscope tolerates high temperatures very poorly, so that it cannot be rendered aseptic by heat. Albarran, Wossidlo, and Thumin use a 5-percent. solution of carbolic acid to sterilize the cystoscope. Nitze, Lewin, and Brown use a formalin lamp. Casper places his cystoscope in spiritus saponatus for five minutes before using.

Though the cystoscope is absolutely surgically clean, the urethra is very rich in bacteria. When a

*Read by invitation before the Medical Association of the Greater City of New York at the Academy of Medicine, January 11, 1904.

lubricant composed of glycerin, tragacanth, with the addition of a 1:500 solution of hydrargyrum oxycyanatum is used, the cystoscope is said to convey no microorganisms into the bladder. To prevent any possibility of infection the bladder is washed out after each examination with a 1:5,000 solution of hydrargyrum oxycyanatum.

As a matter of routine, Casper injects eight drachms of a 4-per-cent. solution of cocaine into the urethra with an ordinary clap syringe. The syringe is then filled with water and the cocaine solution is pushed into the bladder. Nitze uses the same solution of eucaine, as he considers this a safer proce-

FIG. 5.

dure. The bladder is then filled with a 2-per-cent. solution of boric acid. Nitze, Thumin, Casper, and Wossidlo all agree that 150-200 c. cm. is the proper amount to be introduced. However, the patient's feelings must be considered. It is useless to inject more fluid than can be retained.

The cystoscope, after the lamp has been tested to see if it is of sufficient brilliancy, is then introduced into the bladder like an ordinary metallic sound, with the greatest gentleness, to avoid any trauma of the urethra, as any blood covers the prism and adheres to it, so that when the bladder has been entered and the light turned on, only a diffuse red field of vision can be seen.

FIG. 6.

The Nitze cystoscope for ordinary use has a caliber of 21° F. The irrigating cystoscope as formerly made, had a diameter of 23° F., but as now made by Loewenstein has a diameter of 24° F. It therefore follows that the urethra must permit of the easy passage of a soft rubber catheter 21-25° F., before a cystoscopic examination can be made.

The bladder must be tolerant enough to hold at least 60 c. cm. When less tolerant than this no cystoscopic examination can be successful.

The bladder, as described in textbooks, is in a state of distention. When empty it lies in folds between the ureters and urethra. As the bladder fills, the ureteral openings are drawn away from the urethra into the cavity of the bladder, until full distention, when they have been drawn back 4 cm. The ureteral orifices lie in the interureteral line 2 cm. apart.

After the bladder has been distended to the extent of 150 c. cm. the cystoscope is inserted until the beak lies in the middle of the cavity of the bladder. The lamp is then illuminated, when a clear luminous field of vision of a light yellow color can be seen. If the bladder is dilated with urine the picture is more deeply yellow.

The knob on the handle of the cystoscope indicates the position of the beak of the instrument. As the shaft of the cystoscope is raised—lowered—moved laterally or rotated—all the internal surfaces

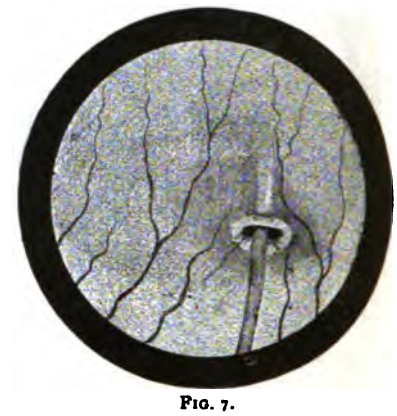

FIG. 7.

of the bladder can be seen with the No. 1 cystoscope of Nitze, with the exception of a small portion of the posterior surface.

With the beak pointing up, the cystoscope is elevated and slowly drawn toward the operator until a dark zone runs across the lower part of the field of vision, representing the neck of the bladder. As the cystoscope is further retracted, this darker zone can be seen to increase until it covers one-half of the picture, as seen in figure 1.

If the handle of the cystoscope is still further retracted, darkness ensues as the prism has been covered by folds of the prostatic urethra.

The light must be instantly turned off and the

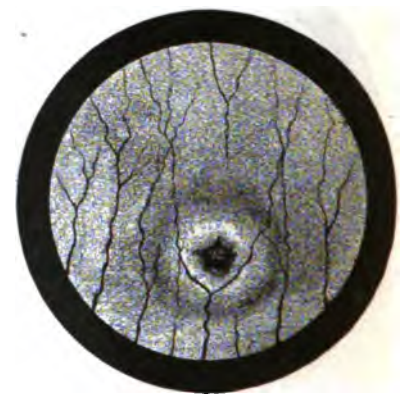

FIG. 8.

beak re-inserted into the middle of the cavity of the bladder.

The lamp is again illuminated and the cystoscope gently pushed back so that the prism is focused on a surface of mucous membrane—a pale pink surface shading on the orange—with parallel arterial branches is seen in the normal bladder if the light is sufficiently good, as shown in figure 2.

However it can be readily understood that the color of the healthy bladder presents variable differences. It differs with the individual and with the same individual in different localities of the bladder, also according to the brilliancy of the light, the distance of the prism from the object, the transparency of the fluid medium, and the diathesis of the patient.

When the beak of the cystoscope is rotated below 190°, and moved forward and backward, the interureteral line can generally be seen. This line represents the posterior boundary of the trigonum, and is formed by the light pink membrane of the bladder, shading into the more yellow mucous membrane of the trigonum, as shown in figure 3.

This interureteral line, when it can be found, is one of our most important landmarks, as the ureteral openings can be found at its lateral terminations.

When the bladder is not sufficiently distended, a brilliant light will not enable us to find the interureteral line or the ureters, as these will lie between

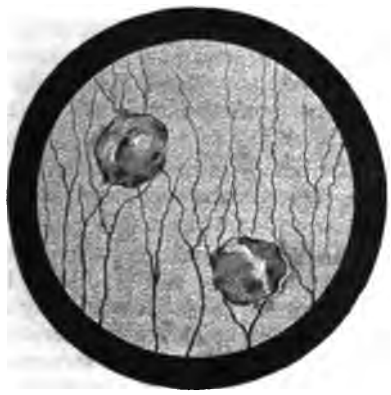

FIG. 9.

the folds of mucous membrane of the trigonum, as shown in figure 4.

The ureters can be found in a case of this kind by injecting more fluid, when the folds of mucous membrane will be smoothly stretched out, or by watching for the position at which drops of urine would exude from the ureteral orifice.

When the prism of the cystoscope is placed directly over the ureteral orifice, it can be seen in a luminous line in the form of a slit, generally situated on an elevation, as shown in figure 5.

At the moment when drops of urine exude from the opening, the ureter can be seen to bulge out in the surface of the bladder, as seen in figure 6.

When the ureteral catheter has been inserted, the

FIG. 10.

ureter can be seen to surround it, as shown in figure 7.

As we have seen, the ureteral opening consists of a slit, situated on a little round promontory in the great majority of cases. It may lie in a depression, but its form is, however, very materially altered after some general constitutional diseases, or after inflammation of the bladder.

In old men of atheromatous type, the ureter will sometimes be seen in the form of a gaping cleft, resembling the crater of an extinct volcano, as the contractibility of the muscular layers has been lost, owing to the degeneration of calcification (figure 8).

After inflammatory alterations the formation of white fibrous tissue can be seen to have contracted the opening leading to the hydro-and pyonephrosis.

The beginner in his anxiety to get as good a view as possible is apt to push the lamp into the mucous membrane of the bladder, causing a hyperæmic swelling or burn, as shown in figure 9.

The next attempt to see the bladder will be more difficult. These hyperæmic areas may serve for the growth of microorganisms that have entered the bladder from the urethra, ureters, or general circulation of the blood, thus causing a cystitis acuta suppurativa.

Any healthy bladder of young people between the ages of twenty-five and thirty years may be taken as a type of the normal. Just when the variations of

FIG. 11.

the normal bladder have advanced sufficiently to constitute a pathological condition is often difficult to determine.

The muscular frame-work of the bladder, when there is any hindrance to micturition, must do more work than formerly. Slightly trabeculated bladders are found in youth and old age. Such bladders cannot be considered as pathological, as the effort the bladder must make in cases of stricture of the urethra or enlargement of the prostrate gland to expel its contents, is in an increasing ratio—the bladder hpyertrophies more and more, until we get a trabeculated bladder, as shown in figure 10.

As the intravesical pressure is increased the urine is pressed in between the trabecula, and pouches of

FIG. 12.

the bladder may be formed that often assume a considerable circumference; 284 such cases have been reported in medical literature up to the present time. The urine remains behind in these pockets, particularly in those at the base of the bladder. In extreme cases a rupture may occur, causing a fatal peritonitis.

The normal bladder has an extraordinary vitality for the resistance of microorganisms, but when there is a congestion of its walls, or a hindrance to urination, it becomes receptive to the invasion of bacteria. The bacterium coli commune being the most frequent cause of inflammation of the bladder.

In cases of cystitis it is generally stated that the cystoscope is contraindicated on account of the in-

tolerance of the bladder. However, the intolerance of the bladder is in proportion to the extent and nature of the pathological changes. With patience and perseverance all the details of the inflamed bladder can be cystoscopically studied.

The parallel branches of the arteries that run only occasionally into each other in the normal bladder, can be seen to be greatly dilated, and all the smaller

FIG. 13.

branches that cannot be seen in a state of health become apparent. The mucosa is swollen, deeply congested, and hyperæmic. Here and there can be seen extravasations of blood or surface ulcers, as seen in figure 11.

Formerly gonorrhœal cystitis was considered to be an inflammation of the entire inner surface of the bladder. The cystoscope has shown that cystitis gonorrhoica is a localized process encompassing the neck of the bladder and the trigonum, but never spreading any further.

More frequently than was formerly supposed, cystitis tuberculosa is engrafted in the chronic gonorrhœal area.

Nitze, this autumn, demonstrated two cases to his class. Two cases were demonstrated by the reader, as shown in the MEDICAL RECORD of December 5.

Miliary tubercles are formed by the deposition and growth of the tubercle bacilli. These tubercles can be seen in the form of small round gray elevations, surrounded by hyperæmic areas. Later by the process of cheesy degeneration these tubercles ulcerate, and as their walls coalesce, extensive ulcerations of the mucosa and submucosa are formed.

After inflammation of the bladder, particularly the gonorrhœal form, the region of the trigonum shows a remarkable tendency to papillary proliferation. Small fibroma papillare (Virchow) can occasionally be seen in their incipiency.

As may have been noticed, we have principally considered the trigonum and ureteral orifices in this short paper, as the pathological changes occur in this region in the overwhelming number of cases.

Fenwick's statistics, based upon an examination of all the bladders contained in the museums of England, Scotland, and Ireland, are of interest. He found that single growths of the bladder occur in 86 per cent. of the cases in the inferior zone. They are found at the right ureteral orifice in 43 per cent.; at the left ureteral orifice in 26 per cent.; and on the interureteral line in 10 per cent. of the cases; 90 per cent. of the fibroma papillare or villous growths occur at the ureteral orifice.

In the region of the trigonum we find evident papilla and closed follicles, these being a transition to the structure of the glands of the urethra. The deeper layers of the polymorphous epithelium of the trigonum are of considerable interest, inasmuch as the spindle-formed and cylindrical cells have much similarity with isolated elements of certain malignant growths.

It is, therefore, from the histological formation of the trigonum, easy to understand why this region should show such a tendency to papillary proliferation.

As growths of the bladder increase in size for a long time without causing the patient to suffer in any way, an early diagnosis can only be acomplished by a cystoscopic examination.

In four instances I have seen small villous growths succeeding an old gonorrhœal inflammation of the bladder.

The most interesting case is that of a motorman, twenty-six years old, who had had a chronic gonorrhœal urethro-cystitis. Last March fibroma could be seen growing from the neck of the bladder, as shown in figure 12.

Last September papillary proliferation had occurred on the region of the trigonum, as shown in figure 13.

These small villous growths are the starting points of most of the tumors of the bladder. By further papillary proliferation these growths may assume the shape of a cauliflower, or as the proliferations extend all the details of their beautiful structure may be studied as the filaments float in the fluid of the bladder.

It is unfortunate that the macroscopical appearance of these growths do not accurately correspond to their histological formation. All that can be said is that the single growths with small pedicles are mostly benign. Tumors that spring from a broad base are generally malignant.

The most important concretions are those of the urinary passages. In the bladder the stroma of concretions are produced by parts of the mucous membrane of the urinary passages, occurring preferably where inflammation has caused collections of mucous and epithelial cells in the bladder.

If there is a uric-acid diathesis concrements will be composed of uric acid. It the urine decomposes in the bladder, producing triple phosphates, concretions can be formed of this.

Foreign bodies introduced into the bladder may form calculi by becoming encrusted. As a rule the ordinary metallic searcher reveals the presence of

FIG. 14.

stones, without the use of cystoscope. However, cystoscopic examination will give us an exact knowledge of the existing conditions. Small concretions may be overlooked. The cystoscope may reveal their presence.

To determine the extent of mechanical hindrance to urination formed by hypertrophy of the median lobe of the prostate, the cystoscope is our only guide (figure 14).

A Simple Method for Carrying Out the Diazo Reaction.—Bondi describes a simple method for performing this reaction which is convenient, is applicable when only a few drops of urine are available, and can quickly be carried out on a large number of specimens. The reagents are all used in the customary concentration, but the test is made on filter paper instead of in test tubes. A drop of the suspected urine is allowed to fall on a double piece of filter paper and with a glass rod a drop of ammonia is deposited on the same spot. The rod is wiped off and is moistened with a little of the sodium nitrite solution. It is held horizontal and a drop of sulfanilic acid solution is allowed to run down it till it mixes with the sodium nitrite at the end of the rod. The moist spot on the paper is circumscribed with the wet end of the rod and a red coloration appears when the reaction is positive. Urines which do not give the diazo reaction produce only a faint yellowish color. A large number of control tests have established the accuracy of the reaction, which gives the red color only in cases in which the foam would be pink.—*Zentralblatt für Innere Medizin*, No. 10, 1904, March 12.

The Etiology of Seasickness.—Binz reiterates his former statements to the effect that seasickness is the result of a state of cerebral anæmia induced through an irritation of the vasomotor centers caused by the motion of the vessel or through psychical stimuli. The facial pallor which is the earliest symptom of the malady reproduces the vascular conditions within the skull, and observations recently made by Kramer substantiate this view. This writer made ophthalmoscopic examinations of forty patients and found that the vessels were small and contracted and that the choroid was as pale as is usually the case in those who have suffered severe loss of blood. By a series of observations with the "onychoscope," a form of manometer intended to indicate the fluctuations of blood-pressure in the distal phalanx of the finger, Binz came to the conclusion that rhythmical movements of an extremity caused the vessels of the part to be less completely filled, but that there was no ground for the theory that seasickness was due to alternations of anæmia and hyperæmia of the cerebral vessels produced by wave-like fluctuations of the blood column.—*Zentralblatt für Innere Medizin*, No. 11, 1904, March 19.

Tuberculosis of the Parotid and the Possibility of Infection through the Tonsils.—George B. Wood has collected nine cases of tuberculosis of the parotid. Three were infected through Steno's duct; one from the neighboring lymph glands; one by the blood current; in four the origin of infection was obscure. In the author's case the infection was probably from the submaxillary gland. The author has tabulated 1354 examinations of the tonsils for tuberculous conditions. Seventy-three cases gave positive results (5.4 per cent.) Tuberculous changes in the tonsil are rarely noted microscopically. A series of cures show that about 65 per cent. of cases of pulmonary tuberculosis have a similar affection of the tonsils. The author thinks that the positive results should have more than proportional weight, and that tuberculosis of the tonsil is much more frequent than the cases would show. Tuberculosis of the cervical glands probably nearly always results from infection of the pharangeal and faucial lymphoid tissues. It is possible that the bacilli can pass directly without local infection from the tonsillar crypts directly into the lymphatics.—*University of Pennsylvania Medical Bulletin.*

Craw-craw.—J. Dencer Whettles states that this disease is due to general infection by a nematode. He thinks that the infection is brought about by the introduction of the nematodes themselves or their ova into the blood through either the stomach or the intestinal wall, the carrying medium being milk, in which the parasite has been found several times. He thinks the habit of mixing the various samples of milk at the distributing centers in order to raise the pure milk to the legal standards gives every opportunity for the dissemination of parasites among large communities which may have been present in only one of the samples. In Birmingham the evident symptom is signs of rubbing of the sides of the nose and eyes, and case after case of this can be seen in the streets. The shampooers at the Turkish baths state that the effects are seen in five out of six. It is commonly seen in the theaters. The parts attacked in order of degree are, summit of the shoulder, flexor side of the arm, flexor side of the thigh, hips, chest, dorsal border of the fingers, and the face, chiefly the nose and eyes. The papular variety of the affection is the most abundant, appearing, soon after the commencement of the irritation, in the form of small nodular swellings about the size of No. 8 shot beneath the skin. These enlarge after being scratched and the irritation increases in proportion.—*Treatment.*

Gonorrhœa in Women.—C. Jeff. Miller emphasizes the importance of more rational treatment of this affection and better observation and diagnosis during the latent period. He thinks that the onset of the disease may be trivial, passing quickly into what appears to be an ordinary leucorrhœa which women too often ignore; that the subjective signs are fleeting in character and may disappear while the disease is at its height, and that in primary cervical infection, no subjective sign may be present until the endometrium and higher structures are involved. The treatment requires an early diagnosis while there is still a recognized point of primary infection, and resolves itself into the application of active germicides and to a close personal attention to every detail. Care of the patient should be continued until there is no further evidence of the disease shown by clinical and microscopic tests. The acute form of the disease is rare compared to the slowly developing condition which may have its few acute signs buried under a trivial leucorrhœa years previous to the first sign of real trouble. A young woman marries and notices shortly afterward a trifling leucorrhœa, which gradually increases in intensity, and is accompanied by tenderness over the ovaries and pain on physical exertion, later lassitude, extreme nervousness, and aching of the thighs and legs.—*New Orleans Medical and Surgical Journal.*

Excision of a Tuberculous Mass from the Liver.—R. R. Rome presents the history of a patient, a woman of forty-two years, whose symptoms began with a severe pain in the right lumbar region giving a pulling sensation and preventing her from walking erect. This continued at intervals for some three months, when she was seen by the author. An enlargement was detected at a point midway between the cartilage of the tenth rib and the crest of the ilium. Abdominal incision revealed the fact that the appendix was chronically inflamed and it was removed. The gall-bladder was found contracted and retracted; no calculi could be detected. Directing search by the aid of the sense of touch along the edge of the liver, it was found that two and one-half inches of intestine were adhered to the liver. After separating the adhesions and freeing the bowel, a tuberculous tumor the size of a goose-egg was found in the lower right lobe of the liver. The surface of the liver corresponding to the tumor was firmly adhered to the parietal peritoneum. After freeing these adhesions, it was apparent that the section in which the tumor was situated could be removed in the shape of a wedge or triangle. This was mentally outlined, and heavy catgut sutures were introduced, beginning at the apex of the triangle and passed through the thickness of the lobe; the needle was reinserted and brought out opposite the first free end and left untied. Sutures were introduced in this manner half an inch apart and half an inch from the margin of the triangle. After inserting a sufficient number of sutures, the wedge was cut away with scissors, and the surfaces of the liver immediately brought together and the sutures tied. Approximating the surfaces in this way promptly checked the hemorrhage. The patient made a good recovery.—*Annals of Surgery.*

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THE MILK SUPPLY OF CITIES.

THE question of the milk supply of cities is one that appeals intimately to all classes of society, from the highest to the lowest. In order to bring up children healthy, pure milk, or at least fairly pure milk, is a *sine quâ non*. Therefore the necessity of agitating for such an article is obvious, and it is, moreover, the bounden duty of health officers, and to a lesser extent of physicians generally, to use every endeavor to obtain this result. The realization of this object is by no means easy, for the entire matter is hedged in with various difficulties. Nevertheless, persistent harping upon the same string cannot but have a favorable influence, and should arouse the community at large to a recognition of the surpassing importance of the subject.

The *Albany Medical Annals*, March, is devoted to a discussion of the milk supply of cities, to which many well-known writers have contributed. The first communication is from the pen of R. A. Pearson, Professor of Dairy Industry, Cornell University, who deals with the production of sanitary milk from the producer's standpoint. The writer is of the opinion that there are at least four influences that are respected by milk producers, and he proceeds to consider them briefly. They are: (1) Legal regulations; (2) Intelligent public opinion; (3) The example of high-class dairies, and (4) Endorsement by responsible persons.

Mr. Pearson shows that reasonable and well-enforced laws and ordinances suit all persons concerned. The dairymen appreciate them because they see the advantage of suppressing undesirable practices, while strict and well-enforced milk regulations increase public confidence and at the same time increase the demand for milk. Intelligent public opinion is a strong factor in procuring a pure milk supply, and is an influence that will be respected by dairymen. Consequently the inhabitants of towns virtually hold the key of the situation, if they insist upon having milk of good quality, undoubtedly their demands will be fulfilled.

The writer thinks that another agency working toward better milk is the Milk Commission. Such commissions have good effects by reason of their educational agency. There is one point, however, in connection with the supply of better milk which needs to be well understood—namely, that there must be a willingness on the part of the purchaser to pay a fair price for quality. The dairyman in order to produce milk so as to avoid unnecessary contamination, must spend more money to bring this result about, and will have to increase the price. In short, the general public and the dairymen must work together. Mr. Pearson rightly lays much stress upon the beneficial part the physician can play in the rôle of educator, and urges the medical profession to take an active interest in the procuring of a pure milk supply, and by pen and voice to educate the public as to the value of uncontaminated milk.

The next article is by Dr. Charles Harrington, Assistant Professor of Hygiene, Harvard Medical School. This writer says that the first question is, How shall we ensure the public against the consumption of milk rich in bacteria? and answers his question thus: "Now there are two ways of producing milk with comparatively few organisms per cubic centimeter, (*a*) by subjecting those already present to the destructive influence of heat, *i.e.* by pasteurization or sterilization, and (*b*) by preventing their growth from the beginning." Dr. Harrington is not in favor of the first two methods, but insists that strict cleanliness is the essential procedure. By these means bacterial growth can be almost entirely prevented from the beginning, and he is of the opinion that regulations enforcing the same should be framed.

Dr. Rowland G. Freeman, Lecturer on Pediatrics, University and Bellevue Hospital Medical School, contributes an article on the "Contamination of Milk," in which he treats of the various sources of milk contamination.

In the discussion which followed the reading of the foregoing papers Dr. Craig took a prominent part. He summed up his ideas as to the conditions necessary to provide a better milk supply for cities thus: That the practical points to be dealt with were on the one hand from a commercial standpoint and upon the other in accordance with the dictates of charity. The writer believes in the establishment of a "milk trust," or rather a single milk station, with proprietary interests in the muncipality. "In this way only," he says, "Can we succeed in having a properly standardized milk eventually adopted for public use. The other method of supplying standardized milk is through charitable organizations.

The discussion was closed by Dr. Cook, who held that the cause of much milk contamination in New York State was the unhealthy condition of the cows themselves. He further said that there was no test in New York State, as in the adjoining States, to prevent tuberculous cattle from being brought in. The speaker's theory with regard to the steps to be taken to obtain pure milk is somewhat as follows: First a healthy cow; then proper surroundings; then a clean stable with a proper amount of air space; then a healthy attendant; then clean utensils; then as soon as the milking is completed the milk to be reduced to a certain temperature and held at that temperature till shipped. It should come to the middle man in a condition in which it has not been allowed to undergo any bacteriological change. Then it should go into a room at a certain temperature, bottled at a certain temperature, and kept at that temperature till it is delivered to the consumer. Then the consumer should be educated up to the standpoint that it should be kept at a certain temperature till it is used. Dr. Cook's view is that the first and essential point is to have healthy cattle, for so long as cows are diseased it will be impossible to procure pure milk.

E AGRICULTURAL DEPARTMENT AND WATER PURIFICATION.

E Agricultural Department at Washington has ated a veritable public sensation by the announcent of a new method of purifying drinking water by addition of a diluted compound of sulphate of per and a certain lime salt, thereby not only deying the vegetable scum on the surface of reserrs and stagnant pools, but also killing all the arial and typhoid germs which are likely to be sent. The novelty of the proposition is only alled by its absurdity.

he possibility of affecting the desired result is not y contrary to all scientific views on the subject of er purification, but singularly lacks any practical lication of the plan to the actual needs of the ation.

he claim is that the dead product of chemical ion deposits itself upon the bottom of the pond by so doing makes the surface pure. It is exnely difficult to understand how any improvent on actual conditions can thus be made by ely substituting for living aquatic vegetation ded material which is simply out of sight. To the inary mind this would appear rather to increase difficulty than to remedy it.

t is yet to be proven that ordinary aquatic vegeion is actually harmful to drinking water. Its ence is simply an indication of stagnation rather n unhealthfulness, as even running water cons the algæ in great quantities. Of course this is rgument against the rippling stream as furnishthe typical, potable water, but the second choice y no means such a forlorn expedient as might erwise appear. In any event there should be no d for stagnant pools of any sort even from an hetic point of view, as simple drainage is always ilable; nor should scum be allowed to accumuwhen it can be so easily disposed of by ordinary ation. All that is really required in the latter ance is mechanical separation, which is by all s the most effective method for preserving the ual life of the water. To add chemicals of any d to a water is to contaminate it in a greater or er degree.

he promise to kill the typhoid germ by such ns is an absurdity on its face. Even if a chemi mixture could accomplish the purpose it would essarily be of such strength as to make the water t for drinking purposes. We could hardly ext more from this new mixture than from some of more powerful bactericides that have been used the typhoid bacillus, and in vain.

So far it has been admitted by scientific experimenters that thorough boiling of the water is sure death to this microbe, and pray, why is it necessary, by adding medicine to our drink, to eschew a simpler, safer, more available, and more effective plan of disinfection?

The new compound, whatever it actually is, may be useful in indirectly exterminating the mosquito by depriving it of its food, but obviously the plasmodium itself cannot be reached directly, as it is not yet proven that the parasite actually breeds and propagates itself in swamps. All that is positively known at present is that the mosquito and man are the only parties concerned in the development of malaria. All this would seem to prove that the chemist of the Agricultural Department is a trifle beyond his calculation of any real good that may come from the latest widely-heralded discovery in disease prevention.

THE RESIGNATION OF PROF. WM. T. BULL.

THE resignation of Prof. William T. Bull from the chair of surgery in the College of Physicians and Surgeons, which he has so long filled with such great credit to himself and to that institution, is a notable circumstance bearing on the purely individual reasons for its occurrence.

It was simply a question of the man and the hour meeting on the common grounds of adaptability. In the midst of his great usefulness to the school he voluntarily leaves his duties to his successor and retires with his well-won honors, and in the zenith of his fame as one of the representative surgeons of his day. From such a point of view he will be remembered by his pupils as one always up to his work and thoroughly alive to all the onerous requirements of his office.

Aside from the example this may be for others under like conditions, it brings with it a becoming regret that he could not for awhile longer at least have continued in his office. But at no better time, considering the other exacting professional duties constantly awaiting him, could the change have been made. As it is, all that his numerous friends can wish for him is continued health and growing prosperity in larger fields.

JAPANESE HOSPITAL SHIPS AND RUSSIAN MILITARY MEDICAL SERVICE.

IN the *Journal of the Association of Military Surgeons* for April appears an article on Japanese hospital ships from the pen of Dr. Tessier, médicin sanitaire maritime, contributed to a recent number of Le Caducée, and translated by Lieut. Charles Norton Barney, Medical Department, U. S. A.

The main part of this narrative is as follows:—As soon as the Treaty of Shiniouoseki was signed, the Japanese Red Cross Association had two ships specially constructed for ambulance and hospital service in time of war. These two ships were built on the Clyde, Scotland. Both were constructed on the same plans. Each has a displacement of 2,700 tons, a draught of 6 meters, length 95 meters, beam 12 meters, and a speed of 15 knots an hour. On the upper deck are the salon and cabins, a disinfecting room, laundry, galley, hoist, lamp locker, bath rooms, and water closets; three of the staterooms on the deck are assigned to the Red Cross delegate and his secretary, two to officers of the navy and interpreters, one to chief medical officer and others to the ship officers generally. In the 'tween-decks are the staterooms of the junior medical officers, of the pharmacists, and of the female nurses, and a mess room for the latter. The hospital, which is situated in this part of the ship, is composed: aft, of several staterooms holding in conjunction forty-five cots reserved for officers; further forward, of staterooms and a large ward capable of holding 115 non-commissioned officers and soldiers. Still further forward, and separated from the others by a bulkhead, is a ward of forty-two cots for contagious cases. There are also

on this deck operating rooms, dispensary, radiographic room, laboratory, bathrooms, etc.

The lower deck comprises the quarters of the hospital corps, a mortuary, an ice plant, a refrigerating room, a baggage room, and store-rooms; further forward, machines for cooling and compressing the air, used in the artificial ventilation of the ship, and the boilers, and way forward the quarters of the crew.

The medical personnel embarked includes, among others, a delegate from the Red Cross, a chief medical officer, three junior medical officers, a pharmacist, and an assistant pharmacist, a secretary or chief clerk, a chief of female nurses, two hospital sergeants-major, two female nurses (chiefs of squad), two hospital sergeants, nine female nurses, twenty-eight hospital corps soldiers, an instrument sharpener, a laundryman, interpreters, etc.

These ships are named respectively Hakuaï-Maru and Kosaï-Maru. The former was on her way to Shanghai, when she received orders, June 28, 1900, at the beginning of the international intervention in China, to get ready for active service. After being fitted out at Yokohama she started for Taku on July 7. Between this date and end of April she made seven trips from China to Japan, transporting in all 1,538 patients. The latter ship made likewise seven trips from China to Japan and transported 1,328 sick. These ships carried to Japanese military hospitals, patients not only from the Japanese forces, but also some from others of the allied forces.

Dr. Tessier also discusses in Le Caducée Russian military medical affairs. Russia has no hospital ships, but as her fleets are blockaded, up to the present this need has not been felt. It is believed, however, that in the case of hospital ships being required, that the Russian Red Cross Society would meet the exigencies of the situation in this particular. Great enthusiasm prevails to-day in Russian Red Cross circles. The Russian military Red Cross has now mobilized twenty-six field hospitals with 5,050 beds. Numerous sanitary Red Cross trains have left St. Petersburg for the far east. Each of such trains comprise eight cars for the sick, four of which are reserved for the severely injured and four for the more slightly wounded. There is also a cook's car, a medicine car, an operating car, two cars for linen and clothing, and a car for wounded officers. It is more than probable, thinks Dr. Tissier, that the Russian Red Cross will take a prominent part in the sanitary service in Manchuria and assume a position of much greater importance than is allowed to it by the regulations of other European armies.

The military medical organization of the Russian army is unwieldly and in many ways badly arranged, so that there will be full scope for the services of the Red Cross.

The hospital ship service of Japan is thoroughly up to date, and their ships were probably the first built intended wholly to serve as floating hospitals and ambulances. This is but another of the many proofs recently manifested of the extraordinary adaptability and progressiveness of the Japanese. Their military Red Cross Service is also splendidly equipped and in every way fitted for its duties, and will compare favorably with that of any great power. The medical and surgical features of the war between Russia and Japan will undoubtedly be of the greatest interest, and will serve as an object lesson to the medical departments of all armies.

Our Special Reports from the Isthmus of Panama.

Attention has been called on several occasions in the Medical Record to the sanitary conditions of the country through which the proposed Panama Canal will pass, and it has been urged that, before work is even commenced on that undertaking, vigorous efforts should be made to render the route and its vicinity more healthful. Preliminary steps are now being taken with this object in view. Colonel W. C. Gorgas—whose work in Cuba fits him admirably for the task—has gone with the Commission to Panama in the position of sanitary and medical adviser. The local situation will be carefully studied, and plans prepared for the sanitation of the canal zone and of the cities of Panama and Colon themselves. Health conditions along the canal route are not nearly so bad as they are popularly believed to be. The greater part of the country the canal will traverse is fairly high, well above the sea level. At the ends, however, low-lying, disease-breeding swamps extend, in which numberless mosquitos exist. The marshes, therefore, near Panama and Colon must be drained. In fact, proper sewerage and drainage systems, and an adequate supply of pure water, are undoubtedly essential needs, and the introduction of these measures would probably make of the Panama Canal route a locality in which white men, taking necessary precautions, would be able to live in as good health as those of the Caucasian race usually enjoy in tropical countries.

Arrangements have been made with our special correspondent accompanying the expedition, whereby the Medical Record will receive from time to time accurate reports at first hand of the doings of the Panama Commission, and especially with regard to any arrangements or suggestions which may be made respecting sanitary affairs.

The Curse of Corsets.

Dr. Arabella Kenealy contributes to the *Nineteenth Century and After* an article with the above title. The effusion is a violent diatribe against corsets for women, and the writer expresses her opinions in extremely plain language. In the early portion of her remarks she uses this epigram: "Dress has been given to women to conceal her deficiencies, and to this end she employs it, beauty and dress assuming generally an inverse ratio one to the other." The writer declares that in Great Britain the habit is immensely on the increase, and that tight-lacing once confined to the upper classes now permeates the humblest.

Dr. Kenealy describes in the following vigorous language the effect of the corset on the girl when she rises in the morning: She encases herself in an abnormality of steel and whalebone, compressing vital organisms in an unyielding grip. The resulting sense of constriction, more irksome, as every woman knows but too well, in the morning, where it does not induce actual nausea, at all events occasions a feeling of pressure destructive of appetite; so that after a fast of some twelve to fourteen hours the girl, whose growing, hungry tissues clamor for fresh supplies, is unable to take the food her system badly needs to start the day upon. Or if she takes it the cramped organs can but ill assimilate it. The storage power of the liver is diminished, the blood currents are impeded and become sluggish, the lungs shrink, and the starved blood cannot nourish the tissues. The abdominal muscles are atrophied, and later in life will probably yield altogether, the woman becoming the shapeless personage we regard as the norm of middle age."

Dr. Kenealy refuses absolutely to listen to the cry that stays are not tight. She says that the stays are

indeed tight is shown by the fact that although the physique and internal organs expand in every other direction, the waist of the adult woman is actually less than that of the girl between ten and twelve. . . . The female waist is naturally two inches larger than that of a male of corresponding height and weight.

The article closes with these brutally outspoken words, words that no one but a woman would have dared to use. "There is no doubt that dress is the calamity which covereth multiple previous deficiencies. The average woman, clothed as fashion clothes her, presents, I confess, an exterior pleasing to our artificial and acquired tastes. Unclothed—alas! alack is that to make the physiologist and artist weep." The fact is undeniable that tight lacing is injurious to the health, and it is also true that many women do lace tightly. But Dr. Kenealy in her article allows her feelings to carry her away, and lapses into many indiscretions of speech. The rising generation of girls, at least those of the Anglo-Saxon race, and of the well-to-do classes, are physically bigger and stronger than were their grandmothers, and the result is due to the healthy out-of-door life which the majority of them lead. As to the girls belonging to the working class, it may be as Dr. Kenealy says, that the practice of tight lacing is increasing among them. If so, they should certainly be warned that the custom is a pernicious one, and also be reminded that the Greek sculptors, the greatest the world has ever known, took as their models for the highest type of female beauty, women with by no means small waists, but those with waists proportionate to their build.

ASIATIC CHOLERA IN THE PHILIPPINE ISLANDS.

Bulletin No. 2, published by the Board of Health for the Philippine Islands has recently been issued. The pamphlet is on Asiatic Cholera in the Philippines and is written by Dr. Thomas R. Marshall, Chief Health Inspector there.

The disease has for months been the prevailing malady in the Philippine Islands, and the present infection is believed to have entered through the port of Manila in March, 1902, emanating from China.

Water is probably the most frequent means of conveying cholera to man. Generally speaking, the water supply of the Philippine Islands is bad. In Manila itself, aerated waters and other bottled drinks, and sorbete, are likely to convey cholera infection. With regard to the contamination of food, Dr. Marshall thinks that, probably flies play an important part by conveying the cholera spirillum from evacuations or dead bodies. In March, 1902, the writer found on the legs of flies caught around cholera cases an organism identical morphologically with the cholera vibrio. Dirt may be a means of infection, also contact with infected vessels, clothing, bedding, etc., or the hands of persons attending the sick.

Dr. Marshall summarizes the usual sources of infection as follows: (1) From drinking water infected with cholera excreta. (2) From using infected water for washing cooking utensils, dishes, etc., on which food is served, or for washing cloths with which utensils, dishes, etc., are wiped. (3) From flies and possibly other insects which convey the spirilla from infected dejecta to food. (4) From nurses, attendants, washerwomen by direct conveyance of infection from the patient or his clothing to the mouth. (5) From food accidentally contaminated by handling—vegetables and fruits sprinkled with infected water or manured with human excreta. This practice, so common in the Philippines, particularly with Chinese market gardeners, is exceedingly dangerous and should be prohibited. (6) From fish and other river and sea food taken from infected waters. (7) From dirt or air contaminated by infected dejecta. This means of infection is probably very infrequent.

The writer discusses preventive measures at some length. He states in part that in his opinion, it is an indisputable fact that an experienced, well-organized and equipped health board can, with the aid of the people, prevent the spread of cholera, and even its introduction. The most effective modes of disinfection are then described in detail, and Dr. Marshall concludes by laying down the following simple rules for observance on the occurrence of cholera in municipalities and barrios: (1) Drink only boiled, distilled, or well-known bottled waters. (2) Avoid eating anything likely to produce diarrhœa, particularly uncooked vegetables and fruits. Should diarrhœa appear, immediately secure medical treatment. (4) If it becomes necessary to attend cholera hospitals or persons sick of cholera, be careful to disinfect the hands before eating or smoking or leaving the infected area. (5) Keep the stomach acid by occasionally drinking lemonade, lime-juice, or water containing a little diluted hydrochloric acid; cholera spirilla cannot live in an acid medium. (6) Correct any insanitary condition about the premises, pay especial attention to drains, latrines, cesspools, or any filthy locality; have them cleaned and (if necessary) disinfected, and their contents effectually disposed of. If the house contains plumbing or sewerage, have it examined for leaks. Guard carefully the water supply.

As to the germicidal treatment, the writer says "various remedies directed to the destruction of the cholera vibrio in the intestinal canal have been tried, also drugs designed to counteract the physiological effect of the cholera toxin, but so far without sufficient clinical proof of value. Benzoyl-acetyl peroxide and the salts of silver have been extensively used in the Board of Health hospitals in Manila and favorable results therefrom are claimed."

Since the disease broke out in March, 1902, 5,023 cases, with 3,886 deaths, have been recorded in Manila, and 141,712 cases, with 90,745 deaths, in the provinces; while there is every reason to believe that the provincial figures do not represent more than half of the actual number of cases and deaths which have occurred.

Owing chiefly to the filthy and insanitary habits of the natives and their custom of eating raw fish and decomposed food and of drinking polluted water the disease has spread with great rapidity among them.

The problem of how to successfully fight Asiatic cholera in the Philippine Islands is the most important of the many which confront the health boards in our far Eastern dependencies. The solution of this problem too will tax the energy and patience of American surgeons to the utmost and, although in time the desired object may be attained, yet judging from the experience of the British in India and elsewhere, this result will only be reached by the exercise of the most rigid preventive measures, measures extremely difficult effectively to carry out among races like the Filipinos.

TYPHOID FEVER AT LEADVILLE, COLORADO

An epidemic of typhoid fever occurred in Leadville, Col., of which the onset was very sudden and the origin somewhat obscure. The Colorado State Board of Health, Sanitary Bulletin, January 31,

published an account of the manner in which the epidemic in Leadville was initiated. The two first cases of typhoid fever came from Breckenridge in August, 1903, and were taken to St. Vincent's Hospital. This hospital is situated on some of the highest ground in Leadville, and the drainage runs toward the center of the city. The sewage from the hoppers, sinks, etc., before emptying into the sewer in the street, flows through a settling tank, where heavy matter is allowed to rest, and the liquids pass off into the sewer. The tank is made of brick and mortar, not cemented inside or out, and, consequently is not waterproof. The theory of the State Board of Health as to how the epidemic originated in Leadville is as follows: Stools, which were not disinfected from these first few typhoid-fever cases in the hospital, reached the settling tank. Hence seepage occurred downward toward the street until the water main was reached. This brought the seepage from the cesspool, contaminated with the germs of typhoid fever, to the water main. On December 5 the main was drained in the vicinity of the hospital. As soon as the mains were drained, a vacuum occurred, and then the seepage would flow into any crack in the main with which it came into contact. When the water was in the main, the pressure would be so much greater inside the pipe than out that seepage could not occur. But when the main was drained the pressure would be reversed. In a town like Leadville, it is not an uncommon thing, owing to the mining that is going on in the town and its vicinity, for the water mains to become injured from the settling of the ground, resulting, of course, in more or less leakage. Therefore, it would be an easy matter for contaminated sewage to come into contact with one of those leaks, and for the sewage to enter the main at the time it was drained. It is believed that this is what happened in Leadville, and in this manner the water became contaminated. This view was borne out by the following facts: The water supply of Leadville, before it reaches the city mains, is as pure as any water supply in the State of Colorado. Nothing but contaminated water could cause so large a number of cases of typhoid fever, milk flies and vegetables being excluded, and consequently, as typhoid fever comes from typhoid contamination, such contamination occurred somewhere inside the city mains. In view of the fact that the mains were being drained for repairs; the stools from the first cases of typhoid fever were not disinfected; that they were allowed to flow into a settling tank that was not waterproof; and seepage could easily reach the water mains; that the greatest number of cases occurred in the district lying below the hospital, which would receive this contaminated water, while other districts which did not receive it had but very few cases, all point to this method as being the one which contaminated the water supply.

Midwives Bill in England.

The incapacity of the British midwive has long been a potent source of danger to the indigent mothers of England, as well as a disgrace to an enlightened country. A large proportion of the poor of Great Britain are not able to afford the services of a physician when their women are confined, but must rely upon the help of the midwife. Any woman could, without any training whatever, take up the calling of midwive, and until the passing of the Midwives' Act, many entirely uneducated and incompetent persons did this as a means of adding to their earnings. The result of the laxity of the regulations as regards this matter may be easily imagined. Of late, however, the British medical profession have awakened to the gravity and also to the anomaly of the situation, and the midwives' bill to remedy the defects of the present lack of system became law.

It is further proposed in England to establish a national training school for district midwives. At a meeting held recently at the London Mansion-house in behalf of the above scheme the Bishop of London —one of the most practical divines who has ever ruled over that see—delivered himself of some common-sense remarks regarding the existing state of affairs as to parturient women. He remarked it was an astounding fact that practically until 190 Great Britain was the only nation in the whole of Europe which permitted anyone without training to carry on the work of a midwife. About 60 per cent of the mothers of England were dependent in the hour of trouble upon inexperienced and untrained help. He was, therefore, not surprised to hear that 3,000 women a year in Great Britain died during their confinements in the immediately ensuing period, who need not have died if they had had qualified assistance. At the same time one-third of the inhabitants of our blind asylums would not have been there had their eyes been properly treated during the first hours of their life.

Probably the scarcity of trained assistance was greater in the country districts than elsewhere. The shortage of children throughout the Anglo-Saxon race was going to be one of the great problems of the future unless it were stopped. If in addition to this state of things those who were born were treated in an unskilful and clumsy way, the future of the race was indeed in peril.

The proposal suggested for the training of women in all that appertains to midwifery work, is that a small general hospital should be established with a maternity annex in a neighborhood already in need of such an institution. This to be recognized as a national training school for district midwives; that in the wards, educated women would receive training in general and monthly nursing; that the training should be supplemented by instruction in simple hygiene, sanitation and physiology, the elements of cooking, the laws of infant breeding, the necessity for vaccination, etc.; that the course should in no case last for less than two years; and that the midwives should return every third year for reëxamination and instruction in those advances of modern obstetrics which immediately concerned their work.

The foregoing plan is thorough and will doubtless result in the education of a number of well-trained midwives. Such hospitals, however, should be established in the large towns in every part of the country. In the United States the custom of employing the services of midwives is very prevalent, as the fees of American physicians for doing this kind of practice are prohibitive in the case of the poor. It cannot be said that the supply of trained midwives is nearly equal to the demand—indeed, in this country the situation in this respect is almost if not quite as bad as in Great Britain. Consequently it behooves the members of the medical profession to look to this matter, and to endeavor to devise a scheme whereby a poor woman may be enabled to undergo her confinement with the safety, more or less guaranteed by the employment of skilled help.

Threatened Strike among the Drug Clerks of Chicago.—It is announced that the drug clerks in Chicago employed by the Wholesale Druggists' Association have demanded a 5 per cent. increase in wages, which the employers have refused. This refusal, it is thought probable,may lead to a strike in which 1000 clerks will be involved.

News of the Week.

e Abolition of the Office of Coroner in New York ty.—The Elsberg Coroners' bill was passed in the w York State Assembly on April 8. The bill es away with the office of Coroner in New York ty, placing their duties in a board of Medical aminers under the Department of Health.

Students at the Medical School of Columbia College ject to Tuition Fee.—A petition has been presented the authorities of Columbia University, signed the medical students, protesting against the ent increase in the tuition fees. The petition s stress on the fact that the students already triculated in the school do not consider that the posed change applies to them. They argue that the past, when fees were to be advanced due ice was given, and those who had already matric- ed were not affected. They also assume that statements made in the announcement of the dical School, the university practically contracted educate them for four years at the cost of $200 annum. The petition says that by increasing fees, all the calculations of the men who are porting themselves will be upset.

esolutions on the Death of Dr. John Metcalfe k.—At a special meeting of the Class of 1899 of Cornell University Medical College, held April 4, 4, the following resolutions were unanimously opted:

"*Whereas*, We have learned with deep regret of death of our class-mate, John Metcalfe Polk, D.;

"*Resolved*, That in the death of Dr. Polk the class 1899 loses one of its most promising members, that the medical profession is deprived of one ose career opened with unusual brilliancy.

"*Resolved*, That we tender to the family of our fellow-student our heart-felt sympathy in their at bereavement.

"*Resolved*, That a copy of these resolutions be warded to the family of our deceased class-mate, that they be sent for publication to the medical rnals of this city and to the Cornell Alumni ws.

"FREDERICK L. KEAYS,
R. J. E. SCOTT,
WILLIAM J. JONES, Jr., } Committee."

entence of Dr. Conrad.—Recorder Goff, on April entenced Dr. Conrad, convicted of attempting an al operation, to an indeterminate sentence of more than two years nor less than one year in tate prison. The Recorder said, that as this the first case of conviction for attempted viola- of the law, he would be pleased if a certificate reasonable doubt could be obtained, so that the stions involved might be settled by a higher tri- nal.

o Aid Sick Children.—At a meeting of the Speed- l Society for Sick and Convalescent Children, ently held at the residence of Miss Helen Gould, was announced that Mrs. Andrew Carnegie had mised to duplicate the largest donation made for benefit of that organization. Other large dona- ons were made, and it was stated that a large part the money given will be used for a tuberculosis ttage or hospital on a site not chosen in the pines d as near New York as possible.

Changes in the Medical Faculty of Columbia Col- e.—At the meeting of the Board of Trustees of olumbia University held on April 11, the announce- ent was made that Dr. William T. Bull had ten- ered his resignation as professor of surgery at the niversity, to take effect June 30, 1904. Upon the recommendation of the Medical Faculty, Dr. George E. Brewer, professor of clinical surgery, was assigned to a seat in the Faculty of Medicine. It was also announced that owing to his enforced absences from the city, the resignation of Dr. Edward L. Trudeau of Saranac Lake, N. Y., as a member of the Board of Trustees had been accepted. Dr. T. Maltack Cheeseman was elected as his successor.

Thorium Not an Element.—Dr. Charles Baskerville, Professor of Chemistry in the University of North Carolina, has just announced his discovery, that thorium, hitherto known as one of the primary elements, is complex in its nature. The professor has resolved thorium into two new elements.

Report of New York State Board of Health Commissioner.—New York State Health Commissioner Lewis, in his annual report to the Governor, says that the most prominent feature of the sanitary condition of New York State during 1903 was the epidemics of typhoid fever at Ithaca and at West Seneca near Buffalo. The deaths from preventable diseases during the year 1903 were as follows: Pulmonary tuberculosis, 13,194; diphtheria, 3,056; typhoid fever, 1,665; scarlet fever, 1,057; smallpox, 41. Total, 18,992. The chemical department made analyses of sixty-nine samples of food and fifty samples of water. Of the food twenty-two samples, or 32 per cent., were found adulterated. According to the monthly bulletins of the department, the deaths from cancer show an increase of about 500. The vital statistics of 1903 show a State death rate of 17.6 per 1,000 population and a birth rate of 21.8. The number of reports received from school principals as to the examination of the eyesight of children were small, but it is gathered from these that 14.1 of this number had defective vision.

Epidemic of Diphtheria in Montgomery.—It is reported that an epidemic of diphtheria exists in the village of Montgomery, Orange County, N. Y. The disease is said to have been prevalent for about two weeks.

The Outcome of the Controversy between the New York University and Its Former Medical Faculty.—By a recent decision of the Court of Appeals the final step has been taken toward the settlement of the controversy between the New York University and its former Medical Faculty, the members of which resigned in 1898 and founded the Cornell University Medical College. The Court of Appeals confirms the decision of the lower courts ordering the return of the building and property to the former owners. The University Medical College, like all others of its time, was originally and for many years a proprietary institution, holding its charter through the New York University but wholly independent of it in management. In the effort to improve standards of teaching it became evident that this proprietary quality should be eliminated, and the Faculty accomplished this by the aid of a gift of money from Colonel Payne, by which the ownership of the Faculty was cancelled and the property was placed in the hands of a corporation fund for this purpose, the Faculty agreeing to accept fixed salaries in lieu of a division of the profits. After a few years, with the intention of establishing a closer connection with the New York University, it was agreed that the corporation which held the property and managed the affairs of the college, composed largely of members of the Faculty, should transfer their property and function to the New York University, and that the latter should manage the college through a "Medical committee" of the Council, composed of three members who should be satisfactory to the Faculty.

On nomination of the Faculty two new members were elected to the council, and, with Colonel Payne, the donor of the money, constituted this committee. Within a few months disagreement arose over a proposed consolidation with Bellevue Hospital Medical College; the recommendations of the Medical Committee were overridden by the Council, and the Faculty held that the agreement had been broken. Reëstablishment of the original status was refused by the Council of the University, and a year later the Faculty seceded and established the Cornell University Medical College, and the Corporation which had transferred the property sued for its return. The New York University then took over the Bellevue Hospital Medical College as its medical school, with most of the Faculty, and made it its medical department. The property is valued at $150,000. The results of this final decision are that the large buildings formerly occupied by the New York University adjoining the Loomis Laboratory ars now the undisputed property of the Corporation, many of whom are members of the Faculty of the Cornell University Medical College.

The Germ of Mumps Said to Have Been Isolated.—According to some of the lay journals, a germ believed to be that of mumps has been discovered by Dr. Samuel Darling, resident pathologist of the Baltimore City Hospital. A patient in Baltimore is said to have died from mumps uncomplicated with any other disease, and an autopsy was performed on the body. Cultures were made by Dr. Darling, who eventually isolated the germ, which is described as differing from the bacillus of typhoid fever in that it is shorter, it also occurs in pairs and is thicker than the germ of tuberculosis.

Plague in India.—The deaths by bubonic plague in India during the week ended on March 19 numbered 40,527, an increase of 7,000 over those for the preceding seven days.

State Hospital Visitors.—The Governor of New York State has made the following appointments as members of the board of visitation of State Hospitals: Manhattan Hospital, George D. MacKay of New York City, reappointed; Hudson River Hospital, Reginald W. Rives of Wappinger Falls, in place of Frank B. Town, whose term of office is soon to expire; Middletown, John E. Iseman of Middletown, reappointed.

Bubonic Plague in Peru.—According to a telegram from Mr. Dudley, the United States Minister at Lima, Peru, received at the State Department, Washington, on March 31, that city has been attacked by Asiatic plague. The same telegram states that there were thirty-two cases in the week ended March 26, and that two deaths occurred on March 30. The State Department has notified the Marine Hospital and the Public Health Service of Mr. Dudley's information.

New Charity Seeks Charter.—Sisters Lariantes of Holy Cross from Le Mans, Sarthe, France, is the title of a religious charitable organization which has made application to the State Board of Charities to incorporate, for charitable work in New York City.

Physician Refuses a Bequest of $1,800,000.—Dr. William A. Harroun of Denver, Col., was recently left an inheritance which, it is reported, amounted to $1,800,000. Dr. Harroun, however, with an independence as rare as it is commendable, declines to accept the money, but has turned it over to his sister.

Telephone Girl Recovers Damages for Accident When at Duty.—For deafness of her left ear, caused by an electric shock from a telephone receiver, Miss Mary Schultz of Chicago secured on April 1 a verdict of $15,000 against the Chicago Telephone Company.

Cincinnati Board of Health.—The physicians of Cincinnati are not represented on the City Board of Health, and the vacancy left by the death of Mr. Allison has not yet been filled. Dr. C. L. Bonifield introduced a resolution at the Academy of Medicine on Monday evening which practically demands of Mayor Fleischmann that he appoint a medical man to the vacancy on the Board of Health. The Board of Public Service is an elective body, and it has been the custom of the mayor to appoint this body in toto as the Board of Health of this city. The appointment of Mr. Hutton to the Board of Public Service has not, it appears, filled the vacancy on the Board of Health, and it is this place the doctors are anxious to secure for one of their number.

Cincinnati Hospital.—At present the entire hospital is occupied by public patients, but at a meeting of the Board of Medical Advisors this week it was decided to open the pay ward in the near future. It may be possible that two wards, instead of one, may be reserved for pay patients.

Educational Applications.—The following appropriations were made by the Legislature for Ohio Educational Institutions: Miami University is given $25,000; the Ohio State University $50,000 for a new chemical building and $50,000 for building and live stock for the agricultural college. For the Ohio University at Athens $40,750 is appropriated, and $35,000 goes to Wilberforce.

Dr. S. Weir Mitchell has written a most entertaining sketch of Washington's youth, told in the form of an autobiography, the first installment of which is published in the April *Century*. The author imagines Washington sitting down at Mount Vernon in his old age and recording solely for his own eye the story of his "youthful life and the influences that affected it for good or ill." The author has so fully entered into the habit of mind of Washington that it is impossible for the ordinary reader to separate in the text the passages taken out of his actual writings from those which Dr. Mitchell imagines him to write. In the same issue is an interesting paper on "Protozoa and Disease," by Dr. Gary N. Calkins, adjunct professor of zoology at Columbia University, in which the writer discusses this comparatively new chapter of microbiology in its pathogenic relations.

Rawson Dipsomaniac Bill.—A bill introduced in the Ohio Legislature under the above title provides for the appointment of a commission, by the Governor, to serve without compensation, to investigate this subject. The second section of the bill sets forth the manner of conducting the investigation as follows: "It shall be the duty of the commission to gather from the Judges of Probate and Police Courts, Superintendents of State Hospitals for the Insane, Chiefs of Police and officers of institutions for the care of the defective and criminal classes in Ohio and other States, such data as will enable them to determine the advisability of establishing a State hospital for the treatment of habitual inebriates and dipsomaniacs and persons enslaved by morphine and cocaine. Such data shall be reported to the Governor January 1, 1906, and transmitted to the General Assembly."

Trouble for the Cincinnati Academy.—Members of the Cincinnati Literary Society may take action to prevent the Cincinnati Academy of Medicine from holding its meetings in the Literary Society Club rooms, 25 East Eighth street, in the future. Members of the literary society object to some of the methods of the Academy of Medicine.

The Alleged Improvements in Water Purification.—Dr. George I. Moore, head of the Laboratory of Plant Physiology in the Department of Agriculture, is reported to have devised an agent which will kill the germs of typhoid fever and cholera. In a statement given out by the department the following are said to be the properties of the solution as given: "The solution is absolutely fatal to typhoid in a dilution so great that it would hurt no one, and it would be impossible to find it in the water. It is tasteless and odorless, and one could drink fifty gallons of it a day without harmful effect." Aside from this it is also claimed that by its agency the malarial germ can be destroyed and malarial epidemics prevented, at the same time the mosquito is being exterminated by the destruction of its aquatic food supply.

Appropriation for Iowa State Hospital.—The Iowa Senate has voted an appropriation of $125,000 for the establishment of a State Hospital for inebriates at Knoxville. It is said that the former industrial home for the blind will be used, and new buildings erected. The bill provides that treatment is not to exceed three years The Home Committee on Appropriations has also passed a bill devoting $50,000 to the erection of a State Hospital for Consumptives.

The Kern County (Cal.) Medical Society obtained warrants, on March 24, for the arrest of two physicians in Bakersfield on the charge of having criminally procured an abortion. It is stated that five deaths have occurred in Bakersfield alone as a result of this form of malpractice, since the first of January. The Kern County Society is to be commended for its action. Other societies along the coast might well follow the example, but San Francisco is just now agitated over a common practice of the stork to deposit the young infant upon the door-step of the wrong abode.

"Health Hints for the Household" was the alliterative title of a pamphlet which the San Francisco Board of Health desired to publish, but after the manuscript had been prepared it was found to possess the dimensions of an encyclopedia, and the project was abandoned.

Examining Board.—The County Civil Service Commission (Illinois) has announced the members of the examining board for the promotive examination for the work of senior physicians at the Dunning institutions, as follows: Nervous and Mental Diseases—Drs. Sydney Kuh, Hugh T. Patrick and Daniel R. Brower. Medicine and Surgery—Drs. Frank Billings, John B. Murphy and L. E. Schmidt. Tuberculosis—Drs. W. A. Evans, Geo. W. Webster and A. C. Klebs. The examination will take place at the Dunning institutions April 14, 15, and 16.

Appointment of Consulting Staff.—The following are the appointments to the consulting staff of the Dunning (Illinois) institutions: Dr. Frank Billings, consulting physician (internal medicine); Dr. John B. Murphy, consulting surgeon; Dr. Wm. A. Evans, consulting pathologist; Dr. Hugh T. Patrick, consulting neurologist; Dr. Arnold C. Klebs, consulting physician (tuberculosis).

An Apostle of Nakedness.—San Francisco has an apostle of nakedness. He is not the forerunner o af new sect or creed, but simply an examplo of higher development along the line of health fanaticism. He expresses the intention to go to Hawaii, where he hopes to be permitted to lay aside the burdens of civilization so far as raiment is involved. This failing, he will doubtless establish a health magazine.

Microbes Sent to Farmers.—It has been reported from Washington that a patent has been issued for a process discovered by Dr. George T. Moore of the Department of Agriculture for the production of bacterial cultures employed in inoculating soils for the successful cultivation of clovers of all kinds, alfala, soy beans, cow peas, and many other similar members of the legume family. The patent is given to the people of the United States forever in effect, the object being to forestall any effort to patent such a process and by that means circumscribe the efforts of farmers to improve their soils by raising leguminous crops.

Dr. W. W. Roblee of Riverside, Cal., has been appointed a member of the Board of Pension Examining Surgeons for Riverside County.

University of Pennsylvania, Department of Medicine.—The Medical Department of the University of Pennsylvania will conduct, as usual, a summer school in medicine. It is announced that the course will begin on May 9, and extend over a period of six weeks. In most instances the individual courses will be limited to ten students.

Tuberculosis.—In an address recently delivered before the Progressive Health Club on this subject, Dr. Geo. W. Webster, President of the Illinois State Board of Health, stated that the State Board of Health had just completed a set of statistical tables which show that the number of deaths in Illinois from consumption during the year 1903 was 70,26, while pneumonia claimed nearly as many, 6,830. The greatest source of infection from this disease was through the medium of the sputum, and if the sputum of every consumptive could be destroyed, he believed the disease could be banished from the face of the earth. Experience had shown consumption to be a preventable disease, and in 70 per cent. of the cases a curable one, if taken in time. He urged that a sanatorium for the treatment of consumptives be established in every State in the Union. The stamping out of this dread disease was a matter for education and evolution. It depended upon right living, cleanliness, sunlight, temperance, good food, fresh air, and proper care.

Instruction to Railway Employees in First Aid.—All the employes of the operating department connected with the Pennsylvania System will be given first-aid instruction hereafter. The plan will be put into effect on the lines in the East and West. The plan is comprehensive, and includes equipping all baggage, mail, express, working and wrecking cars, terminals, yards, offices, shops, and important stations with stretchers. The so-called first-aid boxes will also be provided in all locomotives, terminals, yard offices, shops, and stations. These boxes will contain six sterilized first-aid packages. Each package contains one large triangular bandage, one ordinary roller bandage, two compresses, and two safety pins. No drugs or liquors will be provided. The boxes will be of wood, and will contain a tin box, in which the materials will be confined. The Pennsylvania is also perfecting plans for the instruction of several hospital cars adapted for the transportation of the sick, and to be used in emergency cases. The employees to be instructed include all passenger and freight trainmen, enginemen and firemen, and all employees at terminals, yards, and shops. The employees will be arranged in classes, and will be instructed by medical examiners connected with the Pennsylvania relief department. They will be taught how to place injured persons on stretchers, how to best transport the injured, and will be schooled in the simple means of taking care of wounds, fractures, burns, and shock, without the use of drugs or liquor. The instructions will include emergency treatment of pain, unconsciousness, convulsions, and heat prostration.

Hospital Appropriations.—The following appropriations were made by the Legislature for Ohio Hospitals: The Athens State Hospital, $164,500, of which $12,000 are for land, and $30,000 for improvements. Cleveland Hospital gets $238,000, of which $48,000 is for improvements and $13,000 for ordinary repairs. The Columbus State Hospital gets $273,000, including $30,500 for improvements. Longview Asylum gets $142,500 for current expenses. Dayton Hospital gets $276,000, of which $149,000 is for improvements. The Columbus State Hospital gets $273,940, of which $25,000 is for a railroad switch and $20,000 for boilers. The Toledo Hospital is given $250,050, most of which goes to current expenses. The Boys' Industrial School at Lancaster is given $15,000 for a hospital and $5,000 for a dairy barn, while the girls' school gets $5,000 for a heating plant. For additions to the gymnasium for the institution for the Blind $10,000 is given. The Institution for Feeble-Minded gets $15,000 for a custodial building, $15,000 for a light plant, $10,000 for sewers, $5,000 for heating and $15,000 for boilers at the custodial farm. The Sandusky Soldiers and Sailors' Home gets $85,180, including $7,000 for repairs, $1,200 for furniture and $500 for roadways. The Xenia Orphans' Home gets $16,000 for an amusement hall, and the Hospital for Epileptics at Gallipolis is given $5,000 for completing the industrial building. The sum of $25,000 is given for topographical surveys.

St. Louis Medical Society.—At a meeting of this society on March 12 three cases of situs transversus were presented. Dr. Louis H. Behrens presented the case of a man about forty years of age in whom there was a complete transposition of the heart, liver and spleen and probably of all the abdominal viscera. Dr. J. R. Clemens presented a patient, a young girl about fifteen years of age, in whom there was complete transposition of the viscera of the thorax, and Dr. Wm. C. Mardorf also presented a case, that of a girl about seven years of age. Dr. R. J. Terry showed specimens preserved from a case of situs transversus in which all the viscera were entirely transposed. All the viscera in the thorax were transposed, and in the abdomen the stomach was on the right side, the spleen on the right side, the curve of the duodenum reversed, the pancreas on the right side, and the appendix on the left side.

American Academy of Medicine.—The twenty-ninth annual meeting of the American Academy of Medicine will be held at the Shelburne, Atlantic City, beginning on Saturday, June 4, at 11 A.M., and continuing through Monday the 6th. The program includes: (1) The report of the council on the recommendation of a paper read at the last meeting by Dr. H. Bert Ellis of California, on "The Necessity for a National Bureau of Medicine and Foods." (2) The report of the committee to investigate the teaching of Hygiene in our public schools. In order that this report may be discussed intelligently, the committee will publish the laws relating to the teaching of hygiene now in force in the United States, in the bulletin of the American Academy of Medicine, to be published in April, 1904. (3) The reports on the results of the examinations before the various State Boards of Medical Examiners of 1903. (4) A symposium on the "Relation of Physicians to Dentists and Pharmacists." Several papers of value are promised for this symposium, and the subsequent general discussion will be helpful. (5) A symposium on "Are Modern School Methods in Keeping with Physiological Knowledge?" Apart from the papers promised, arrangements are being made for a discussion opening up the whole subject from various points of view. (6) In addition to the above, there will be several papers upon independent topics, affording a variety to the program. Dr. John B. Roberts of Philadelphia has selected "The Doctor's Duty to the State" as the title of his address as president. This address will be delivered on Saturday evening and the social session will be held on Monday evening. The secretary of the academy is Dr. Charles McIntire, Easton, Pa.

Milk Law Upheld.—In the Court of Criminal Correction in St. Louis four test cases against dairymen charged with violating the city milk ordinances were decided in favor of the city. The trial of the cases occupied about three days and many expert chemists were called as witnesses on both sides. The four cases are: Samuel Polumsky, fined $25 and costs for selling artificially colored cream; Jos. L. Schuler, $25 and costs for selling milk containing formaldehyde; Peter Reuter, $25 and costs for selling cream containing an insufficient amount of fat; John Heitman, $25 and costs for selling skimmed milk below the minimum amount of composition.

Obituary Notes.—Dr. ELISHA CROWELL died in Philadelphia on April 6, at the age of seventy-six years. He was a graduate of the College Department of Princeton University and of the Medical Department of the University of Pennsylvania in the class of 1851. He was a resident physician in the Philadelphia Hospital from 1851 to 1853 and physician to the Satterlee Hospital during the Civil War.

Dr. CHARLES WILLIAM NEWTON of Toledo, Ohio, died in Phoenix, Ariz., of tuberculosis, February 2, 1904, aged thirty-six years. He was a native of Marietta, Ohio, a graduate of Marietta College and of Ohio Medical College, Cincinnati. He served one year as interne at the Good Samaritan Hospital of that city and two years as assistant surgeon, National Military Home, Dayton, Ohio. Subsequently for nine years he practised his profession in Toledo, Ohio, where he was a member of the staff of Toledo Hospital and surgeon of the Toledo Naval Reserves. He afterward became First Assistant Surgeon, Tenth Reg. O. V. I. during the Spanish War, seeing service in the typhoid malaria epidemic of Camp Meade, Pa. He was a member of the Toledo Medical Association, the Ohio Pediatric Society, the Spanish War Veterans, and the Loyal Legion.

Dr. W. F. DOHRMANN, a retired physician of San Francisco, died of pneumonia at Santa Barbara on March 26, at the age of thirty-five.

Dr. A. B. ARNOLD died at San Francisco on March 28, in the eighty-fifth year of his age. He was a native of Bavaria, but received his education in this country, receiving his degree in medicine at Jefferson Medical College, Philadelphia. For several years he engaged in practice at Easton, Pa., then went to Baltimore, where he resided until his removal to San Francisco in 1898. He occupied the chair of medicine in the old Washington University, Baltimore, and later became one of the founders of the College of Physicians and Surgeons of that city, his official position being Professor of Nervous Diseases. He was twice elected President of the Maryland Medical and Surgical Association. Outside of the profession he was well known as a translator of Hebrew and Arabic.

PHILIP BISSELL, M.D., died of pneumonia at the New York Hospital on April 10, 1904. Dr. Bissell was twenty-eight years old, a graduate of Columbia University and the College of Physicians and Surgeons. He had just completed his service as interne at the New York Hospital and entered upon the practice of his profession in New York. A man of the highest promise in the career which he had chosen he had already won a large circle of devoted friends.

THE HERTER LECTURES.*

By Prof. PAUL EHRLICH,
FRANKFORT, GERMANY.
(From Our Special Correspondent.)

LECTURE I.

THE MUTUAL RELATIONS BETWEEN TOXIN AND ANTITOXIN.

President Remsen of the University introduced Professor Ehrlich to the large audience which had assembled to do him honor, in a few well-chosen words, called attention to the eminence which the distinguished visitor had attained in this interesting and important field of research.

Professor Ehrlich, by way of introduction, spoke of the importance of the practical and theoretical study of immunity in modern medicine. The influence of the side-chain theory and the relations between the constitution and distribution of chemical substances and their pharmacological action was also commented on. In dealing with the opposing views on this subject, he showed that criticism of their experimental basis often eliminated errors and reversed their significance. The utility of a succinct nomenclature and symbolic representations by means of algebraic and chemical signs formed an essential feature in the study of this subject. Characteristic diagrams, similar to those employed by Dr. T. M. Prudden, in an article in the Medical Record of February 14, 1903, greatly helped to elucidate his meanings.

The history of the side-chain theory was then traced, beginning with studies on the localization of various dyes, such as methylene blue and neutral red, and their relations to cellular chemistry. The fact that immunity may also be produced with poisonous proteids (ricin, abrin, and robrin), led to the definition of immunity not only as bacterial, but also as a general principle. The older obscure conceptions of the relations between antitoxin and toxin were briefly discussed, and it was then shown how experiments in vitro eliminated the obscurities of those in animals. Professor Ehrlich then dealt with the subject of toxoids coming back to a further discussion of the side-chain theory at a later point. It was a difficult matter to apply a purely chemical conception—for example, in the case of diphtheria toxin, for here the law of equivalence was apparently violated. Different lots of diphtheria toxin, though neutralized by a single immune unit, were found to contain different numbers of lethal doses. Investigation demonstrated that upon standing the diphtheria toxin lost toxicity, but retained undiminished its affinity for antitoxin. The toxin molecule was quantitatively transformed into a non-poisonous toxoid. This was also illustrated by the chemical analogy of anilin and sulphanilic acid. The simplest explanation of toxoid formation rested on the assumption that the toxin complex contained two groups of different functions, the first group being the haptophores, by which the complex entered into chemical unions, and the second, the toxophores, which occasioned toxic action. Behring's objections, exemplified in hydrocyanic acid, Ehrlich did not think were justified, because of the simple constitution of that poison. Complex organic compounds had repeatedly been shown to contain groups which confered definite properties upon the whole molecule. Thus he referred to the anæsthesiophore function of the benzoyl group in cocaine, which when eliminated rendered the cocaine ineffective as an anæsthetic. Of a similar nature were the functions of the chromophore and anxochrome groups in dyes—the color reactions of proteids due to definite groups (tyrosin, tryptophan, etc.). Further evidence of this complex character of toxins was also furnished by the studies of hæmolysins and bacteriolysins, which had their origin in the union of an amboceptor and complement and were analogous to toxins, the amboceptor representing the haptophore and the complement the toxophore group. Keyes studies on the lecithid of cobra-poison were also commented on in this connection.

A further consideration of the side-chain theory followed. It might be said that the conception of the complex nature of toxins and other bodies form the basis of the side-chain theory. The so-called receptors might be said to subserve normal assimilative processes which were of a synthetic character. Only those substances could be chemically incorporated or assimilated with the protoplasm which possessed a grouping most closely related to some constituent of the cell. Professor Ehrlich very aptly compared this fitting into its constitution as a key did in a lock. The toxins represented, to a certain extent, toxic foodstuffs. It was a matter of mere chance whether they encountered suitable receptors in the cells of a particular animal species or not, as was shown by the irregularity in the action of given toxins in the animal kingdom. In further elaborating the side-chain theory he claimed that the antitoxins were receptors, produced in excess, and liberated from the cells. Appearing in the fluids, they united with the toxins for which they had specific affinity, and thus protected the cells, which had receptors of similar affinity, from damage. Not only toxins, but also toxoids, called forth antibodies. It was therefore chiefly the haptophore group which caused the cell reaction, yielding antibodies by occupying the specific receptors.

The evidence in favor of these theoretical conceptions he summed up as follows: (1) The demonstration of specific receptors in organs susceptible to a particular poison. This had been shown in Wassermann's experiments on the union of tetanotoxin with cerebral tissues. (2) The demonstration by Pfeiffer that during the latent period, before the antibodies appear in the serum, they might be obtained from bone-marrow with salt solution. (3) The demonstration of the presence of receptors produced and fixed in definitely localized tissues. Other evidences were mentioned but not discussed.

The toxophore group, which was next taken up, needed not necessarily to be simple, but might comprise various constituent groups, which might be identical or different. Thus, he showed that strychnia contained two oxygenated radicals, both of which produced convulsions; and the drug owed its extraordinary toxicity to a combination of the two. Ricin probably contained two toxophore groups, one agglutinating erythrocytes, the other causing its general toxicity. Three varieties of toxoids might be obtained from ricin, one non-toxic but agglutinating, one toxic but not agglutinating, both of which were incomplete toxoids. The third, complete, was neither toxic nor agglutinating. Tetanotoxin and diphtheria toxin also appeared to contain various toxophore groups. So in diphtheria it was necessary to distinguish between complexes which occasioned acute manifestations and those which caused chronic effects. It was possible that certain partial groups acted more powerfully on certain animal species than on others, and this might explain the observations emphasized by Behring that modified toxins met with a range of susceptibility in the animal kingdom different from that of the original, unmodified toxin.

Of practical importance was the question whether, for the rapid production of the antitoxin,

*Delivered at the Johns Hopkins University, Baltimore, Md., April 12, 13, and 14.

it was more advantageous to use only toxoids, or whether the presence of partial components of the toxophore groups exerted a more favorable cell-irritation.

Professor Ehrlich next took up the subjects of receptors, susceptibility to toxins, and the relations to metabolism. The receptors of the cells were constituents of the protoplasm possessing a certain independent individuality. They acted as localizers or condensers to the toxins and might, from an infinitely dilute solution, occasion a concentration of toxins in particular cells similar to the concentration of picric acid, which took place when wool was immersed in a dilute solution of the latter. The susceptibility to toxins he divided into the following varieties: First, those marked by great susceptibility, which includes toxophilic receptors exclusively in vital organs (guinea-pig or mouse and tetanus). Second—slight susceptibility, because of wide distribution of toxophilic receptors in different tissues, *e.g.* connective, which lock the greater part of the toxins and thereby protected more important tissues (fowl or rabbit and tetanotoxin). Third—insusceptibility, though toxophilic receptors were present, because toxophore groups did not act on protoplasm. This was accompanied by an abundant production of antibodies and was a rare condition, well illustrated by the behavior of the crocodile toward tetanotoxin. Fourth—insusceptibility through lack of toxophilic receptors. Of this there were numerous examples.

Definite receptor-complexes were associated with definite forms of metabolism. Uniform metabolic processes implied uniform receptor complexes, and therefore a uniform susceptibility to toxins. Individually, however, varying functions revealed themselves in extraordinarily variable susceptibility.

The study of the receptors had been of particular importance in elucidating the processes of assimilation. Former methods applied to damaged cells were not sufficiently refined. Isolated receptors, however, obtained by immunization made an accurate study of assimilation and catabolism more approachable.

The demonstration that erythrocytes possessed extraordinarily numerous and various receptors was particularly important. It indicated that these corpuscles, in addition to their function as oxygen-carriers, played an important rôle in metabolism in storing intermediary bodies.

Investigation had been greatly aided by a knowledge of the receptors, since they could be used in the analysis of animal and vegetable poisons to separate them into partial toxins having different haptophore groups. Thus it was possible, by specific locking with specific antibodies, to analyze snake poison into neurotoxic, endotheliotoxic and two hemotoxic components. Of the latter, as determined by Meyer, Flexner, and Kyes, one agglutinated, and the other, through the formation of lecethid, hemolysed the blood.

In conclusion, Professor Ehrlich spoke of the immunization industry, which had for its aim the production of sera of highest potency and the progress which had been made. Sera of much higher toxic value than had hitherto been obtained would be the result. The knowledge that the immunity reaction was reduced by too highly toxic treatment of the animals was spreading. An effort was being made to restrict this immune reaction to tissues of slight vital importance, (*e.g.* connective) and to protect vital organs from injury. In this direction were the methods with toxin and antitoxin injected separately or after admixture.

Progress in the production of curative sera could only be expected when it became possible to obtain antitoxins of greater avidity than those now procured. Kyes had demonstrated that, through the immunization of rabbits with cobra lecethid, it was possible to obtain an antibody of considerable higher avidity than that obtained by Chalmette with cobra venom in horses. The selection of particularly favorable animal species and the use of toxins of least avidity would, most probably, bring this problem much nearer to its final solution.

Lecture II.

Physical Chemistry versus Biology in the Doctrines of Immunity.

The second lecture of the series practically resolved itself in an exposition of the biological theories advocated by Professor Ehrlich and his school in contradistinction to the physico-chemical theories as applied to the study of toxins and antitoxins, chiefly identified with the names of Arrhenius and Madsen.

Their belief is tetanolysin, *e.g.* is a uniform substance possessing only a weak affinity to its antitoxin, and that its neutralization occurs in accordance with the law of Guldberg and Waage. The views advanced by Arrhenius and Madsen met with favorable reception in certain scientific circles lacking special competence in sero-therapeutical questions. In protesting against the claims of these authors for exclusive priority, Professor Ehrlich showed that the path of biological investigation followed by them—the method of partial neutralization of toxins—was developed by himself after long years of work. He denied, moreover, that his investigations represented merely an application of Thomsen's principle in his study of affinities between strong acids and bases, for Thomsen, in distinction to himself, worked only with material substances.

The reproach that the investigations were inaccurate, and had been conducted without sufficient consideration of sources of error, he also claimed was unwarranted. The most important results had been confirmed by them, especially as regarded the existence of toxoids and their occurrence with varying degrees of avidity. Professor Ehrlich felt assured that his own and his collaborators' researches had been conducted with the utmost precision and care. He had always chosen the simplest explanations, and these, as in the case of diphtheria toxin, gave place to more complex ones only when the experimental results made this necessary.

The methods and results of partial neutralization were then discussed. It was first necessary to determine whether in the production of toxoids a change in avidity for antitoxin occurred. The method for this was by partial saturation or neutralization. A prerequisite to this was the exact determination of the test-constants, the fatal dose, etc., which referred to the immunity unit. This he described in detail. If the antitoxin were a single substance of uniform composition, and the antitoxin possessed for it a strong affinity, like that between hydrochloric acid and potassium, the quantities of toxin which disappeared or were neutralized in these mixtures would be in direct ratio to the quantities of added antitoxin. In fact, however, the process of neutralization took place differently, and it was of advantage to express these experimental results in graphic form for which two methods were available. The first, the author's method, called by him the "spectral" mode of representation, which showed, step by step, the extent of diminution in the number of toxic doses effected by a definite small quantity of antitoxin. The second was the "linear" method used by Arrhenius, in which the quantities of antitoxin added were represented on an abscissa, and those

of the active toxic doses on the ordinates. Professor Ehrlich considered this latter method objectionable, because the graphic line corresponded only in its middle part with the values actually found, and at both ends showed considerable deviation. Moreover, the construction rested on false premises.

By the spectral mode of representation it was possible to distinguish three zones: (1) pure toxid, (2) pure toxin, and (3) a mixture of equal parts of both, which he designated as hemitoxin. Pure toxoid occurred often in the form of a prototoxoid, which possessed a stronger avidity for antitoxin than all other components of the toxin. A certain quantity of antitoxin might be added to a solution containing it without lessening in the slightest degree its toxicity. The second zone in the spectrum was of relatively short extent and was characterized by the fact that one combining unit removed only a fraction of the lethal dose. The third zone he called the toxone zone. Toxone was one of the primary products of secretion of the diphtheria bacillus, possessing the same haptophore group as the toxin, but of far less avidity. In the process of partial neutralization it combined with the antitoxin. Toxone was responsible for the diphtheritic paralysis in guinea-pigs during the period between the fourteenth and thirtieth day.

The objections to these ideas advanced by the physico-chemical school were next considered. Arrhenius concluded that inasmuch as the neutralization of tetanus toxin proceeded in the same way as the neutralization of ammonia by boric acid (Danyzs), it was superfluous to assume the existence of different components and sufficient to assume a single uniform toxin with weak affinity for its antitoxin. In Ehrlich's reply he stated that at the outset of his investigations he was led to assume a strong affinity between toxin and antitoxin, and later on was able to prove it experimentally. The difference in effective strength in various specimens of toxins he believed might be referred to the presence of toxone.

What then, he asked, was the evidence advanced by Arrhenius in favor of the view that toxin and antitoxin were actually substances of weak avidity? The entire reasoning of these authors proceeded from the assumption that neutralization of toxin and antitoxin was an interchangeable or reversible reaction. If the latter could be proven false, the basis would be withdrawn from all the deductions of Arrhenius.

Von Dungern had made some experiments on this point, however, which showed that the union of diphtheria toxin and antitoxin did not proceed in accordance with the ammonia and boric acid scheme of Danyzs previously mentioned. The phenomena of combination were explicable only upon the assumption of a complex constitution of the diphtheria poison. Constituents of the diphtheria poison with weak affinity after combining with antitoxin might eventually become so firmly bound that the union could be only incompletely broken by toxin of stronger avidity. Dr. Sachs had also proven the same thing with tetanolysin.

These results afforded another argument against the views based on a linear representation of the calculated values of toxins.

Tetanolysin, on account of its tendency readily to decompose and the difficulty of conducting hæmolytic experiments with absolute accuracy, was ill adapted for precise determinations of the kind under consideration.

This substance, however, was the axis of Arrhenius' investigations, and as Ehrlich very aptly put it, neutralization experiments with this substance encountered on the one side the Scylla of incomplete union, and on the other the Charybdis of destruction of the poison.

The diphtheria curves which Madsten presented at the last congress in Brussels were next commented on. The fact that some of the figures underlying the construction of the curves were later on proven to be wrong, demonstrated that even from erroneous figures, curves in entire harmony with the theory advanced, might be constructed.

Ehrlich thought that at present there were no satisfactorily demonstrated facts to warrant the application of Arrhenius' conceptions to the diphtheria toxin. The large variations of the disassociation-constants necessitated the assumption of an extraordinary multiplicity of poisons, whereas Ehrlich's conceptions were satisfied by the acceptance of a much smaller number.

In conclusion he stated that his views furnished a far better explanation than those of Arrhenius of numerous facts in the domain of toxins, such as the process of spontaneous enfeeblement of toxins, their passage into a state of stability, the reduction of the toxone zone, the capacity of completely neutralized poisons to produce antitoxin (as lately shown by Park). He believed that what he had established by years of effort would withstand criticism and prove itself to be real and vital.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

HOSPITALS AND FUNDS—DISEASES OF THE PANCREAS—SMALLPOX—A LARGE FAMILY—DR. FULLER—LONDON UNIVERSITY PROVOST TRAILL, M.D., LLD.—PROFESSOR BYERS—DEATH OF DEPUTY SURGEON-GENERAL CAYLEY.

LONDON, March 25, 1904.

THE season of annual meetings is still upon us and appeals for hospitals come in by every post. Yesterday the National Consumption and Gordon Hospitals were holding their meeting, as also was Mrs. Gladstone's Convalescent Home. The day before the Poplar Hospital, one of the most meritorious, as it is largely supported by workingmen, the North Eastern, another in a dense, poor neighborhood, and the Mount Vernon, were urging their needs on the public, as were some others during the week. And all the time numerous non-medical charities of all kinds are competing for the help of the benevolent. No wonder it is hard for many of them to get a hearing.

At the annual meeting of University College Hospital last week regret was expressed at the death of Sir John Blundell Maple, the donor of the new hospital now in course of erection, and which, it is hoped, will be ready for occupation by the end of the year. Sir John has, by his will, made provision for the completion of the building, the first estimate of £120,000 having been much exceeded. The treasurer then called attention to another munificent gift. Sir Donald Currie is devoting £100,000 to the amalgamation of the college with the University of London and partly to the hospital. To the latter about £20,000, it is thought, will accrue from this magnificent donation. A further sum of £2,500 is promised by Sir Donald's three daughters for the furnishing of the nurses' home. Notwithstanding this, the hospital will need further sums, for which it will appeal to the public.

The pathology of the pancreas has long been regarded as obscure, and its diagnosis as attended with many pitfalls. But of late considerable progress has been made in our knowledge of its diseases. It was, therefore, pleasant to hear that Mr. Mayo Robson, whose experience of it is unrivalled, would devote his Hunterian lectures at the College of Surgeons to the pathology and surgery of this organ. You will not have forgotten that in his address before the American Medical Association at Baltimore, in 1901, he ventured to express a hope or something more, that a method of diagnosis by urinary analysis was being investigated, which though then crude and imperfect, promised great things. Ever since then, that research by Dr. P. J. Cammidge and himself has been continued in the laboratory and by the bedside and in the post-mortem room. In every case that has come under Mr. Robson's care in which the pancreas was suspected, and in numerous control cases in which there was no such suspicion, the

test has been applied. By a special treatment of the patient's urine, certain crystals are obtained, the examination of which affords important indications in the majority of, if not in all, diseases of the pancreas. Further, their experience leads Messrs. Robson and Cammidge to think it possible to distinguish by this method between acute and chronic inflammation and between benign and malignant disease of the pancreas. Glycosuria does not prevent the reaction, but it is necessary first to get rid of the sugar by fermentation. Thus it may be practicable in this way to diagnose pancreatic diabetes. The control experiments led to the discovery that certain similar crystals might appear in other diseases in which marked tissue changes were going on. But differences in the form of the crystals and in their solubility, were sufficiently marked to distinguish them. We may therefore well agree with the opinion of these investigators that the time has come for this announcement to be made in order that the utility of the method may be tested by others.

Mr. Robson has operated on over one hundred cases for pancreatic disease, but of course in his earlier cases this urinary reaction had not been discovered. During 1900 the investigation began, and from that time the test has been systematically employed by him and hundreds of analyses have been made. The diagnoses have been confirmed in fifty-six cases by operation and in other cases by necropsy. In a number cases of cancer of the head of the pancreas with jaundice, the test either confirmed the clinical diagnosis or proved the presence of malignant disease in doubtful cases, and so prevented an exploratory operation which could have done no good. In a recent case six eminent medical men advised an operation, but the urine gave such a marked pancreatic reaction that Mr. Robson advised against it But the patient was so anxious to try it, and her medical advisers supported her desire, so that an exploration was made and malignant disease found. On the other hand, in several cases thought to be cancerous, the test pointed to inflammatory disease, and curative operations were performed. In simple catarrhal and interstitial pancreatitis, both with and without gallstones, the pancreatic reaction has enabled a diagnosis to be made and active treatment applied. In two cases the test appeared to fail, but the error was not in the reaction but in the reading of its full meaning. A catarrhal inflammation was present as a secondary symptom, as it often is in cancer. In acute pancreatitis, in abscess, in cirrhosis of the liver, in tumorous and various other diseases, the urinary reaction has been most helpful by affording either positive or negative evidence as to the condition.

The value of the new method will be appreciated when we consider the many difficulties with which we may be confronted, although the functions of the pancreas, both in reference to digestion and metabolism are becoming clearer, for the symptomatology of any pancreatic disease is not as certain as we might anticipate. Indeed, for various reasons, we can scarcely expect it to be. Thus the pancreas is seldom diseased without other organs participating; all the functions of the pancreas, except the glycogenic, may be taken up by another organ; a large portion may be diseased and yet the functions be carried on by the remainder; the disease may be in the pancreas and the symptoms point more decidedly to another organ.

Some more precise account of the chemical part of this research will probably interest your readers. For this I turn to the "Arris and Gale Lecture," which was delivered by Mr. P. J. Cammidge on 14th inst. Starting with the recognized view as to the fat necrosis so frequent in pancreatic disease, Mr. Cammidge looked for the resultant glycerin in the blood, and failing for want of quantity, turned to the kidney secretion. The procedure adopted—called reaction A—was this: Ten cubic centimeters of the filtrate of urine were poured into a small flask and 1 c.c of HCl added, a funnel having been placed in the neck to act as a condenser. The flash was set on a sand bath and the liquid gently boiled for ten minutes. A mixture of 5 c.c. of the filtered urine and 5 of distilled water was then poured into the flask, which is afterward cooled in running water. Excess of acid was then neutralized by slowly adding 4 grams of lead carbonate, and after standing for a few minutes to allow of the completion of the reaction, the urine was filtered through a moistened filter paper and the flask washed out with 5 c.c. of distilled water on to the filter. To the clear filtrate must next be added 2 grams of powdered sodium acetate and 0.75 gram of phenylhydrazin hydrochlorate, and the mixture boiled for three or four minutes on the sand bath. Pour the hot liquid into a test-tube and leave to cool. After a period varying with the severity of the case, from one to twenty-four hours, a flocculent yellow deposit is found, which under one-sixth objective is seen to consist of sheaves and rosettes of golden yellow crystals. Every trace of sugar must be removed before beginning, and albumin is best got rid of. The foregoing test proved of great value but not absolutely trustworthy, for the reaction was obtained in some other diseases in which active tissue changes were going on. Mr. Cammidge then devised a further test—B—and combining the two finds that in most cases a diagnosis can be made by urinary testing only. The differentiating test depends on the fact that the formation of the crystals is interfered with in pancreatitis by a preliminary treatment of the urine with mercury perchloride, but this is not the case in cancer and the other conditions which give a positive reaction. The procedure B is as follows: 20 c.c of the filtered urine mixed with half its bulk of a saturated solution of mercury perchloride, after standing a few minutes, is carefully filtered, and to 10 c.c. of the filtrate 1 of HCl is added. The mixture is boiled on a sand bath for ten minutes and then diluted with 5 c.c. of the filtrate and 10 c.c. of distilled water. After cooling, it is neutralized with 4 grams of lead carbonate, and the operation completed as in reaction A.

Further experiments showed that variations in the form of the crystals occurred as obtained from cancerous or non-malignant cases. Though these were clear to the experienced eye a more exact character was sought and found. This was the difference in the rate of solubility in dilute sulphuric acid. The time seemed to depend on the intensity of the inflammatory changes in the pancreas.

From numerous observations the practical results of Mr. Cammidge's work on these points may thus be summarized: (1) If no crystals are found by either A or B process, the pancreas is not at fault. (2) If crystals are obtained by A but not by B, active pancreatitis is present, and surgical interference generally indicated: (*a*) The crystals from A will in acute inflammation dissolve in 33 per cent. sulphuric acid in about one-half a minute. (*b*) In chronic inflammation they will take one or two minutes. (3) If crystals are found by both A and B methods, there may be—(*a*) malignant disease of the pancreas, when they will take three to five minutes to dissolve and operation is not advisable; (*b*) a damaged pancreas due to past pancreatitis when the crystals will dissolve in one to two minutes; (*c*) disease unconnected with the pancreas when they will dissolve in about one minute. In these two (*b*) and (*c*) the urgency of the symptoms and the condition of the patient must decide the question of an exploratory incision; but there is usually no great difficulty in referring the case to its origin when the clinical history is considered in connection with the reaction of the urine.

Smallpox is again causing some anxiety to our medical officers of health. At the Asylums Board on Saturday it was stated that forty-nine cases had been admitted in the last fortnight, an increase of forty over the previous fortnight in which only nine were admitted. Three patients had died and eleven had been discharged during the fortnight, sixty-six remained under treatment. The notifications numbered fifty. On the 19th three cases were discovered in three different wards of the London Hospital and were promptly removed to the Asylum Board Hospital Ships. The M. O. H. of the District, Dr. Thomas has given every assistance, and he seems to have traced the origin of the disease to the family of the first patient observed and to have sent some of them to the isolation ships.

A circumstantial story of a family of thirty-nine children of the same father and same mother has been reprinted by Mr. Grazebrook from "Miscellaneous Geneological et Heraldica." The youngest of the family was Thomas Greenhill, chirurgeon of London, who petitioned the Earl Marshall in 1698 to be allowed to commemorate the fact on his coat of arms. The chirurgeon seems to have attended the Earl Marshall (Duke of Norfolk), and his father had been secretary to the Duke of Albemarle. The petition was readily granted and the significant coat of arms authorized. Only seven of the thirty-nine were alive in 1698. Of the family it is said thirty-two were daughters. Thomas Greenhill wrote a work on embalming.

The King has conferred the Victorian Order on Dr. H. R. Fuller, the personal physician of the late Duke of Cambridge.

The London University has come in for another munificent gift. The Goldsmith's Company has presented it with the institute which it had carried on since 1888 for scientific and technical education, together with the buildings, equipment, and apparatus and the site of about seven acres. The company had previously presented the valuable economic library collected during many years by Professor Foxwell. The University has decided to publish the lectures delivered in its laboratory during the last two years. The first volume is out "On the Signs of Life," by Dr. Waller.

Owing to the death of the Duke of Cambridge, the Centenary Festival of the Ophthalmic Hospital (old Moorfields) has been postponed until May.

The new Provost of Trinity College, Dublin, is Anthony raill, M.D., LL.D. Though he never practised, he is herefore a member of the profession. Needless to say is great scientific position makes him one of the most minent Trinity Fellows.

Professor Byers was presented on the 18th with his ortrait, which was accepted by Queen's College, Belfast, nd a replica was at the same time presented to his wife.

Deputy Surgeon-General Henry Cayley, C.M.G., I.M.S., honorary Surgeon to the King, died on Saturday in his wentieth year. He took his M.R.C.S. in 1855 and R.C.S., in 1886, having meantime served with distinction India, where he did good work in the mutiny. He was one time Professor of Military Medicine at Netley. hough he retired in 1887, he again placed his service at he disposal of his country on the outbreak of the late ar and served with the Scottish National Hospital in uth Africa. He was given C.M.G. in 1900 and the next ar appointed Honorary Surgeon to His Majesty. He as an associate of King's College, his Alma Mater, and a ellow of Calcutta University.

OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

MANILA, February 10, 1904.

SAD accident lately occurred in Tayabas Province, by hich Dr. F. H. Tetamore, Contract Surgeon U. S. Army, d Dr. J. H. Williams, Medical Inspector, Board of alth, together with two American school teachers, lost ir lives. Both the above named physicians were co-erating in the suppression of smallpox which had broken t in epidemic form in that province. They were crossing Bay of Limon in a native boat when a storm came up d the boat capsized. Dr. Tetamore sank immediately, Dr. Williams managed to cling to the boat for four rs, when he lost his hold from exhaustion. Dr. Teta-re was formerly a surgeon of volunteers, accepting a ition as contract surgeon on the muster out of the unteer forces. He was one of the oldest and most pected physicians connected with the Army here, and oved by all who knew him. Dr. Williams had for some e been resident physician in the Civil Hospital in nila, and had been promoted to a higher position under Board of Health only a few weeks before his death. was a young man of much ability and pleasing person-ty and leaves many friends to mourn his untimely end.

The veterinary surgeons of the Board of Health have ently been organized into a graded corps, operating der a subdivision of the office of the Board of Health. retofore a large number of veterinary surgeons have n employed on a temporary basis in connection with ventive inoculation against rinderpest, the suppression animal diseases, the purchase and care of carabao im-rted by the Government, and the examination of ani-ls arriving at the various ports. There was, until lately, certain tenure of office or opportunity of advancement, d under such conditions the incentives to the highest ree of efficiency were largely absent. Under the new n the Chief Veterinary Surgeon will be responsible for conduct of all matters relating to the practice of erinary medicine and surgery throughout the islands, ll directly control the movements of the *personnel* under division, and maintain the necessary records.

Dr. J. M. Swan, medical missionary in Canton for twenty rs, in charge of an undenominational hospital for inese in that city, has lately been in Manila for the rpose of examining the hospitals and investigating the rk done along sanitary lines. He is reported as being ch impressed by the good work done by the Americans e in a medical and sanitary way. Dr. Swan reports Cantonese as rapidly having their primitive ideas of dicine and sanitation greatly modified by contact with ites, and as being much impressed with the value of entific medical treatment, his hospital constantly be-ming more and more popular. The first supply of pure ter in Canton was secured last year for his hospital means of driven wells operated by a windmill. A few rs ago this windmill would have been destroyed as ing an offence to the "feng shui" or earth spirits, but Chinese have now reached a point where they prefer od water to a possible injury to the feelings of the eng shui."

Among the fifty prominent Filipinos who are to be sent the St. Louis Exposition and tour the United States the expense of the Philippine Government, are Dr. rdo de Tavera, member of the Philippine Commission, r. Manuel Gomez, Secretary of the Board of Health, d Drs. Bantista Lin and Jose Albert, prominent physi-ans of Manila. The gentlemen will carry with them ll credentials, and in addition to the general sight-seeing d educational influence of travel, will particularly devote emselves to the investigation of medical matters and methods as carried out in the United States. Much good will unquestionably result from the trip, in a practical as well as political sense. Even the best class of Filipinos have but a hazy idea of America and the Americans, and this very ignorance of American strength, ideals and methods, is responsible for the native opposition, active and passive, which seems to exist about everything here which is advocated by a white man. To the medical members of the party the trip will be of immense practical value, as such medical knowledge as existed in the islands prior to American control filtered in through Spain, where the highest type of scientific medicine can scarcely be said to exist. The single medical school in the islands, from which practically all the Filipino physicians have graduated, is an institution distinctly inferior even to the second-rate American medical schools in equipment, clinical facilities, and teaching staff. As to hospitals, prior to the American occupation, the two civil and military hospitals in Manila were the only two such institutions in the islands, and even at the present time the hospital facilities where sick natives can receive treatment are far from satisfactory. It is thought that after the inspection of a few hospitals and medical institutions of learning in the United States, the above physicians will have an entirely different conception of the best way to meet the medical needs of the Philippine Islands, and will be in a position to intelligently direct the efforts of the Filipino medical men to that end. A per diem of $10 for expenses will be allowed for each member of the above party, except in the case of those in Government service, who receive a per diem of $7 in addition to their regular salaries.

One of the Filipino students sent to the United States to be educated at Government expense about a year ago, was lately returned to the islands by reason of the development of leprosy. The disease had made rapid progress, and his condition on arrival in the islands is said to have been bad. He was sent to the leper hospital at Cebu, located near his home.

Every now and then the quarantine officers detect cases of leprosy on outgoing boats, which is not strange in view of the general diffusion of this disease over the archipelago, but the above case was apparently not sufficiently developed for detection at the time of departure. Lately a Filipino woman, the wife of an American official, was removed for leprosy from a steamer on which she was about to leave for the United States, and is now in San Lazaro hospital. Another prominent American official of the Civil Government, who had married a Filipino woman, lately placed her in San Lazaro for leprosy, when he found two brothers and a sister who had been reported to him by the family as having died in Manila from other causes. As there are young children to be considered in both cases, the feelings of the unfortunate husbands and fathers can be imagined, tied to leprous wives and with the possibility of their offspring becoming leprous. A number of Americans have married Filipino wives, among them two well-known physicians, formerly surgeons in the volunteer army, and it is evident from the above that the "benevolent assimilation" of the Filipinos by this means is not without its sanitary dangers. Intermarriage with natives was looked upon with favor rather than otherwise during the Spanish administration, and the Spanish soldiers were officially encouraged to contract such marriages, but the American has a much more pronounced opposition to any admixture of the races, and such intermarriage is strongly disapproved of by American society here. Many lower-class Americans have, however, entered into more or less permanent relations with native women, and have thus been brought under the conditions and customs of native modes of life. As a result, they have been disproportionately exposed to infectious diseases, especially cholera, smallpox, and dysentery, and the far higher death rate among them, as compared with that among other Americans, is the sanitary penalty imposed for their irregularities of life. During the cholera epidemic it was particularly noteworthy that the proportion of cases occurring among those associating with native women was especially high. The ordinarily insanitary habits of the natives determine the high mortality among them, and the white race under similar modes of life succumbs even more readily, as in respect to dysentery and smallpox at least, the native manifests a relatively greater insusceptibility and vital resistance. The unfavorable effect of close association with natives has also been very apparent in the case of American school teachers, a proportionately large number of whom have fallen victims to the diseases above named. This class is scattered all over the islands, many being in small towns where it is impossible to preserve American standards of living, and from close association for many hours daily with pupils drawn from a large number of insanitary native houses it is hard to see how they could escape contact with any existing infection. In their domestic life, also, the health of many of them is

at the mercy of ignorant and indifferent native cooks and servants. The position of such teachers and other officials in small native towns is also unfortunate, in that they are frequently unable, through existing circumstances, to have the benefit of sanitary advice, or in the case of sickness to secure prompt medical treatment by a competent physician. All in all, where an American comes in close relation with the native, either through inclination or circumstance, his expectation of life must be regarded as distinctly lowered over that unavoidably connected with exposure to tropical climatic conditions unfavorable to the white race.

In this connection, the recent extension of the period of tropical service, by the War Department, for officers serving in the Philippines, is not at all approved by the army surgeons in the islands. There is no question but that such extended service in the tropics has a debilitating effect upon the white man, and to a greater extent upon the white woman. There are a few notable exceptions to this general rule, and these are too apt to be pointed out as an argument for long tropical service, while the far greater number of persons leaving the islands in broken health is overlooked. The better class of Americans appreciate that unceasing sanitary vigilance is the price of health, and use their best endeavors accordingly, but even the classes with knowledge and financial means do not entirely escape, as is shown by the fact that four out of five of the American members of the commission have been attacked with dysentery within about eighteen months. The military authorities give much attention to sanitation, but conditions of service are such that officers and men cannot be at all times efficiently safeguarded. The death rate in Manila among Americans is probably no higher than that among similar classes in the average city of the United States. This, however, does not mean that conditions in Manila are as favorable to the white race as in the United States, for they are not. Climatic disadvantage and local unsanitation are, however, counterbalanced by the greater attention paid to personal hygiene by the American population, as a whole, which has learned that the use of boiled water, proper diet, avoidance of over-exertion, and sundry other matters are the price of health.

IODIDE OF POTASSIUM IN DIABETES MELLITUS.

To the Editor of the Medical Record:

Sir: It is gratifying to learn that iodide of potassium is giving good and lasting results in lobar pneumonia, as recorded in a late issue of the Medical Record, and it is hoped the profession will give the drug a fair trial in this disease.

May we not have in this powerful alterative and absorbent a remedy ranking high in the list of our remedial agents?

If iodide of potassium is not a specific in the treatment of diabetes mellitus, it certainly is a most satisfactory remedy in the treatment of this disease, giving results that are lasting.

This short communication is written for the purpose of calling medical attention to the permanent results thus far obtained by the continuous administration of this remedy to diabetic sufferers.

Writers agree as to the gravity of diabetes mellitus and its rapid tendency toward a fatal termination, and rely more upon a rigid non-nutritious diet than upon remedial measures.

Iodide of potassium has been *the* remedy given to every patient suffering from diabetes coming under my own care and that of my brother (Dr. W. A. Galloway) for the past seven years, and in every case the sufferer has been relieved and restored to health with no relapses to date.

The treatment is as follows, viz.: Give 10 to 15 grs. of iodide potassium in aqueous solution every three or four hours, masking the pungent taste with a small amount of saccharine. Continue until sugar disappears from the urine and the sp. gr. is normal, then stop administering the iodide of potassium for a few days, or until sugar reappears, when it must be again administered, but in smaller doses. Continue these intervals until sugar ceases to appear. Iodism does not make its appearance until sugar has disappeared from the urine. *Diet* is most important and *no* material restriction is placed upon it. It should be both generous and of great variety. Beef, pork, mutton, fowl, fish and game, vegetables of all kinds, melons in season *ad lib.*, coffee and tea in limited quantities, milk and water in abundance, to supply the system with fluids. Alcohol, vineous, and malt beverages would better be prohibited, together with sugar, upon general principles.

Diabetes mellitus, like fever, should be *fed* to overcome the great drain upon the system made by it.

Iodide of potassium begets a good appetite and a better digestion and assimilation, as a rule, and diabetic patients thrive upon it.

Iodide of potassium, more than any other, is a remedy that can be relied upon in the treatment of diabetes mellitus.

C. M. Galloway, M.D.

Xenia, Ohio, April 7.

Progress of Medical Science.

The Boston Medical and Surgical Journal, March 31, 1904.

Ligation of the Lacrymal Canal to Prevent Infection Following Cataract Extraction.—Alex. Quackenboss declares that infection through the tear duct is one of the common causes of suppuration following cataract extraction. Various measures have been employed to obviate this difficulty, in cases in which disease of the tear passage exists, viz., probing, syringing out the sac, treating the nasal cavity, packing the sac with antiseptic ointment, obliteration of the sac or canal with the cautery and extirpation of the sac. The first three measures entail a long course of treatment and are often ineffectual. Cauterizing the duct or sac has occasionally been followed by infection. Removal of the sac is undoubtedly the safest procedure. It must be remembered, however, that in cataract operations a great many of this class of patients are old and infirm. The writer has tied the canal, and this measure has been successful in preventing infection. He sees no reason to keep stitches in, after the corneal wound has healed firmly, and in one case he removed them at the end of the ninth day. The usual preparations for cataract extraction are made. In the case reported there was present a mucocele. Its contents were squeezed out, the eye washed out with corrosive (1-5000), then a small probe was inserted into the upper puncta, and a suture passed round the canal from the inside of the lid out. This was repeated on the lower lid. The sutures were passed 2 or 3 mm. from the puncta and were tied quite firmly. Inserting a probe into the puncta aids in controlling the lid and in placing the stitches—especially in case of the upper lid. This method is very simple, is free of pain, and can be done at the time of operation, and can be used even in doubtful cases.

Journal of the American Medical Association, April 9, 1904.

Tropical Cutaneous Myiasis in Man.—J. L. Adams, Jr., records certain observations made on the Panama Isthmus with reference to a condition likely to be of great interest in view of the proposed canal construction. He finds the most common cause to be the Dermatobia noxialis. Man and dog are hosts by preference. The Dermatobia noxialis, though not confining its attacks to man alone, cannot be called an occasional parasite of man, as it attacks those who are properly exposed. White-skinned races are more susceptible to the disease than the darker races. The period of incubation is from sixteen to twenty-three days from exposure to the development of the first symptoms. Larvæ differ in shape according to anatomic location. Grub or larva, if left alone, will not produce injurious results. Abscess and ulceration are the results of attempted expulsion without proper preliminary treatment.

Some Toxicogenic Germs Found in Drinking Water.—V. C. Vaughan thus summarizes some of his recent work in the analysis of specimens of drinking water sent to the laboratory of the University of Michigan for a period of somewhat over five years: (1) Of 709 samples, 213, or 30 per cent., contained toxicogenic germs. (2) Ten samples or 1.4 per cent., contained no bacteria capable of growth at 38 C. Of these 10 samples, 4 were from deep springs and 6 from the Great Lakes—4 from Lake Superior and 2 from Lake Huron. (3) Waters that contain no germs capable of growth at 38° C. or higher cannot cause disease. (4) Waters that contain no toxicogenic germs are not condemned. (5) Waters that contain as their only toxicogenic organism a typical colon bacillus are not condemned. By a typical colon bacillus he means one which is non-motile, produces indol abundantly, produces acid in milk, coagulates milk within twenty-four hours, and evolves more or less gas from glucose and lactose cultures. (6) Waters which contain as their only toxicogenic organism a typical proteus bacillus are not condemned. It must be remembered that other germs cannot be excluded until after repeated plating of the cultures made from the heart's blood fails to show their presence. (7) Waters that contain any member of the venenosus group or any such germ as we have marked doubtful in the table given, are condemned. (8) He has never found in drinking water a germ that responded to the Widal test.

Medical News, April 9, 1904.

Pathological Changes in Tissue under the Influence of the X-ray.—William S. Newcomet declares that it would be impossible to review and discuss in detail all of the different phases of this subject, but it can be said that no single form of degeneration is alone characteristic to the

r-ray, and the form of degeneration observed depends ntirely upon the tissue exposed and the method of *x*-ray pplication. It would seem that the effect of the *x*-ray ies upon the cell elements in the exposed parts, but why certain normal cells, such as those in hair follicles, etc., should be more susceptible than other tissue is still a question of doubt, but in lieu of the vascular disturbance found by many observers it might be thought that this cause plays an active part. Many authors speak of a thickening of the vessels. Sequeira states that two definite effects from the *x*-rays are observed by microscopical examination—a destruction of the epithelial cell, the nucleus and protoplasm undergoing lysis, and in some cells a fatty change, and a stimulation of the connective tissue elements causing the formation of healthy scar tissue.

The Early Diagnosis of General Paresis.—William A. White says that the diagnosis of paresis does not rest primarily upon the mental symptoms. Paresis is a gross organic disease of the brain, and its diagnosis must rest in the main upon an appreciation of the physical signs which these changes bring about, particularly in the field of motor disturbances. Grandiose delusions are not a necessary part of the disease. Of the oculomotor phenomena the pupillary abnormalities are most important. The loss of the light reflex with retention of the reaction to accommodation, the Argyll-Robertson pupil, is one of the most valuable diagnostic signs of beginning paresis, in the absence of tabes. A sluggish reaction to light is also sometimes found. It is claimed that a still earlier symptom is the loss of the sympathetic reflex. Of the tendon reflexes, the only one that need be considered is the knee-joint. This may be normal, exaggerated, diminished, or lost on one or both sides. The exaggerated reflex is most common. The absence of the knee-jerk is of much greater diagnostic importance. In very early stages, the especial speech defects are often hard to make out. Paretic seizures occur occasionally early in the course of the disease. Transient palsies also must be noted. Optic nerve atrophy is important, but although it is often of early onset, it is usually overlooked.

Tuberculosis of the Spinal Cord; with Reports of Cases of Tuberculous Myelitis and of Tuberculous Pachymeningitis.—Charles L. Dana and J. Ramsay Hunt, state that tuberculosis of the spinal cord occurs in five different ways: (1) As part of a general disseminated tuberculosis; (2) as part of tuberculous cerebrospinal meningitis; (3) as tuberculous tumor; (4) as a tuberculous softening or myelitis: (5) as extradural tuberculosis or tuberculous pachymeningitis with necrosis and œdema of the spinal cord. The writers report two cases. The second patient was a negro man aged twenty-four years. The interesting points of the case are summed up as follows: The acute onset after exposure to cold; the three months' duration of lancinating pains without other symptoms referable to the spine or nervous system, which, in view of the histological examination, were caused by infiltration and compression of the posterior roots; the very acute onset of the paralysis; the dissociated anæsthesia with complete paralysis of motion which suggested the existence of a central lesion of the cord. The upper and lower extremities were quite flaccid. The tactile and deep sensibility were well preserved throughout. The diminution of the knee-jerks, at first followed by great exaggeration, spasticity and clonus, was probably caused by the shock of the acute onset. The spinal cord nerve fibers showed swelling of myelin sheath and absent or swollen axis cylinders. Often the fiber was entirely gone, leaving only a vacuole. The dissociation of sensation is not explained by any distinct focus of central softening. The lesion of the cord substance seemed most marked in the lateral columns and in the neighborhood of the posterior roots. This latter disturbance would not explain, however, the sensory disturbance in the lower limbs, and it must be inferred that the necrosis œdema, by affecting partly the posterior columns, and partly the ascending (Gower's) tract of the lateral columns, was the cause of this peculiar clinical symptom. The very distinct degeneration of Gower's tracts easily followed as far as the level of the corpora quadrigemina would tend to confirm the view that it is along these tracts that pain, temperature, and sense impulses are carried. No ascending degeneration was to be found in the inferior cerebellar peduncles, and no tracts were seen running in the formatio reticularis.

New York Medical Journal, April 9, 1904.

The Wiring of Bone for Recent and Ununited Fracture, with Report of Cases.—S. L. McCurdy advises the leaving of bones down in their normal position (while they are being wired) so as to preserve their nutrition. When the end of a bone is poked out through the wound during sawing, drilling, and insertion of the wires, here must necessarily follow much damage to the periosteum; the muscle and fascial attachments are torn away for some distance and damaged further back; and when the bone is returned into the wound and adjusted, union is less likely to take place, and necrosis of the ends that have been wired quite frequently follows. He gives the details of his method, adding several illustrations. He advises the use of iron instead of silver wire, and the anchorage of bone fragments to external bridgework to hold them in position during repair. He describes and figures an instrument for cutting the ends of bones.

Guides to the Prognosis in Epilepsy, with Remarks on the Curability of the Disease; Including Reports of Thirty-four Cases.—The conclusions of W. P. Spratling are as follows; they are based on fourteen years' experience and the care of 1,800 cases: (1) Epilepsy is curable in from 5 per cent. to 10 per cent. of all cases. (2) It requires, as a rule, a long continued course of treatment—never less than two to three years—carefully mapped out and executed to the letter, not only along one, but along many lines, to effect a cure. (3) The failure to secure better results, generally, in the treatment of this disease must frequently be laid to the failure to treat the individual and his disease as a unit, and to treat them both along the very broad, comprehensive, and unyielding lines they both require. (4) The drug treatment of epilepsy alone, while invaluable in many cases and of some use in every case, often fails completely to meet the most important requirements. (5) Guides to the prognosis in epilepsy are always uncertain and unsatisfactory until treatment has been in operation from six to nine months, and in some cases a year or longer.

Skiagraphic Errors: Their Causes, Dangers, and Prevention.—In a comprehensive paper L. G. Cole notes that the field of usefulness of the *x*-rays in fractures and bony deformities is to be considered from two standpoints. First, in doubtful cases, especially cases presenting an injury near a joint, we are to determine the existence and site of a fracture. Often small fragments are chipped off the articular surface of the bones, and they are not allowed to unite, because the part is not put at rest. Afterward they set up a synovitis that is hard to treat. If we are sure of a fracture, it is far less necessary to have a single skiagraph made to show that fracture than it would be to have a skiagraph made of a part which we have often diagnosticated simply as contusion or sprain, because many times these contusions or sprains prove to be fractures of small fragments from the articular surface of the bones. To show these fractures it may be necessary to move the tube, plate, and limb in several different positions before we can detect the fracture, but a skiagraph so taken must not be interpreted as representing the relative positions of the fragments. Second, we must determine the existence and nature of any existing deformity. A skiagraph taken any time after the injury will show the resulting position of the parts. One taken within say three weeks is worthless as to showing permanent injury, because up to that time the fragments are freely movable. Finally it is advisable in every doubtful case to make a skiagraph of the sound side for purposes of comparison.

American Medicine, April 5, 1904.

Corneal Ulceration Due to Nasal Infection.—S. Lewis Ziegler says that disease is transmitted from the nose to the eye by the lacrymonasal duct, by the blood and lymph streams, and by reflex action through the nervous system. Corneal ulcer is a purely local inflammatory process, arising chiefly from infection by septic lacrymonasal secretions, and often complicated by lowered oxidation and metabolism. The writer concludes that: "The nose should have antiseptic irrigation and local treatment applied. (2) The lacrymonasal duct should be disinfected, or dilated. (3) The eye should have a soothing lotion, a mydriatic instilled, and a cauterant applied to the ulcer, if necessary. (4) The diet should be regulated tonic and antiphlogistic treatment given, and the hygiene generally improved.

The Non-operative Relief of Eyestrain for the Possible Cure of Epilepsy as Tested in Sixty-eight Cases at the Craig Colony.—William P. Spratling presents the following summary: Two mistakes were made in conducting the experiment: (1) Young patients, and those only with less injured nervous systems should have been chosen. (2) Resident or frequently visiting opticians and oculists should have been insured to make the retestings, readjustments, etc., most necessary. Despite these faults, together with incomplete statistics, etc., 19 out of 57 patients, for the only comparable terms given of three months, showed a reduction of the number of seizures of

382 (44 per cent.), and 1 in 57 was cured against 1 in 80 by all other methods of treatment that have been tried at the colony. The writer believes, judging from the result of the experiment at Craig Colony, that the permanent residence at such institutions of an expert ophthalmologist would result in great monetary saving on the part of the State. Spectacles would certainly lessen the special disease, and the number of seizures. Even if they would not do so, they would tremendously lessen headache, digestional troubles, etc. For mere humanity's sake they should be ordered. The habit of depreciation and ignoring the eyestrain factor is both cruel and unscientific.

Nervous Complications of Typhoid Fever.—Herbert A. Black states that from early record this fever has been recognized as having associated with it distinct nerve lesions. The pathologic findings which have been recorded appear to establish the fact that nervous symptoms may be due either to the toxin or the typhoid bacilli, while the pathologic changes in the nerve tissues are more often due to the direct action of the bacilli. No one symptom is more commonly present in typhoid fever than headache. Convulsions are a rare complication of the disease. They may be due to the action of the toxins upon the exhausted nerve centers, they may follow thrombosis of the veins, or cerebral arteries, or they may be due to nephritis. Delirium is one of the most frequent symptoms of typhoid fever. It may exist before any elevation of temperature occurs. Usually the more active the delirium, the more grave the danger. The diagnosis of meningitis in a disease so constantly characterized by functional cerebral derangement is complicated with much to confuse the attending physician. While the records of this complication are few, yet its existence is proved, and every case with cerebral symptoms should be carefully watched for its possible occurrence. Cerebral abscess following typhoid fever has been noted. Hemiplegia and aphasia are rare complications of typhoid fever. Neuritis occurs in a small number of cases. The most common form is probably that known as "tender toes." Paralysis in many forms is met during or after an attack of typhoid fever. Other sequelæ sometimes seen are, "typhoid spine," and insanity. There is hardly a nerve symptom which may not be present with, or follow an attack of typhoid fever.

The Lancet, April 2, 1904.

A New Method of Testing the Blood and the Urine.—The method is explained by A. E. Wright and J. N. Kilner. It is based on the following principle: A standard quantity of normal red corpuscles suspended in a measured volume of salt solution of a standard strength furnishes a test fluid. The urine, or, as the case may be, the blood fluid (serum) from which that urine is derived, is mixed in progressive dilutions in a capillary tube with measured volumes of the standard suspension of red blood corpuscles. The point is determined at which the urine or serum has been so far diluted as to allow of complete hæmolysis of the standard suspension of red corpuscles. From these data, taken in association with the data obtained on diluting the suspension of corpuscles with progressive dilutions of a decinormal sodium chloride solution, the concentration of the serum and urine is calculated. The quotient obtained by dividing the latter by the former is denoted "*the excretory quotient.*"

Pancreatic Calculi.—In the third Hunterian lecture on the pathology and surgery of certain pancreatic diseases, A. W. Mayo Robson discusses the topic of calculi formed in the pancreas, noting that they contain lime in the form of either carbonate or phosphate, rarely the oxalate. In the urine of patients with chronic pancreatitis oxalate of lime has been found in 40 per cent. of the cases. In jaundiced cases in which the bile acids take up the lime salts, this percentage has fallen to 6. The bearing of this fact on the composition of pancreatic concretions is interesting, as the normal pancreatic juice contains no calcium carbonate. As a result of their chemistry, pancreatic calculi are opaque to the *x*-rays, and hence are visible in a skiagram, which is not the case with gallstones. In color pancreatic calculi are pale and may be white. If they get into the common bile duct they receive a coating of cholesterine and may be so stained with bile as to resemble gallstones. Symptoms include glycosuria, epigastric pain radiating toward the inferior angle of the left scapula, vomiting, flatulent dyspepsia, and liporrhœa, while the urine gives the customary pancreatic reaction. An accompanying cyst, abscess, or other pathological condition may cause variations in symptomatology. Medical treatment is useless and surgical intervention is called for when once the diagnosis is established.

Corset Cancer.—R. C. Lucas discusses the general origin and spread of cancer and gives the histories of two cases. The main points of the paper are summarized in the following propositions: (1) He has attempted to demonstrate a site of cancer dependent upon the friction of the upper edge of a corset where it crosses the anterior fold of the axilla. To this he attaches no theory save that of chronic irritation, but supposing cancer to be due to an organism introduced from without, the rubbing in of such organism at this spot might aptly be compared to the rubbing in of staphylococci on the back of the neck by the collar in the production of boils and carbuncles. (2) Allusion is next made to other recognized sites of origin associated with irritation, and especially to the points of junction of mucous membrane with skin. (3) He then attempts to show how syphilis, producing injurious effects in numerous situations, often proves to be the forerunner of cancer. (4) Next inoculation and contagion are considered; the proved inoculability of cancer in animals of the same species; the self-inoculation in the human subject of parts in contact but not continuous; and the probable communication of the disease in certain cases from wife to husband. (5) The infection of cancer is next spoken of, and his original observation of three persons having cancer at the same time in the same house, published in 1887, is quoted. (6) The recent observations of various authorities as to the resemblance of the mitotic changes of cancer cells to those normal in the reproductive cells of plants and animals are alluded to as of great interest, showing why in both cancers and sarcomata there exists such an immense power of multiplication of cells, but why the cells assume this heterotype mitosis still remains to be demonstrated.

British Medical Journal, March 26, 1904.

Treatment of Puerperal Eclampsia by a Combined Method.—John Lithgow reports the case of a girl of nineteen and one-half years, who had sixty-nine severe seizures altogether. The fits appeared before labor had commenced. The writer pressed a piece of lint saturated with cocaine through the os. The patient was put under chloroform and the child was taken away. The seizures continued. The patient was then bled from a vein in the arm. After this over two pints of normal saline solution were injected into the cellular tissue underneath the breast. The patient remained unconscious for two days, ultimately making a good recovery, however. The urine contained albumin, and gave 9 gr. of urea to the ounce. The blood serum contained 2½ gr. of urea in the ounce.

A Warning Sign of Danger to the Child During Labor.—Fred. E. Daniel calls attention to the fact that in certain cases the child gasps for air in utero. This is caused by the suspension of the supply of aerated blood. This characteristic movement of the child can be felt by the operator through the handles of the forceps. The first efforts of respiration are double or duplicated—that is, they are repeated twice in quick succession. This movement is sudden and spasmodic. If immediate delivery is impracticable, the movement is repeated, strongly at first and with short intervals, which gradually become longer and the movement weaker till the child dies. The main indication is to deliver as speedily as possible, even at the risk of a moderate amount of perineal rupture, though the writer prefers to sacrifice the child to producing a very extensive rupture. At the worst, there is always the opportunity of preparing the patient's friends for the disappointment involved in the baby being born dead.

Deutsche medizinische Wochenschrift, March 24, 1904.

The Value of the X-rays in Determining the Position and Boundaries of the Heart.—Grummach describes an apparatus intended for making accurate determinations of the cardiac boundaries by means of the *x*-rays, and gives the results of a series of determinations undertaken for the purpose of comparing the efficiency of the relative and absolute dulness and of the friction method in establishing the size of the heart. It was found that the dimensions obtained from the relative dulness very closely corresponded to those found by the skiascopic method, though the latter was more accurate, while the absolute dulness gave very unreliable results. The friction method is unreliable and should be abandoned. Comparative observations on patients treated according to different plans showed that hydrotherapy was not as satisfactory in many cases as is generally supposed, and that patients with derangements of compensation could be more effectually treated by a combination of hydrotherapy with the cardiac drugs than by the former alone, as is now frequently advised.

Ultramicroscopic Investigations of the Cause of Sympathetic Ophthalmia.—Raehlmann describes observations he was enabled to make on the aqueous humor of a freshly enucleated human eye by means of the ultramicroscope. The exact nature of sympathetic ophthalmia and the manner of transmission of the infection is still somewhat doubtful, but the author believes that his investigation

proves that the process is due to bacterial invasion of the sound eye through ultramicroscopic forms of organisms which are able to pass freely through the vessel walls in any direction. In this case the enucleation was done three weeks after a perforating wound in order to save the other eye, which appeared to be in danger. Under a magnification of 2400 diameters the aqueous humor was seen to be swarming with actively motile bacteria of several types, and it is the author's view that the smaller of these, which are so minute as to be invisible to the ordinary powers of the microscope, are undeveloped forms which carry the infection through the tissue channels to the sound eye. The aqueous humor having a composition peculiar to itself is perhaps the only body fluid which forms a suitable culture medium for these particular organisms, and therefore it is the sound eye which is attacked by the sympathetic infection.

Radium Rays and Their Action on the Normal and Blind Eye.—Greeff reports the result of his official investigation of the optical properties of radium, particularly in respect to the somewhat sensational article entitled "Hope for the Blind," published by London of St. Petersburg. It is perfectly true that radium gives off rays in the dark which are visible to the human eye, but it is necessary to recognize that these rays are of two kinds. In the first place, a species of fluorescence is excited in certain bodies, which then give off indirectly rays of *ordinary* light; and in the second place, the radium itself throws off peculiar visible emanations called radium rays. Many objects, such as paper, can be excited to the fluorescent state, notably screens coated with platino-cyanate of barium, but it is easily demonstrated that the rays so given off are merely those of ordinary light, as they are obstructed by opaque bodies and throw shadows. In other words, the effect is similar to that produced by placing a lamp or candle behind a screen, and the marvelous feature consists in the fact that radium can continue to serve as source for the light indefinitely without appreciable loss of substance. The true radium rays can be detected by holding the substance a short distance away from the eye after the retina has become habituated to the dark chamber. When the radium is at a distance of about 30 cm. from the eye a peculiar diffuse, sea green radiance suddenly becomes visible, increasing as the eye is approached and diminishing with greater distance from the substance. It is impossible to determine the direction of the rays, as they penetrate all structures and give the same effect if the radium is held at the side of the head as in front. It has been the view of some observers that this effect is the result of fluorescence induced in portions of the eye itself, which thus are excited to throw off ordinary light rays; but this the author denies, for several reasons, e.g. that the radium rays do not bleach the visual purple of the retina. London's experiments are misleading, since he does not particularize exactly the visual condition of his patients. Once the function of the rods and cones is destroyed, the eye becomes entirely unable to transmit visual concepts to the centers. London's patients who had a perception of light when brought before the radium screen would have experienced the same sensation before a screen illuminated by ordinary means, while the radium rays proper cannot be used to give visual picture, since they cannot be refracted. At present there is therefore no prospect of help for the blind through the intervention of radium.

Berliner klinische Wochenschrift, March 21, 1904.

The Serum Treatment of Hay Fever.—Lübbert and Prausnitz have collected the statistics regarding the value of the anti-pollen serum developed by Dunbar for the treatment of hay fever. The fact that this form of treatment has given excellent results with patients in all parts of the world in which it has been tried affords strong evidence in favor of the view that hay fever is a definite condition, having a constant exciting cause, though what the nature of the individual predisposition may be still remains unknown. The serum is obtained from horses innoculated with the pollen of various plants, and is used as a liquid and in powder form. So far its subcutaneous injection has not seemed advisable, and its use has been restricted to local application. Reports have been made on two hundred and eighty-five patients from different countries, with 60 per cent. in which complete relief was given, 29 per cent. of partial cures, and 11 per cent. of failures. From an analysis of the failures it appears that in most of these cases the directions were not adhered to, and that the remedy was tried only a few times and then given up, but a few instances remain in which the treatment seemed wholly without effect. The action of the serum is not curative in the sense that recurrence of the attacks is prevented, and its greatest value is as a prophylactic. Faithfully used during the attacks, however, it quickly relieves the symptoms and cuts short the seizure.

Münchener medizinische Wochenschrift, March 22, 1904.

Intestinal Secretory Neuroses.—Geissler reports a case which supports the view that the intestinal secretion can be influenced by nervous disorders and form the cause of diarrhœas. The patient was a physician who, after several years of dyspepsia and overwork, had become neurasthenic to such a degree that sanatorium treatment was necessary. After a certain length of time of treatment it was observed that small quantities of pure intestinal juice were voided, sometimes immediately following the movements, sometimes by themselves after having caused urgent tenesmus. The juice so obtained was found to be colorless, with an alkaline reaction, and contained albumin. Tested with blood fibrin, it showed peptic activity, and it partially emulsified croton oil, thus giving evidence of fat-digesting ability. Diastatic power was shown by the ability to change starch into sugar and to produce fermentation. Maltose was converted into fermentable sugar, and cane sugar was turned into glucose. The circumstances of the case, and particularly the fact that the fæces never showed undigested food, all contribute to the assumption that the secretion was the result of nervous derangement solely and not of hypermotility.

The Thermal Death Point of Tubercle Bacilli in Milk.—Rullman reports on a series of investigations undertaken to control the results of Hesse and of Smith to the effect that tubercle bacilli in milk are killed by exposure at a temperature of 60° C. for a period of twenty minutes. The fact that this limit is dangerously low is shown by Hesse's observation that when he heated infected milk only to 58° C., instead of to 60°, animals injected with the milk perished of tuberculosis. An accidental difference of two degrees in heating may easily occur in large establishments, and result in the delivery of an unsafe milk. The author used virulent bacilli from fresh sputum with which to infect the milk and started by heating the material according to the method of Hesse. Tuberculosis was induced in the animals injected with the milk so treated, and positive results were also obtained with various specimens of milk heated to successively higher temperatures. Finally a safe limit seemed to be reached by heating for one hour with constant stirring at 68° C., and the author regards this as the procedure to be recommended for routine use. If carefully brought to this temperature and rapidly cooled, very slight, if any, changes are produced in the flavor, the albumin and lecithin, or in the enzyme.

The Etiology of Orchitis Fibrosa.—Lesser studied the autopsy records of the Moabit Hospital from 1896–1902, in order to gain an insight into the etiology of this affection. Of late there has been a tendency to consider that causes other than syphilis, notably gonorrhœa, can induce fibrosis of the testicle, and many authorities concur in this view. Of the 2,979 autopsies of adult males investigated by the author, 133, that is 4.5 per cent. showed the lesion. In 70.6 per cent. of these, unmistakable evidence of a former syphilitic infection existed, but the ordinary average of syphilis in adults is only 9.6 per cent., so that a direct relationship between the two affections cannot be doubted. In regard to the cases in which no satisfactory evidence of syphilis exists after death, the author observes that syphilitic orchitis bears a very close analogy to syphilitic fibrosis of the liver. This condition often is found as the sole syphilitic lesion, yet no pathologist hesitates to ascribe it to its proper cause on this account, although the records show that in over 43 per cent. of the cases the diagnosis is based on the state of the liver alone. The greatest argument against the gonorrhœal etiology of the affection is found in the period of greatest frequency of its occurrence. To be a sequel of the urethral infection, the disease would have to manifest itself during the years in which gonorrhœa is most frequent, yet this coincidence does not exist, and it is a rarity for fibrous orchitis to be encountered before the thirtieth year. Other conditions, such as trauma, parotitis, tuberculosis, typhoid fever and influenza, have also etiological significance, but the author believes that ordinarily when fibrosis of the testicle is found without involvement of the epididymis or evidence of other etiology, the correct assumption is that the lesion is of syphilitic origin.

Resignation of Dr. Kreider.—Dr. George N. Kreider of Springfield, Ill., major and surgeon, assigned to the Fifth Infantry of the Illinois National Guard, has resigned, and Dr. Arthur F. Wilhelmy of Decatur has been designated to fill the vacancy on the examining board of the regiment caused by the resignation of Dr. Kreider.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON MEDICINE.

Stated Meeting, Held March 15, 1904.

DR. CHARLES H. LEWIS, CHAIRMAN.

A Case for Diagnosis.—Dr. SIGMUND EBSTEIN presented a man whose present history dated back three years when certain spots appeared on the left foot, especially over the dorsum, which remained for several days and then disappeared for months. The appearance of these spots was accompanied by sharp pains and cramps. Two years ago he had more pains and more spots which lasted for months. Six weeks ago he was seen at the Vanderbilt Clinic when he had several fissures on the ball of the foot. The patient was given salicylate and bromide of sodium in rhubarb and soda mixture.

Dr. PATTERSON, who had examined the case, said it was necessary to determine whether or not the cause was an organic nervous lesion. A very careful physical examination practically gave negative results. There were no areas of anæsthesia or disturbances of the temperature sense. On the dorsal aspect of the toes there was partial analgesia. The pain sense was somewhat retarded. He believed the conditions to be differentiated in this case were Raynaud's disease and erythromelalgia.

Dr. LEONARD WEBER supported the diagnosis of erythromelalgia, although nine out of ten cases affected the fingers rather than the toes. He could not understand why the toes should not be affected as often as the fingers. He believed it depended upon a sclerosed condition of the arteries of the lower extremities. Again he believed it might be due to some nervous disorder of specific origin.

Dr. WILLIAM M. LESZYNSKY said he would not make a diagnosis of erythromelalgia from the general appearance of the limbs. He believed it was a form of dermatoneurosis.

Dr. HERMANN M. BIGGS said he was reminded of a similar case seen last year in which the process began in the right hand and arm, and was followed by pain, swelling, and cyanosis of the right toe. The process gradually extended and involved the other toes of the right foot in a way similar to the one presented. Then the left foot became affected. Soon gangrene of the second and then the third toe appeared. There was a distinct syphilitic history, but antisyphilitic treatment had no influence upon the disease. He believed the condition was due to some arterial disease.

Dr. MORRIS MANGES thought the peripheral circulation was entirely too good for it to be a case of erythromelalgia.

Dr. EBSTEIN said that there was a syphilitic history, but antisyphilitic treatment had no influence upon the condition.

A Case of Trichinosis.—Dr. WM. B. NOYES showed a patient from the service of Dr. C. H. Lewis at Columbus Hospital. The patient was an Italian who had been nine months in this country. On admission, January 13, 1904, he had been ill five days with diarrhœa four or five stools per day. His eyelids became swollen and this was followed by swelling of the arms and legs. After three or four days the swelling began to subside and then he was seized with severe pains all over the legs and arms. Examination of the chest showed a few sibilant râles on the left side. Temperature was 101° in the morning to 104.4° in the evening, pulse 120, respirations 32. His tongue was coated and dry. The muscles of arms and shoulders were extremely sensitive, but negative to palpation. The urine had a specific gravity 1020 and contained no albumin. The Widal reaction was obtained 1 to 10. The blood count showed 6700 leucocytes, of which 82 per cent. were polynuclear, 3 per cent. large lymphocytes, 5 per cent. small lymphocytes, 10 per cent. eosinophiles. A diagnosis of trichinosis was suggested by Dr. Lewis from the pain in the muscles of the arm with the appearance of a myositis and the eosinophilia. The patient said he had had rheumatic pains ever since he had come to this country, but no swelling, and that his diet had consisted largely of pork for months. He remained in the hospital under observation for six weeks. His arm became more sensitive and the biceps contracted. The legs became œdematous and much swollen. On February 1 he found the condition of the patient as follows: He was well nourished, but looked ill. He was able to walk, but very unsteadily. He had marked contractions of the arms and legs. The grip of the right hand was weak, of the left, normal. Flexion was impossible, and only a moderate degree of extension. Forced extension developed rigidity of the arm. The muscles were hard and large, though smaller than before he was sick. The patient was able to dress himself and to perform the finer movements of the hand. There was no rigidity of the neck. Kernig's sign, or rigidity on hyperextension of the legs, was marked. The knee-jerks were lively. Careful examination of sensation showed hyperæsthesia to touch and pain all over, especially marked over the arms. He was as sensitive over the abdomen, especially the lower iliohypogastric region, as elsewhere. The contractures and pain were more in evidence when he was being examined than when he was alone in the ward. The patient gradually improved. All his clinical symptoms resembled the ordinary condition of hysterical contracture with certain hysterical points. On February 3 he made a blood count and found 28.5 per cent. of polynuclear leucocytes, 48 per cent. large lymphocytes, 5 per cent. small lymphocytes, and 16.5 per cent. eosinophiles, and 2 per cent. mast cells. On February 8 he excised a portion of his biceps and found trichinæ, thus confirming the provisional diagnosis of Dr. Lewis. Many sections were examined, and the trichinæ numbered about one to each section. Evidences of considerable myositis was found in the neghborhood of the encysted trichinæ with an accumulation of mast cells.

This case showed the three stages which writers had divided the clinical history of trichinosis. Stage 1. Intestinal irritation commencing soon after taking the infected meat. Stage 2. Characterized by severe muscular pains with pyrexia. Stage 3. Subsidence of the symptoms during which the trichinæ became encysted in the muscle. The diarrhœa was an early symptom and, if severe, might clear the intestinal tract of all parasites and abort the attack. About the eighth day puffiness of the face and eyelids appeared. The ninth and tenth days after infection pain in the muscle became marked and increased. It was at that stage that the patient was admitted. Almost any muscle might be affected, including the diaphragm, muscles of the eyes, and especially the arm and neck; but the œsophagus was said to be usually exempt. Œdema of the trunk and limbs occurred during the fourth or fifth week and might be quite general, but usually spared the genitals. The latter part of the attack of trichinosis might develop into more or less of a typhoid state after the acute symptoms of the early stages had subsided. Pulmonary complications were common. Convalescence might come by the fourth or fifth week as in the case reported, with permanent encystment of the trichinæ. When death occurred it may be at a later stage from some complication. The diagnosis of trichinosis, he said, was always difficult and, in some cases, impossible without a specimen of muscle showing the trichinæ. In the case reported the symptoms were referable to the lungs quite sufficient to explain the fever and other constitutional symptoms, and with the pains in various parts of the body influenza might have been diagnosed. But the persistence of the constitutional symptoms and the development of the general condition known as typhoid state made the diagnosis of typhoid fever in many cases seem probable, though the initial headache, epistaxis, rose-spots, and enlarged spleen

were absent. He said that, in this case, grippe followed by hysteria would have presented a symptom complex agreeing with every symptom of the history excepting eosinophilia. Hysterical contractures, or contracture following brain lesion, would simulate a myositis. He had now a case at the Demilt Dispensary where such a neurotic contracture, presumably hysterical, caused the biceps to be constantly in a state of tonic contracture, resembling a myositis from its hardness and apparent increase in size.

Intraspinal Injection of Lysol Solution in the Treatment of Cerebrospinal Meningitis, with a Report of Three Cases Treated by This Method.—Dr. MORRIS MANGES read this paper. He said that the perusal of the various monographs on the subject showed how very limited was the sphere of our therapeutic agents. So far as he had been able to learn from a review of the literature, methods of treatment had but little influence on the mortality, which, for the epidemic form, was estimated from 20 per cent. to 75 per cent. He said that we were indebted to Seager (*Lancet*, November 1, 1902) for a new method of treatment, the results of which were most encouraging. This treatment consisted in lumbar puncture and the withdrawal by aspiration from the spinal canal of varying quantities of cerebrospinal fluid, frequently amounting to 50 c.c. Artificial serum was then injected with the same syringe, the needle being left *in situ*, and the surrounding parts were washed with the serum; lastly, a quantity (from 9 to 12 c.c.) of a 1-per-cent. solution of lysol was injected through the same instrument and the needle withdrawn. The temperature would fall immediately, but rose again after one or two days, when the puncture and injections were to be repeated, and so on until only quite clear and limpid fluid was withdrawn after puncture, and then the injections were stopped. Seager called attention to the painfulness of the procedure, but Dr. Manges' experience in the two cases under his personal observation did not corroborate this. Of the thirty-one cases treated in Lisbon with lysol, 13 died—5 from dilatation of the cerebral ventricles, 2 from pulmonary tuberculosis, 1 from œdema of the glottis, 1 from purulent pneumonia, and 4 from the disease without complications. The 18 that recovered were *completely* cured.

Of the two cases that came under his personal observation one was a meningococcus infection and the other a virulent streptococcus. While it remained an open question whether the meningococcus case would have recovered without treatment, since the sporadic cases in adults not infrequently do so, yet the fact remained that the patient was losing ground in spite of the various treatments employed. After the first injection he seemed to hold his own, while after the second his recovery was rapid and uneventful. Of the second case he could speak with more assurance since, at the Mount Sinai Hospital, death had resulted in every instance of cerebrospinal meningitis in which the streptococcus was found in the fluid obtained by lumbar puncture. The condition of the child at the time of the first lysol injection was so desperate that no one who saw the case expected the child to survive the night; hence his complete recovery without any after-effects was all the more gratifying. It was to be noted that the washing out of the spinal canal with artificial serum was omitted in both cases The injections were all done without anæsthesia except the first one in the child, which was done under slight chloroform narcosis. No pain was complained of and no unpleasant after-effects were noted. Dr. Manges then gave the detailed histories of the two cases under his observation, and also the one treated by Dr. Seff at Lancaster, Pa., while he was home on a vacation. Dr. Seff was a member of the house staff at Mount Sinai Hospital.

An Observation on the Selection of Food in Tuberculosis.—Dr. JOHN B. HUBER contributed this observation and showed two maps of the lower portion of Manhattan Island, which were prepared by Miss Lillian Brandt, the statistician of the Charity Organization Society of New York City. The first of these maps represented by varying degrees of shading the varying densities of population in respective districts. The most densely populated district was thus shown to be the region about Grand and Rivington streets and east of the Bowery. This region was inhabited by Jewish people to the practical exclusion of all other races. It was said that one-fifteenth of all the Jews in the world are in New York City, and from five to seven hundred thousand of them; and the vast majority of these Jews were crowded into this district. Miss Brandt's second map represented the death-rate from consumption in these districts; in this map this same Jew-inhabited district was shown to be the one in which consumption was of all the regions in New York City the least rife. These maps tended to corroborate the findings of Korosi, Billings, Fishberg, and others to the effect that the Jews were of all people (except, perhaps, the Quakers) the least prone to tuberculosis. The Jewish people inhabiting this quarter were subject to all such conditions as would tend to tuberculosis, that obtained in all the other districts indicated. Indeed, among the Jews some of these conditions were greatly emphasized. For instance, they worked in sweat-shops, in vitiated atmospheres, bending over their machines for many hours, to the great detriment of normal respiration. These poor Jews were certainly no more cleanly than other people in the same stratum of life. With regard to their homes, this Jewish district was by far the most congested in the city. It occurred to Dr. Huber that there was one factor which existed among these Jews which did not obtain among other races—the "kosher" food. He had been informed by many that the very poor Jews, at least, obeyed implicitly the requirements of the Mosaic law concerning such foodstuffs as were rejected by their religious officials as "tiefa," or "unfit to eat." The percentage thus rejected was variously estimated at from 30 to 50 per cent. of the meat examined. This fact of food examination among the Jews seemed to him to have some bearing upon the opinions held by von Behring, Carrière, Raneuel, Theobald Smith, and others, to the effect that tuberculosis was oftentimes an ingestion disease. According to these workers, the tubercle bacillus in infected meat and milk, after having passed the gauntlet of the gastric juice, might be taken up by the lacteals and be conveyed to the thoracic duct in the chyme, and thence to the vena cava, the right heart, and, finally, the pulmonary parenchyma. There were some who went so far as to maintain that the ingestion of tuberculous foodstuffs was the only method of infection of the human organism; this view he considered absurd and unscientific. Even in inhalation tuberculosis, however, the air vesicles were generally not entered by the bacillus, the mode of dissemination being by means of the bronchial glands and the lymphatics of the upper-air passages, and thence to the vena cava, the right heart, and so to the pulmonary parenchyma, too. In conclusion, he referred to papers by the statistician, Mr. Hoffman, and by Drs. Flick, Ravinel, and Salmon, in the *Maryland Medical Journal* for February, 1904. In these papers much of the literature concerning ingestion tuberculosis was epitomized; and in them the names of some fifty workers in this field were set down.

On the Sanitary Surveillance of Tuberculosis in New York City. Illustrated by Exhibits Prepared for the St. Louis Exposition.—Dr. HERMANN M. BIGGS read this paper. After referring to the enormous death rate from tuberculosis, more than one-third of the deaths occurring in the best working period of life—fifteen to forty-five—and that nearly 45 per cent. of the deaths in Vienna during this same period were caused by it, he briefly gave an account of the manner of dealing with this dread disease in New York City.

(1) He said that there was a system of compulsory notification and registration. Last year there were re-

ported to the Board of Health 14,000 new cases of tuberculosis and 4,000 duplicates. These gave data as to age, sex, color, occupation, etc., and were recorded in two card indices. In one they were indexed according to street and number of residence, and in the other according to the name.

(2) Arrangements had been made with the Board of Health for the free examination of sputum for diagnosis, and had in view several purposes, a more cordial cooperation on the part of the medical profession, and, in this way, a large number of cases would be reported and again it would facilitate the early diagnosis. During the past year more than 11,000 specimens of sputum had been examined in the laboratories of the Department.

(3) The premises where reported patients resided, or where they had been removed, were visited by inspectors to determine the degree and extent of the possible infection of the apartments. Often, as a result, the owner of the premises was given an order requiring renovation, painting, papering, kalsomining of walls and ceilings, etc. In these cases the apartments are placarded forbidding their occupancy by other persons until the order had been complied with.

(4) When consumptives lived on the premises, then inspectors left circulars of information, gave verbal instruction, obtained any data which were lacking, determined the physical condition of the patient and what the sanitary conditions of the premises were, what precautions were being taken, whether the patient was a menace to members of his family or neighbors, etc., all of which facts were recorded on a card.

(5) Strenuous measures had been taken to educate the medical profession and the people as to the essential nature of tuberculosis and the measures to be taken for its prevention. A number of different forms of circulars had been printed, in different languages and for different classes of people. The public press received constantly full information regarding the work of the Department. The Tuberculosis Committee of the Charity Organization Society had rendered most efficient work. A large number of lectures had been given under the auspices of this committee. In various ways and through various channels a knowledge of tuberculosis and its nature and the measures to be adopted for its prevention had been widely disseminated among all classes of the community.

(6) Public institutions were inspected, and the completeness and accuracy of reports determined. Every death reported from tuberculosis was compared with the card index of reported cases, and it was found that 90 per cent. of the cases of tuberculosis had been reported previous to death.

(7) At the beginning of this work in 1894 he had prepared sectional maps of the city showing every house lot on a scale large enough so that reported cases and deaths could be plotted in each lot by conventional signs, indicating the month and year of report. A few blocks had been selected in which the largest number of cases had occurred, and he had them reproduced. On these each case and each death was indicated by a dot, and it was shown that in a single street block as many as 102 cases came to the notice of the Department from April, 1894, to January 1, 1899. The population of this block in January, 1900, was 1,165, showing that nearly 10 per cent. of its population was affected with this disease.

(8) The provisions for the care and treatment of consumptives in New York were lamentably deficient. Strenuous efforts were being made to remedy this. As a result of the action of the Department such cases now are only cared for in institutions especially devoted to this purpose. These have accommodations only for about 1,600 patients. The Department last year prepared plans for the erection of a special tuberculosis dispensary, and submitted a request for an appropriation. This was completed and opened March 1. Plans for two different sanitoria for the care of incipient cases have been under consideration.

(9) The Department had enacted ordinances forbidding spitting on sidewalks, floors of street cars and other public conveyances, ferry boats, ferry houses, elevated stations, etc., and considerable progress had been made in enforcing such ordinance, and educating the public up to their enforcement. It seemed to him that the time was coming and must come when public opinion would regard spitting on the floors of public places or conveyances or sidewalks as indecent and not to be tolerated. He firmly believed in the education of the public in this, which was of the greatest importance in the prevention not only of tuberculosis but also of acute respiratory diseases. He summarized some of the results accomplished briefly as follows: (1) Widely disseminated knowledge among all classes of the population as to the nature of tuberculosis and the measures to be taken for its prevention. (2) The provision for increased facilities for the care of these cases. (3) The development of a definite scheme and organization for dealing with tuberculosis. (4) The creation of an enlightened public sentiment toward the problem presented. (5) A reduction in the death rate since 1886 of more than 40 per cent. The tuberculous death rate for the ten years preceding 1886 was nearly 45 per 10,000 of population; for 1886 it was 44.1, and for 1902 it was 26.8.

What was further required in New York he summarized as follows:

1. A still more enlightened public sentiment, less fear of consumptives, and a more intelligent appreciation of where the danger is laid.

2. Better dwellings were needed for the poor; also more light and fresh air and space; better hygienic surroundings, better pavements, cleaner homes, better and more abundant food, etc.

3. The creation of a public sentiment to the effect that spitting on the floor of public conveyances, halls, etc., and on sidewalks, was indecent and not to be tolerated.

4. A closer supervision of consumptives by the sanitary authorities, and more frequent visits to their homes and places of business.

5. The education of the medical profession and public to a more thorough appreciation of the importance of a chronic cough and other signs of beginning tuberculosis in order that an earlier diagnosis might be made.

6. The suppression of the many widely advertised specifics and cures and special methods of treatment for tuberculosis, which served only to enrich their promotors and keep consumptives under unfavorable conditions for long periods of time.

7. More adequate provision for the care and treatment of tuberculous patients in special dispensaries, sanatoria, and recognized hospitals.

8. The more general enforcement of regulations for the compulsary removal and retention of these cases of pulmonary tuberculosis which were a menace to the public because of the inability or unwillingness to observe the necessary precautions.

9. The provision of some means for dealing with the economic features of this problem.

Dr. Biggs said that the removal of every case of tuberculosis meant a considerable expenditure, amounting perhaps to a loss of wages, interest of invested capital, cost of maintenance, etc., to at least $200 to $300. Thus during the year, for the care of two to three hundred cases, from $40,000 to $60,000 may be spent. This would result in the cure of a considerable number, say forty or fifty, the arrest of the disease in others, the sanitary education of all, the affording of comfortable surroundings and conditions for those who must ultimately die. Certainly this represented a large return for the money expended. He did not believe, so far as the ultimate reduction in the death rate was concerned, so much had been gained by such an expenditure as would have been gained by expending half this amount among the poorer classes, in sending medical inspectors and trained nurses to instruct and supervise the conduct of these consumptives at home, and the disinfec-

ion of their apartments when vacated, for in this way nore than ten times the number of consumptives could be eached.

There had already been a reduction in the death rate rom tuberculous diseases in New York City since 1886 of bout 40 per cent; and he had no hesitation in saying that vith a complete and efficient scheme for dealing with it, ncluding suitable hospital accommodations, the death rate night be further reduced within a similar period 40 per ent. more.

Dr. THOMAS DARLINGTON, President of the Health Department, in speaking of the spitting nuisance, said that, o far as the Board of Health was concerned, they were able nly to arrest about 200 people a week, and that it took early one day to have one man convicted, and then he as fined from $1 to $5, $1 if he was dressed poorly, $2 if e was better dressed, and $3 was added if they lied about t. With regard to patent medicines, etc., they were going o institute a campaign against their sale, and the newsapers were going to aid. He thought it would be wise to ave the people educated not to sweep and raise the dust; t would be far better to have some method adopted by hich the dust and dirt could be drawn up by suction umps. He condemned the use of carpets which, in many nstances, were tacked down and left for years without eing properly cleaned. He would rather have painted loors or hard-wood floors. When he was surgeon of the roton Aqueduct, in the building of which the workers reathed so much dust, if a man died and a post-mortem as held, he would often find what apparently was a tuberulous condition, concretions and stones in small cavities, ut in which no tubercle bacilli could be found. The effects f the constant irritation was shown on which might have een implanted the bacilli but which was not a true case of uberculosis. He believed this whole problem rested with he people and that they should be educated more, told to ave their windows open, etc.

Dr. S. A. KNOPF said that some means should be adopted y which less dust would be raised on the streets of New ork. There should be provided more street-sprinklers, nd he suggested taxing the owners of automobiles to raise he money for this purpose. With regard to the food roblem he only agreed with what had been stated in part. he people Dr. Huber referred to were almost all temperte. but he would find that the greatest mortality was mong the longshoremen, who were the most intemperate. r. Biggs' paper showed that when the people were taught garding this dread disease the mortality decreased. He lked for better housing for the laboring people, and hoped hat soon we would have larger accommodations for the oor. He said that in about two months a sanatorium ould be opened which would accommodate from sixty to ighty. He insisted that phthisiophobia still existed in oth private and official circles.

Dr. THOMAS DARLINGTON, in speaking again on the spitting question, said that the Board of Education had been pproached and asked to aid the Health Department in ating this nuisance. There were 500,000 children in the ublic schools of New York, and they were to be taught that hey should not spit on the sidewalks or public places, and hey were to be given cards with the sanitary code regardng spitting printed on the back for distribution among ffenders.

Dr. J. EDWARD STUBBERT spoke of the conditions of the abins on the ferry-boats, and especially the evils that ight result from sweeping with the brooms as now practised. He had studied the tuberculosis problem for many ears, and he did not think it could be solved by the use of anatoria, because a large proportion of these patients ither could not afford to go or would not go away to them, aving home and friends. Neither was it altitude that e should look to, but he believed it wise to take up the ork of establishing camps for occupancy during the summer months, or eight or nine months of the year. That ame idea could be followed out in private practice by insisting upon better ventilation of the rooms, by sleeping out of doors, etc. He believed that Dr. Biggs had struck the key-note when he said one could not depend upon sanatoria but upon the out-door treatment in the cities for this class of patients.

Dr. HERMANN M. BIGGS called attention to the exhibits that were prepared for the St. Louis exposition. They illustrated exactly the circulars and forms used by the Health Department. With regard to spitting he said he knew of no more difficult problem confronting the Health Board than how to provide adequate receptacles for ferry-houses, ferry-boats, platforms of elevated stations, etc.

PHILADELPHIA NEUROLOGICAL SOCIETY.

At a stated meeting, held March 22, Dr. J. H. W. Rhein exhibited "A Patient Showing Partial Paralysis Limited to the Arms, Following a Fall upon the Head and Back of the Neck." The case occurred in a middle-aged woman, who fell down a flight of stairs, suffering a rather severe commotion and contusion, but without loss of consciousness. There was at once marked loss of power in the upper extremities, in part due to pain induced by efforts at movement, and some increase in the reflexes in the lower extremities. Improvement in the motility of the upper extremities gradually took place, without alteration in electrical reactions; and only slight paresis remained, without atrophy. There had been pains in the affected parts, and some paræsthesia, but sensibility became entirely normal. It was suggested that the case might be one of hemorrhage into the white matter of the spinal cord, perhaps the lateral columns. Dr. C. W. Burr exhibited "A Patient for Diagnosis." The case was that of a young man who gave a history of deformity of the upper extremities at birth, attributed to fright on the part of the mother during the seventh month of pregnancy with this child. The patient stated also that he was late in learning to walk, namely at his sixth year. He presented a condition of extreme atrophy of all of the muscles of both upper extremities, with a corresponding degree of weakness and functional incapacity, as well as impairment of some of the reflexes in these parts, and abolition of others, and apparent shortening of the bones. There was further, some coalescence of the bones at the wrist, with want of mobility. The thumbs were partially withdrawn into the palms. Sensibility was unaltered, and the mental functions were commensurate with the educational opportunities of the patient. There was some shortening of the left lower extremity, with wasting of the muscles of the thigh. It was thought the case might be one of agenesis or intrauterine disease of the anterior horns of the spinal cord or possibly of muscular dystrophy. Dr. Alfred Gordon read a paper entitled "A Microscopical Study of a Spinal Cord Which Had Not Been Compressed by Displaced Vertebræ in a Case of Pott's Disease." The patient was a negro seaman, with a history of syphilis, and presenting symptoms of pulmonary and vertebral tuberculosis, who developed flaccid paralysis in the lower extremities, with bedsores, peripheral anæsthesia, and limiting hyperæsthesia. After death, the spinal cord was found to be free, although the lower three dorsal vertebræ were the seat of softening and displacement, and there was slight secondary meningitis. On microscopic examination of stained sections of the spinal cord at various levels degenerative alterations in the posterior and lateral columns were found below the seat of disease, but none at the actual seat. So-called Renaut's bodies were demonstrable in the sciatic nerve. It was thought that the process in the cord might be tuberculous, despite the failure to demonstrate the presence of giant-cells or of tubercle-bacilli, or toxic from the circulation of the products of the activity of the bacilli in the lesions of the vertebræ and the lungs. The possibility of syphilis playing some part in the morbid process was also mooted. Dr. Chas. K. Mills reported "A Case of Myasthenia Gravis, and a Case with Symptoms of Grave Hysteria and Bulbar

Involvement." The first patient was a man who became exhausted with undue readiness on attempting to take part in a procession. Subsequently there developed weakness of the muscles of the face and of the external ocular muscles, and also some difficulty in deglutition. The myotonic electrical reaction could not be obtained. The second patient was a woman who had been rather severely injured in alighting from a railway train and who presented weakness and fatigue of the facial muscles, including the tongue, together with segmental anæsthesia of the lower extremities and of one upper extremity, and in whom the symptoms were aggravated by the occurrence of a miscarriage and the expulsion of a dead and macerated fœtus. Dr. Mills also referred to several other cases that he had previously observed and which he thought belonged in the same category. Two of these had occurred in men who had been exposed to the influence of electrical currents of high tension, and who presented fairly characteristic symptoms. Another occurred in a man whose case had been considered as one of involvement of the third and fifth nerves, with associated spasm and paralysis. Dr. T. H. Weisenburg read for Dr. Theodore Diller of Pittsburg a communication entitled "Two Fatal Cases of Landry's Paralysis, with Autopsy Findings in One of Them." The one patient presented symptoms of peripheral polyneuritis, and it was thought that lesions like those found in the second might have been present. In the latter, alterations of a degenerative character were present in the ganglion-cells of the anterior horns of the spinal cord and in the centrifugal motor processes.

Pathological Society of Philadelphia.

At a stated meeting, held March 24, Dr. W. G. Pickett exhibited specimens from a case of "Crush of the Spinal Cord, with Secondary Degeneration." The patient was a man who had been struck in the back, suffering fracture dislocation of the spinal column at the level of the fifth, sixth, and seventh thoracic vertebræ, attended with flaccid paralysis of the lower extremities, abolition of the knee-jerks, anæsthesia, retention of urine, and incontinence of fæces. Death occurred twelve days after the inception of the injury, and on examination the cord was found compressed and surrounded by hemorrhage at the site of the displacement of the vertebral column. Histologic examination showed that while there was little degeneration of the cord in this situation there was marked ascending and descending degeneration below and above.

Dr. A. G. Ellis exhibited "Specimens from a Case of Rhinophyma." The patient was a man who had previously had acne rosacea and whose nose eventually became so large as to interfere with the act of taking food. A portion of the hyperplastic structure was removed without undue hemorrhage or other difficulty and union took place readily, the ultimate result being wholly satisfactory. Histologically the specimen was found to be constituted largely of fibrous tissue, with a large number of sebaceous glands.

Drs. T. O. Nock and Judson Daland exhibited a specimen of "Rupture of the Liver." The patient was an elderly man who had been kicked by a horse in the right mammary region. Although suffering great pain and profoundly shocked he was sent home in a carriage. No fracture of the ribs could be detected on physical examination, but the signs indicated the existence of pneumonia in the lower lobe of the right lung. The patient lived for six days, and after death rupture of the liver was found. The adventitious fissure was filled with blood-clot, but there was no free hemorrhage into the abdominal cavity. There were also a few submucous hemorrhages in the wall of the stomach, but the remaining viscera presented no abnormality.

Dr. Guthrie McConnell exhibited "A Cyst of the Urachus and Bilateral Hydronephrosis in a Nine-months' Old Baby." The little patient presented during life a swelling in the right iliac fossa, which was attributed to the vermiform appendix. On account of the gravity of the child's condition operation was at once undertaken and the mass punctured and evacuated, a moderate amount of purulent matter escaping. The abscess communicated with the bladder. Death resulting, the ureters were found dilated and the base of the bladder and the prostate the seat of three tumors, sections of which on histologic examination presented appearances suggestive of myxo-sarcoma.

Dr. George B. Wood exhibited a specimen of "Retro-pharyngeal Abscess." The patient was a little colored child that presented a swelling on the posterior wall of the pharynx in the middle line. On puncture a moderate amount of pus was evacuated, and the child improved so much that it was sent home, where death took place, in convulsions it was reported, although it was thought asphyxia had resulted. Port-mortem examination disclosed the existence of a retropharyngeal abscess with enlargement of lymphatic glands in various parts of the body, tubercle-bacilli being demonstrated in the lesions. There was a single small suspicious nodule in one lung.

Philadelphia County Medical Society.

At a stated meeting, held March 23, Dr. W. W. Keen read a paper entitled "A Case of Total Laryngectomy (Unsuccessful) and a Case of Abdominal Hysterectomy (Successful), in Both of Which Massage of the Heart for Chloroform-collapse Was Employed, with a Note of Twenty-five Other Cases of Cardiac Massage Thus Far Recorded." The case of laryngectomy occurred in a man who had been struck accidentally with a brick in the left parietal region. Aphasia developed, with some huskiness of voice, and, the symptoms growing worse, the skull was trephined and the pressure relieved. Ether and oxygen were employed as the anæsthetic, but the patient exhibited a tendency readily to become cyanotic. The aphasia was much improved, but the hoarseness increased. The larynx was now found to be the seat of a new growth and partial laryngectomy was undertaken. There was again considerable difficulty with the anæsthetic, interference with breathing resulting if the narcosis were pushed and the patient struggling when the anæsthetic was withdrawn. One vocal band was found extensively involved and the other in slight degree. Accordingly, one-half of the larynx was removed. Recurrence taking place after a time, total laryngectomy was decided upon. chloroform being employed as the anæsthetic, and a preliminary laryngotracheotomy being performed. Again difficulty was experienced with the breathing, and finally the heart ceased beating. Efforts at resuscitation were at once instituted including artificial respiration and faradization of the phrenic nerves, but these failing, an incision was made in the abdominal wall, through which one hand was introduced and the heart compressed through the diaphragm between this hand and the other hand placed upon the chest wall. The patient, however, failed to react. Dr. Keen reported also a case communicated to him by Dr. Igelsrud of Sweden, in which the action of the heart failing, during the performance of abdominal hysterectomy under chloroform-anæsthesia massage of the heart was undertaken, together with other measures, and the patient recovered. A second case in which a like result was brought about in a similar manner has been recorded by Dr Crile of Cleveland, and a third an English surgeon by Mr. Arbuthnot Lane. All of the remaining cases terminated fatally. The massage may be applied to the heart through the unopened diaphragm; or the diaphragm may be incised, the hand being passed through the incision; or a flap may be turned back upon the chest over the heart. Dr. Keen pointed out the necessity of employing other vivifying measures in order to stimulate also the respiration and vasomotor activity. He exhibited the rubber apparatus of Dr. Crile, by means of which the body can be enveloped in an air-sac and the vascular pressure maintained at a physiological level.

Dr. L. J. Hammond read a paper entitled "The Surgical Relations of the Vermiform Appendix to Perforations in Typhoid Fever." He reported the case of a woman in whom symptoms of perforation of the bowel developed during the course of an attack of typhoid fever. Operation was undertaken, and a large rent found in the ileum and sutured. There were present, in addition, evidences of previous inflammation of the vermiform appendix with adhesions of the cæcum and the colon. Recovery failed to take place, and the unfortunate result was attributed in large measure to the complicating adhesions. A second case was reported in which symptoms of appendicitis occurred at the inception of an attack of typhoid fever. Operation was performed promptly in this instance and recovery ensued without complication.

Drs. J. H. Musser and De Forest Willard presented a communication entitled "Amœbic Abscess of the Liver," reporting the case of a woman, fifty-five years old, who was seized with an attack apparently of gastroenteritis, which left behind symptoms of colitis that were thought to depend upon dysentery. Examination of the stools disclosed the presence of non-motile bodies resembling amœbæ coli. In the further progress of the case the area of hepatic dulness became increased, and a mass could be felt in the upper portion of the abdomen that appeared to correspond with the left lobe of the liver. The possibility of amœbic abscess of the liver suggested itself, and accordingly the abdomen was opened and puncture of what was thought to be the liver was practised. A moderate amount of grumous chocolate-colored fluid was obtained, admixed with a small amount of pus. The cavity entered was walled off and drained, and recovery ensued in the course of a comparatively short time. The material removed was examined and found to contain pus-corpuscles, but no amœbæ and no echinococcus-hooklets and no pancreatic juice could be detected. A definite conclusion as to the nature and seat of the morbid process was not reached, although, in addition to abscess of the liver, pancreatic cyst and an accumulation of unknown nature in the gastrohepatic omental space suggested themselves.

Dr. Francis T. Stewart read a paper entitled "A Case of Primary Typhoid Cholecystitis, with Calculi," reporting the case of a woman not known ever to have had an attack of typhoid fever, who presented symptoms of cholecystitis, for the relief of which operation was undertaken. The gall-bladder was found distended with fluid, from which typhoid-bacilli in pure culture were obtained, and a number of calculi also were present. The contents of the gall-bladder were evacuated, the wounds closed, and the patient recovered without complication.

Chicago Medical Society.

At a meeting, held March 16, Dr. Wm. L. Ballenger exhibited a young woman who, nine years ago, was vaccinated. Vaccination was followed by a discharge from the ear. Four years ago the patient came under his observation, was treated consecutively for a year and a half, with only temporary cessation of the discharge. Three years ago he did a radical mastoid operation, finding cholesteatomatous masses in the middle ear and mastoid cavities, with suppuration, caries, and perforation in the middle fossa of the brain. There was marked meningeal irritation. The operation afforded relief, but subsequently trouble developed in the mastoid portion of the wound, necessitating a second operation. A few days following the second operation he resorted to Thiersch grafting in the mastoid portion, and a week or two later he did a Thiersch graft in the middle ear. At present the middle ear was lined with skin; also the mastoid and anterior portion of the wound. The case was interesting on account of the Fallopian canal being exposed, showing the facial nerve. The Eustachian tube was likewise visible. He expected to close the Eustachian tube later, and having done this, he will then close the mastoid wound, and by means of paraffin injections hoped to avoid much deformity. The patient seemed entirely well in other respects.

Dr. Joseph H. Miller exhibited numerous stereopticon slides showing the processes of maturation and fertilization of the ovum.

Dr. William T. Eckley read a paper entitled "The Accessory Sinuses." After entering extensively into their anatomy, he presented the following conclusions: The accessory sinuses of the nose in man are phylogenetically very ancient structures and figure physiologically as feeble, subsidiary respiratory organs. The maxillary sinus in the higher vertebrates has its prototype in the amphibian accessory nasal chamber, in which it was an olfactory organ; hence phylogenetically the antrum in man is an obsolete organ of smell. For as yet unaccountable reasons, the sinuses develop *pari passu* with the generative organs, and there is evidence of an intimate physiological relation between these remote anatomical organs. The variations, even in healthy sinuses, are so great, that it were hazardous to attempt an analytical classification looking to definite size, shape, or openings. For embryological reasons, each sinus is a law unto itself. The sinuses are supplied by the trifacial nerve; hence reflex phenomena between them and the peripheral cervical nerves is possible. As a diagnostic expedient, the specialist should always bear in mind the possibility, in the sinuses of man, of reversion to structural fixed types in the lower vertebrates. Operations on the sphenoidal sinus are anatomically unjustifiable. Sound teeth should never be sacrificed, and the nasal route for gaining entrance to the antrum is never dangerous.

Dr. William L. Ballenger spoke on the "Surgical Treatment of the Nasal Accessory Sinuses." He discussed the indications of intranasal operations for disease of the maxillary sinus; the intranasal treatment of the ethmoid cells, the intranasal operation for the frontal sinus, the major operations resorted to for the cure of sinus disease, and mentioned the Desault, the Caldwell-Luc, Kunt, Kunt-Luc, and Kellian operations. In the discussion, Dr. Eugene S. Talbot exhibited several lantern slides, showing the evolution, embryology, period of stress, and the method by which arrests of the face, nose, jaws, and teeth are produced. He said these arrests and excessive development are due to an unbalanced nervous system. He also showed the two typical forms of faces in neurotics and degenerates, in which these deformities are always present. While making examinations of skulls in this country and in Europe some two decades ago, special attention was given to abscessed and diseased antra due to dead pulps in the teeth. Of the 11,000 skulls examined for deformities, only 3,000 were in a broken condition, so that the antra could be examined, making six thousand antra in all. Of this number 1,274, or about 21 per cent., had abscessed molar teeth. Of this number 76, or about 6 per cent., extended into and apparently discharged into the antrum. Dr. M. H. Fletcher, he said, had examined 5,000 skulls, making 1,000 antra. He found 252 upper molars abscessed, making 25 per cent. of antra which had abscesses in this locality. Out of 252 possible cases, perforation into the antrum was found only twelve times, thus showing over 4½ per cent. of abscessed teeth in this locality, which are connected with the antrum. In the treatment of 367 cases of pulpless teeth in connection with the superior molars, in the past twenty-two years, he found only three cases of diseased antrum, making less than 3 per cent. Taking, therefore, the large number of teeth treated by dentists because of dead pulps and alveolar abscess, the number of diseased antra due to alveolar abscess was very small.

Joint Meeting of Chicago Laryngological and Chicago Medical Societies.

At the March joint meeting of these societies, with the the President, Dr. John Edwin Rhodes, in the chair, Dr. Henry Gradle read a paper entitled "When to Operate and When Not to Operate on the Mastoid Bone." He reviewed the literature, and said that the reports contained therein teach, first, that suppuration of the middle ear, both acute and chronic, involves danger to life. Secondly, that even in the desperate cases reported greater success attends mastoid operations, although many of them must extend into the cranial cavity, and, thirdly, that properly timed surgical intervention would have prevented this serious extension of the disease. The indications for opening the mastoid for acute disease, he said, can be best defined on the basis of a brief review of the various modes of determination of acute mastoiditis. In at least one-third of all instances, acute mastoiditis subsides gradually after a climax of three or four days, provided there is free drainage from the middle ear. He discussed the operative indications, and, among other things, said that in chronic disease of the middle ear and mastoid, the operative indications are to be regarded from a different point of view from those in acute cases. A simple opening of the mastoid antrum, although often curative, is generally not the proper operation. In most cases a cure is obtained quicker and with greater certainty by the radical operation, which converts the antrum, the attic, and the middle ear proper into one continuous and accessible space with exenteration of contents. A prompt radical operation is the only safe course in all instances in which irritative symptoms indicate active extension of the disease. This immediate indication is given to all chronic instances of otitic suppuration by persistent dizziness, pain or local tenderness, one-sided headache, or any symptoms suspicious of intracranial involvement.

Dr. E. Fletcher Ingals followed with a paper entitled "Treatment of the Suppurative Diseases of the Accessory Sinuses of the Nose." Referring to the treatment of suppuration of the antrum, he said that in acute cases the patient should be kept quiet, the pain relieved by hot or cold compresses over the cheek, and the swelling and turgescence relieved by local applications in the region of the ostium maxillare. In chronic cases Christopher Heath recommends entering the antrum above the alveolus through the canine fossa; the tendency to closure being obviated by making an opening a centimeter or more in diameter. The radical operation consists of opening through the canine fossa and curetting thoroughly the lining of the antrum, removing at the same time any dead bone or obstructing septa. As to treatment of suppuration of the ethmoidal cells, some cases recover spontaneously, but most of them continue for many months, and even years, unless thoroughly treated. In acute cases relief may frequently be obtained by local medication that will reduce the swelling and thus allow the pent-up secretions to escape. Of the treatment of suppuration of the sphenoidal sinus, he said that Kiaer and Lapelle, in 364 autopsies on bodies dead from various diseases, found over 13 per cent. affected by suppuration of this sinus, which would indicate that the affection is very generally overlooked. In regard to the treatment of suppuration of the frontal sinus, on account of the dependent position of the ostium frontale and the direction of the canalis nasofrontalis, not a few patients affected with acute suppuration of this sinus will recover spontaneously. In others the cure is much facilitated by local remedies which reduce the swelling, such as suprarenalin and cocaine, which may be used several times daily, in the same manner as recommended for suppuration of the ethmoidal cells or for closure by swelling of the ostium maxillare, but in a considerable number of these cases the obstruction is due to nasal mucous polypi or to chronic thickening of the middle turbinated body, so that it will not be relieved in this manner. In such cases the polypi should be removed or the anterior end of the middle turbinated cut off, or both. If the canal is completely closed, and in any case in which the disease does not yield within four or five months to treatment, it is probable that partial septa cause pus pockets in the frontal sinus, or that the walls of the cavity are much diseased. In these conditions a radical operation by an external opening through the anterior wall of the sinus is necessary.

Dr. Norval H. Pierce discussed "The Symptoms and Diagnosis of the Suppurative Diseases of the Accessory Sinuses of the Nose." The author pointed out those symptoms which are common to suppurative disease of all the accessory sinuses, and followed the lines of description laid down by Hajek. Under local symptoms he discussed headache, neuralgia, secretion, etc. Under general symptoms he referred to fever, congestion and depression, nasal discharge, objective symptoms, and also spoke of atypical hypertrophies of the middle meatus; and dilatation of the maxillary sinus. In speaking of the diagnosis reference was made to the value of transillumination. The symptoms of disease of the frontal sinus were detailed and its diagnosis discussed; also disease of the ethmoid cells, latent or closed empyema, open empyema, disease of the sphenoidal sinus, and, lastly, attention was directed to one complication of sphenoidal empyema, namely, the extension of the inflammatory process to the orbit.

Therapeutic Hints.

Puerperal Infection.—Ochsner's treatment is worthy of mention. The lymphatic circulation is retarded by inhibiting muscular action by rest. The opium treatment of peritonitis was in principle not unlike this method. Two drugs are of especial value, strychnine and alcohol, both pushed. The alcohol can be varied to suit the taste and frequently changed. Strychnine should be given in doses of $\frac{1}{30}$ to $\frac{1}{10}$ grain every 2 to 4 hours; after full effects, smaller doses. Quinine may be added. Elimination is favored by bowel evacuation and diuresis. Acetate of sodium added to the fluid for enteroclysis or hypodermoclysis increases the effect. In the sheet-pack for antipyrexis, wet a double-gauze sheet at short intervals with water at the body temperature. Surgical measures should be instituted as required.—Charles Jewett, in *Brooklyn Medical Journal*.

For Intertrigo in Children.—

℞ Liquoris plumbi subacetatis..... ʒ iv
Acidi borici..... gr. xx
Extracti hamameli..... ʒ ij
Lactis recentis.....ad ʒ x
Misce et fiat applicatio.

To be applied on a pad of absorbent cotton-wool to the affected parts.—*The Medical Times and Hospital Gazette*.

Indigestion.—

℞ Acid. carbolici..... gtt. vj
Tinct. gelsemii (U. S. P.).....
Glycerini.....
Vini colchici.....
Tinct. opii camph.....āā ʒ ss
Elix. simplicis..... fl. ʒ j
M. Sig.: ʒ j before each meal. —J. M. Carter.

Eczema of the Ears.—

℞ Zinc oxide..... 10 parts
Starch..... 10 parts
Petroleum..... 20 parts
Calomel..... 2 parts
M. ft. unguent.

—*Medical Times and Hospital Gazette*, January 23, 1904.

Fissure of the Anus.—

℞ Ext. belladonnæ..... 0.5
Cocainæ hydrochlor..... 0.05
Ammon. sulpho-ichthyol.....ad 6.0
M. Warm and shake before using. Apply on cotton for 5 minutes twice a day for 8 to 14 days.

—M. Katzenstein, in *Wiener klinische Wochenschrift*.

Treatment of Spasmodic Asthma.—Dr. A. T. Wilkinson found in his experience the nitrites somewhat disappointing. Occasionally the free use of drachm doses of liq. ethyl nitrit. freshly mixed, has given decided relief. Amyl nitrite is more powerful, but acts too strongly elsewh

Nitroglycerin is of value in lessening the degree of spasm. The relief given by potassium iodide is also due to the relaxation of spasm. For fear of establishing a drug habit, morphine, cocaine, alcohol, and inhalations of chloroform should be only resorted to in rare instances. Belladonna gives relief, but should not be given to old people in whom the asthma is secondary to bronchitis.—*The Medical Chronicle.*

Laryngismus Stridulus.—

℞ Moschi ..... gr. iv
Sacch. alb. ..... ʒ i
Aquæ q. s. ad. ..... ℥ p
M. et Sig. ʒ i every hour.

—*Indian Medical Record.*

Flatulent Dyspepsia.—

℞ Bismuthi salicylat.
Magnesiæ calcin. ..... āā parts 2
Pulv. carbon. salicis. ..... parts 3
Ol. anisi ..... part 1
M. S. ʒ i, ½ or 1 h. before each meal.
When accompanied with gastralgia:
℞ Syr. menth. pip. ..... parts 250
Acid. hydrochlorici. ..... part 1
Cocaine hydrochlorat. ..... part 1–10
M. S. Wineglassful before each meal.

—*Indian Medical Record.*

Pruritus.—

℞ Acid. acetici. ..... gr. xx
Lanolin. ..... ʒ i
Vaselin. ..... ʒ iii
M. S. Apply locally; or
℞ Acid. acetici. ..... gr. xx
Vaselin. ..... ʒ ii
Lanolin. ..... ʒ iii
Pulv. amyli. ..... ʒ iii
M. ft. pasta; Sig. apply locally.

—Leredde.

Books Received.

While the Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Golden Rules of Dental Surgery. By Dr. Chas W. Glassington. Series No. 8. 48mo, 69 pages. J. Wright & Co., Bristol, England. Price, 1 shilling.

The International Medical Annual: A Year Book of Treatment and Practitioner's Index. By various authors. 8vo, 770 pages. Illustrated. Muslin. E. B. Treat & Co., New York. Price, $3.

The Value of Ureteric Meatoscopy in Obscure Diseases of the Kidney. By Dr. E. Hurry Fenwick. 8vo, 219 pages. Illustrated. Muslin. P. Blakiston's Son & Co., Philadelphia.

The Commoner Diseases of the Eye, How to Detect and How to Treat Them. By Dr. Casey A. Wood and Dr. Thomas A. Woodruff. 8vo, 499 pages. Illustrated. Muslin. G. P. Englehard & Co., Chicago, Ill.

System of Practical Surgery. By various authors. Vol. 1, translated and edited by William T. Bull, M.D., and Walton Martin, M.D., Surgery of the Head. 8vo, 936 pages. Illustrated. Muslin. Lea Brothers & Co., Philadelphia. Price, $6.

Progressive Medicine. Vol. 1, March, 1904. A quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Dr. Hobart Amory Hare. 8vo, 337 pages. Illustrated. Lea Brothers & Co., Philadelphia. Per annum, in four cloth-bound volumes, $9.

Treatise on Diseases of the Skin. By Dr. Henry W. Stelwagon. Third edition. 8vo, 1115 pages. Illustrated. Muslin. W. B. Saunders & Co., Philadelphia. Price, $6.

Diseases of the Intestines. By Max Einhorn, M.D. Second, revised edition. 8vo, 386 pages. Illustrated. Muslin. William Wood & Company. Price, $3.

A Practical Treatise on Nervous Diseases for the Medical Student and General Practitioner. By Dr. F. Savary Pearce. 8vo, 401 pages. Illustrated, muslin, D. Appleton & Company, New York.

The Gazette Pocket Speller and Definer—English and Medical. Second edition. By Dr. J. Clark Slay. Oblong, 216 pages, leather. The Gazette Publishing Co., New York. Price, 50 cents.

L'Entéro-côlite Muco-membraneuse. Par le Dr. Froussard. 12mo, 101 pages. A. Maloine, Paris. Price, 2 fr.

Le Sens des Attitudes. By Pierre Bonnier. 8vo, 114 pages, illustrated. C. Naud, Paris. Price, 3 frs. 50.

Beiträge zur Klinik der Tuberkulose. By various authors. Edited by Dr. Ludolph Brauer. Band 2, Heft 1 and 2. 8vo, 200 pages. C. Kabitzsch, Würzburg, Germany.

Traité d'Hématologie. Par Drs. Fernand Bezancon et Marcel Labbé. 4to, 957 pages. Illustrated. G. Steinheil, Paris.

Manuel de Pathologie Générale et de Diagnostic. Par Dr. Léon Moynac. Tome 1 and 2, Sixieme edition. 8vo, 1576 pages. Illustrated. G. Steinheil, Paris.

La Rhinoplastie. Par Drs. Ch. Nélaton et L. Ombrédanne. 4to, 432 pages Illustrated. G. Steinheil, Paris.

Diseases of the Gall-bladder and Bile-ducts, Including Gallstones. By Drs. A. W. Mayo Robson and J. F. Dobson. Third edition. 8vo, 485 pages. Illustrated, muslin. William Wood & Company, New York.

Preventive Medicine. Two Prize Essays—"The General Principles of Preventive Medicine." By Dr. W. Wayne Babcock; "The Medical Inspection of Schools: A Problem in Preventive Medicine." By Dr. Lewis S. Somers. 16mo, 284 pages. The Maltine Company, Brooklyn, N. Y.

Biographic Clinics. Volume II. By Dr. George M. Gould. 12mo, 392 pages, muslin. P. Blakiston's Son & Co., Philadelphia.

American Year Book of Medicine and Surgery. Medicine. By Dr. George M. Gould. 8vo, 673 pages, illustrated, muslin. W. B. Saunders & Co., Philadelphia. Price, $3.00.

American Year Book of Medicine and Surgery. Surgery. By Dr. George M. Gould. 8vo, 681 pages, illustrated, muslin. W. B. Saunders & Co., Philadelphia. Price, $3.00.

A Laboratory Manual of Physiological and Pathological Chemistry. By Dr. E. Salkowski. 8vo, 263 pages, illustrated, muslin. John Wiley & Sons, New York. Price, $2.50.

Directions for Laboratory Work in Physiological Chemistry. By Dr. Holmes C. Jackson. 8vo, 148 pages, muslin. John Wiley & Sons, New York. Price $1.25.

Sehproben-Tafeln mit besonderer Berücksichtigung des militärärztlichen Gebrauchs. Von Drs. Berthold Kern und Reinhold Scholz. August Hirschwald, Berlin. Price, 3 M.

Les Maladies de l'Estomac. Par Dr. Albert Robin. 4to, 1104 pages. J. Rueff, Paris.

International Clinics. Volume IV. Thirteenth Series. By Dr. A. O. J. Kelly. 8vo, 321 pages. Illustrated. Muslin. J. B. Lippincott Company, Philadelphia. Price, $2.00.

Social Diseases and Marriage. By Dr. Prince A. Morrow. 8vo. 390 pages. Muslin. Lea Bros. & Co., Philadelphia. Price, $3.00.

Das Angeborene Kehlkopfdiaphragma. Von Dr. Johann Fein. 8vo, 67 pages. Illustrated. Oscar Coblentz, Berlin. Price M. 2.40.

Die Errichtung Geburtshilflicher Polikliniken an Hebammenschulen. Von Dr. Fritz Frank. 8vo, 46 pages. S. Karger, Berlin. Price 1 M.

Das Eindringen der Tuberkulose und ihre Rationelle Bekämpfung. Von Dr. Hugo Beckmann. 8vo, 47 pages. S. Karger, Berlin. Price 1 M.

The Eye; Its Reaction and Diseases. By Dr. Edward E. Gibbons. 8vo, 472 pages. Illustrated. Muslin. The Macmillan Company, New York.

Our Feet: A Treatise on the Human Foot and Its Clothing. By Dr. Chas. O. Kahler. 12mo, 89 pages. Illustrated. Muslin. Dr. P. Kahler's Sons, New York.

Anæsthesia in Dental Surgery. By Thomas D. Luke, M.B., F.R.C.S.E. 14mo, 178 pages, illustrated, muslin. Rebman Company, New York.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending April 9, 1904:

	Cases.	Deaths.
Measles	1706	49
Diphtheria and croup	387	70
Scarlet fever	474	30
Smallpox	...	...
Varicella	101	...
Tuberculosis	417	200
Typhoid fever	22	8
Cerebrospinal meningitis	...	29

Streptococcus Diarrhœa.—Sanford Blum says that when a virulent germ comes on the field of enteritis, as, for example, the streptococcus, it dominates the intestine, the less active organisms playing a minor part. Two modes of ingress are open for bacteria into the digestive tract; the organism may be habitually present and become virulent at an opportune time, or the organism may be ingested with the food. The diagnosis of streptococcus enteritis can be made positively only with the microscope; and the Widal and diazo tests, together with the temperature curve, will differentiate it from typhoid fever. When severe diarrhœa occurs during hot weather in children, without error in diet or other apparent cause, bacterial infection of the digestive tract should be suspected. In general, bacterial gastroenteritis is a severe disease, as is shown by its great mortality. Even the pyocyaneus bacillus causes remarkable mortality when firmly lodged in the digestive tract of children. The author found the iliocæcal region most intensely affected, but the entire length of the mucous membrane of the gastrointestinal tract was more or less involved. The lesions presented all stages of inflammation, to ulceration and necrosis, which may extend as deep as the muscular layer, and was most often found in the ileum and colon. The lesions in the stomach, duodenum, and jejunum were slight.—*Archives of Pediatrics.*

N-rays for Brain Trouble.—A despatch to *The Sun*, April 3, says concerning the discovery of the *n*-rays by M. Blondelot that "the rays are now proved to be nothing more nor less than part of the invisible spectrum of sunlight, a little more ultra than ultra-violet rays. They are somewhere between heat and electric rays, slower than rays of radiant heat and faster than Hertzian waves. They can pass through aluminum as sunlight through glass and can be focussed by aluminum lens. These rays traverse lead, tinfoil, platinum, and copper without difficulty and do not require complicated apparatus like the Röntgen rays. They stream from an ordinary incandescent gas lamp. More remarkable still, they can be spontaneously produced from a number of substances, such as wood or glass when twisted or subjected to pressure. Untempered steel does not produce the rays, but tempered steel continually emits them. Time has no effect, knives tempered over 1,000 years ago emitting them as freely as steel tempered yesterday. When thrown directly and solely upon the eye they enable it to see in a darkened room objects which had previously been invisible. Professor Charpentier discovered that the human body emits the rays in quantities proportionate to the activity of that part of the body whence they come. He has also proved that they are emitted from the speech-center of the brain whenever a person speaks. When the speaker emits rays they vary according to the pitch of the note. Dr. Bruce of Edinburgh has taken up the subject. He expects that when it is known exactly what rays come from various parts of the brain in normal conditions it will be possible to use variations of quantity and quality as a means of detecting the injury or disease of different parts of the brain.

Movement of Population in Japan.—The Japanese Government has recently published its annual on the "Movement of Population in the Empire of Japan" during the year 1900. In the review of this work in the *New York Times*, April 3, the reviewer says: "Incidentally this work disposes of some curious notions recently set forth, not only by newspaper writers, but even by medical an literary men of repute who, having been in Japan more or less remotely in the past, have not kept up with the movement of population and events. For example, it has been recently stated that beriberi, which was formerly confined to the low-lying districts at the mouths of rivers, has been, because of improved means of communication by railways and steamers, converted into a national scourge, and will more than decimate the Japanese armies abroad during the coming springtime. As a matter of fact, beriberi has been so far eliminated from the Japanese navy that, as a rule, it is only the old and experienced surgeons who have treated a case on shipboard. The very minute tables of diseases, covering 95 pages, shows that in the whole empire, excluding Formosa, there were in 1900 but 6,500 deaths from this disease, a figure which, it is safe to say, is scarcely one-tenth of what the facts would have shown fifty, possibly even twenty, years ago.

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended April 9, 1904:

			Cases.	Deaths.
SMALLOX UNITED STATES.				
Florida, Jacksonville	Mar.	26–Apr. 2.	1	..
Illinois, Chicago	Mar.	26–Apr. 2	5	..
Danville	Mar.	26–Apr. 2.	6	..
Indiana, South Bend	Mar.	26–Apr. 2.	1	..
Kentucky, Covington	Mar.	26–Apr. 2.	2	..
Louisiana, New Orleans	Mar.	26–Apr. 2.	4	Two imported
Maryland, Baltimore	Mar.	26–Apr. 2.	4	..
Massachusetts, Lowell	Mar.	26–Apr. 2.	1	..
Michigan, At 75 Localities	Mar.	19–26		(Present)
Missouri, St. Louis	Mar.	26–Apr. 2.	15	..
New York, Buffalo	Mar.	26–Apr. 2.	3	..
Niagara Falls	Mar.	26–Apr. 2.	1	..
Ohio, Cleveland	Mar.	25–Apr. 1.	6	2
Dayton	Mar.	26–Apr. 2.	5	..
Pennsylvania, Carbondale	Mar.	24–31	1	..
Erie	Mar.	26–Apr. 2.	2	..
Philadelphia	Mar.	26–Apr. 2.	32	7
Pittsburg	Mar.	26–Apr. 2.	4	Three imported
Reading	Mar.	28–Apr. 4.	1	..
South Carolina, Charleston	Mar.	26–Apr. 2.	2	..
Greenville	Mar.	19–26	2	..
Tennessee, Nashville	Mar.	26–Apr. 2.	5	..
Virginia, Pocahontas	Mar.	24–31	6	2
Wisconsin, Milwaukee	Mar.	26–Apr. 2.	3	..
SMALLPOX—FOREIGN.				
Austria, Prague	Mar.	6–12	2	..
Belgium, Antwerp	Mar.	12–19	16	4
Brazil, Rio de Janeiro	Feb.	28–Mar. 6.	45	3
Canada, Quebec	Mar.	12–19	1	..
Colombia, Barranquilla	Mar.	7–20	..	3
Formosa	Jan.	1–31	9	..
France, Paris	Mar.	12–19	15	1
Great Britain, Edinburgh	Mar.	12–19	8	1
Glasgow	Mar.	18–25	46	4
Hull	Mar.	12–19	6	..
Leeds	Mar.	19–26	2	..
Leith	Mar.	12–19	1	..
London	Mar.	12–26	84	..
Manchester	Mar.	12–19	3	..
New Castle-on-Tyne	Mar.	12–19	7	..
Nottingham	Mar.	12–19	13	..
Sheffield	Mar.	6–19	3	..
South Shields	Mar.	12–19	1	..
India, Bombay	Mar.	1–8	..	19
Calcutta	Feb.	20–Mar. 5.	..	7
Karachi	Feb.	28–Mar. 6.	16	2
Mexico, Mexico	Mar.	13–20	11	6
Vera Cruz	Mar.	19–26	1	..
Netherlands, Amsterdam	Mar.	19–26	3	..
Russia, Moscow	Mar.	5–12	5	1
St. Petersburg	Mar.	5–12	10	1
Straits Settlements, Singapore	Feb.	20–27	..	1
Turkey, Constantinople	Mar.	13–20	..	5
YELLOW FEVER.				
Brazil, Rio de Janeiro	Feb.	28–Mar. 6.	9	..
Mexico, Merida	Mar.	13–19	1	..
Tehuantepec	Mar.	19–26	3	1
CHOLERA.				
India, Bombay	Mar.	1–8	..	1
Calcutta	Feb.	20–Mar. 5.	..	77
Madras	Feb.	13–Mar. 4.	..	7
Turkey in Asia, Bassorah	Feb.	9–12	6	4
PLAGUE.				
Africa, Port Elizabeth	Feb.	27–Mar. 5.	8	4
Australia, Brisbane	Feb.	6–20	5	..
Sydney	Mar.	10	1	..
Brazil, Rio de Janeiro	Feb.	28–Mar. 6.	1	..
India, Bombay	Mar.	1–8	..	968
Calcutta	Feb.	20–Mar. 5.	..	894
Karachi	Feb.	28–Mar. 6.	196	90
Madras	Feb.	27–Mar. 4.	..	1
Peru, Lima	Mar.	23–30	23	4

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Original Articles.

ACUTE INFECTIOUS OSTEOMYELITIS OF THE SPINE AND ACUTE SUPPURATIVE PERIMENINGITIS.*

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INTRODUCTION: While the acute infectious osteomyelitis is a well-recognized and not infrequent affection of bone tissue in general, it but rarely attacks the vertebral column.

The comprehensive statistics of Frohner and Haaga, published in 1889, are often cited in support of this statement. Among 545 cases, representing an involvement of 661 long bones and 51 short bones, the spine was found involved but once, the now classical observation of Lannelongue.

While the vertebral involvement is certainly rare, these quotations give but an imperfect idea of its true frequency. The real nature of many of these cases is never recognized, owing to the proximity of the inflammatory process to the spinal cord and the thoracic, abdominal, and pelvic organs.

The slight primary bone or periosteal focus is overlooked or subordinated to the more extensive secondary purulent infiltrations in the adjacent vital organs and body cavities.

Thus one finds recorded, more especially in the older literature, not a few cases, unquestionably originating in a primary vertebral osteomyelitis or periostitis and catalogued under the following clinical headings: Retropharyngeal abscess; deep cervical abscess; mediastinal abscess; perforating empyema; retroperitoneal abscess; paranephritic abscess; primary suppurative psoitis; pelvic abscess; and acute rheumatism of the spine.

If this is true of cases with autopsy the number of errors in unrecorded clinical observations may well be imagined.

There is no more striking instance of this misinterpretation than is afforded by the so-called acute primary suppurative perimeningitis. My reasons for assigning this group of perimeningeal suppurations to the acute osteomyelitis will be discussed later.

The general pathological character of the osteomyelitic process is the same irrespective of the skeletal localization; but the direct relation of the spine to important organs lends a peculiar interest to this region, owing to the great diagnostic difficulties encountered and the very high mortality.

Two cases have come under my own observation which I will record briefly before proceeding to a general discussion of the subject.

I wish to express my thanks to Dr. C. L. Dana and Dr. F. W. Jackson for their courtesy in permitting me to observe and record these cases; also to the Surgeons Drs. F. W. Gwyer and C. H. Chetwood for according me the same privilege.

CASE I.—Admitted to Bellevue Hospital, service of Dr. C. L. Dana, March 31, 1902. Operation by Dr. Frederick W. Gwyer, April 4, 1902.

Summary.—Boy, aged eighteen. Sudden onset with severe pains in sacral region, following a trauma. High fever, rapid pulse, great prostration, leucocytosis 40,000, splenic tumor, œdema, and bogginess, over sacrum. Symptoms of compression of cauda equina.

Diagnosis.—Acute osteomyelitis of the sacrum with an extradural accumulation of pus. Operation, cure.

The patient was a stable-boy, aged eighteen, who three weeks before had fallen backward landing squarely on the sacral bone. The pain was intense at the time, but was able to resume his work, and in about an hour the ill effects had worn off. He was frailly built and ill-nourished, otherwise previous history was negative. No venereal infection.

Ten days after the injury he awoke with severe pain in the lumbosacral region, shooting into the buttocks, especially on the left side. He reported for work, but, owing to the continuous pain in sacral region, was forced to desist.

After sleeping a few hours the pains were more violent and he returned home. Later the legs grew numb and he experienced delay and difficulty in urination.

Two kinds of pain could be distinguished, one a deep-seated constant boring pain over the sacrum, the other sharp and lancinating, these electric darts shooting into the gluteal region on both sides, more especially the left.

Condition on admission March 31, 1902: Patient is pale, poorly nourished, and greatly prostrated. Temperature ranging from 102° F. to 104° F. Pulse 120. Lies on the side with the upper portion of the spine bent backward and the head slightly retracted. Heart, lungs, and urine are negative. Spleen is enlarged and palpable below the margin of the ribs.

Careful inspection and palpation of the spine reveals no deformity until the sacrum is reached; here the soft parts are slightly swollen and œdematous, especially to the left over the sacroiliac articulation.

The slightest pressure over this area causes agonizing pain.

The column is somewhat rigid, especially in the lumbosacral region, but movements are fairly well executed, accompanied, however, by excruciating pain.

The pupils present a slight inequality, the right wider than the left. No cranial nerve symptoms. No rigidity of the neck. The mind is perfectly clear.

Both lower extremities are weak, especially the left. This paresis is uniformly distributed over all segments, no objective sensory disturbances. The knee-jerks and the Achilles jerks are absent on both sides. Abdominal and cremasteric reflexes present. Plantar stimulation (induces) flexion of the toes. Kernig's symptom absent.

April 1 and 2: Still suffering extreme pain in lumbosacral region, radiating into the buttocks. Head still retracted but without rigidity of the neck.

*Read before the Section on Orthopedic Surgery of the New York Academy of Medicine, February 19, 1904.

Temperature 104° F. No change in the objective symptoms referrable to the lower extremities. Leucocytosis of 40,000. The diagnosis was made of acute osteomyelitis of the sacrum, with an extra-dural accumulation of pus, compressing the cauda equina. The patient was transferred to the surgical ward for operation.

April 3: Operation performed by Dr. Gwyer. On incising the soft parts over the sacral swelling, a large quantity of thick fetid pus welled up into the wound. About 6 ounces were evacuated. The surrounding muscular tissue was the seat of a purulent infiltration, and a portion of the left dorsal aspect of the sacrum was rough and denuded of periosteum, as was also the lamina of the fifth lumbar. The spines and laminæ of the fourth and fifth lumbar vertebræ were resected, allowing the escape of 2 or 3 drachms of pus from the spinal canal outside the dura. The dura was not incised.

Case I. Osteomyelitis of the sacrum and fifth lumbar arch. Slight lateral curvature of the left thigh and leg.

April 4: Still has local pain at the seat of operation, but the agonizing sacral pain has disappeared. Retention of urine. The right knee-jerk is now elicitable on reinforcement. The left and both Achilles jerks are still absent.

April 6: Wound is doing well, some pus and many shreds of dead tissue and sloughs were washed out during the irrigation.

April 7: Catheterization still necessary. At times passes small quantities of urine voluntarily. Right knee-jerk present.

Left knee-jerk and both achilles jerks absent.

The left thigh and leg measure one-quarter of an inch less than the right.

April 15: Still discharging pus; good drainage; wound granulating.

April 17: Patient has no pain. Both lower extremities are weak, the left more so. This paresis is most noticeable in the extensors of the knee and foot. A bacteriological examination of pus evacuated at the time of operation contained a pure culture of the staphylococcus pyogenes aureus.*

April 25: Electrical reactions—The muscle group of the right thigh respond promptly to the galvanic and faradic currents. The extensor, flexor, and adductor group of the left thigh respond feebly to electrical stimulation, both galvanic and faradic most apparent in the extensors of the knee. The anterior and posterior tibial group on both sides respond sluggishly to the faradic current, both directly (muscle) and indirectly (nerve). The anterior and posterior tibial groups react fully to strong galvanic currents applied to their respective nerve trunks. When applied directly to the muscle the response is slow and vermicular with distinct r versal of the poles (reactions of degeneration).

June 2, 1902: Wound almost healed. No vesic symptoms. Can walk, but with a tendency t foot-drop. The left leg is distinctly weaker tha the right and is visibly atrophic.

The atrophy is noted in the left thigh and le and to a less extent in the right leg. (See Fig. 1.)

Right knee-jerk good response. Left knee-je feeble response. The achilles jerk is feeble but elic table on both sides.

The weakness of the left lower extremity is ge eral, but most pronounced in the extensors of t foot and knee.

June 11, 1902: Measurements—Right thigh, 1 inches; left thigh, 13 inches; right leg, 11¾ inche left leg, 11¼ inches. While standing, and aft exposure of the body, muscular twitchings devel in the gluteal muscles. The posterior muscles the thigh and the legs on both sides. The muscul movements consist of coarse fibrillary contractio clonic movements, and a succession of musc waves, the so-called myokymia. Moderate scolios the convexity directed toward the right.

Electrical Reactions.—Diminished electrical r sponse of muscles of the left thigh to both curren In left leg no reaction obtained by either curre through the nerves. Directly applied, qualitati changes are noted in both the anterior and p terior tibial group. Right leg diminished, el trical responses, but no qualitative changes. P tient was installed as doorboy in the hospital, a performed this duty for several months. T weakness in his lower extremities improved. Sp perfectly mobile, causing him no pain or unea ness. Discharged cured.

Case II.—Admitted to Bellevue Hospital Se vice of Dr. Frank W. Jackson, January 3, 19 Operation by Dr. Charles H. Chetwood, Janua 8, 1903.

Summary.—Boy, aged five years, previou healthy. Sudden onset with fever and severe p in mid-dorsal region. Five days later, sympto of spinal-cord compression (paraplegia). Hi fever, great prostration, leucocytosis 40,000. Sli œdema, glazing of skin and bogginess, with extre tenderness over the mid-dorsal region of the sp

Diagnosis.—Primary vertebral osteomyelitis w an extra-dural accumulation of pus. Operati cure.

The patient, G. M., was a boy aged five years, sturdy constitution, who had enjoyed excell previous health. No family history of tuberculo No history of a trauma could be obtained fr mother or child.

On the evening of December 30, 1902, return home after an afternoon of play in the streets, co plaining of not feeling well. That night was re less, crying out several times in his sleep.

The next morning was dressed as usual, but mained listless and apathetic, showing no inclin tion to play. That afternoon complained of in the back and was put to bed. In the eve had fever and a slight epistaxis.

The pains in the back continued growing severe, and any attempt to move him caused treme exacerbations of suffering, accompanied screams.

He also had sharp shooting pains in the l zones of the chest, more especially on the left sid

The fever continued, child became some dull, and on January 2 passed urine only twi twenty-four hours. No convulsions.

Was admitted to Bellevue Hospital Januar 1903.

*Dr. H. H. Buxton, Bacteriological Laboratory of the Cornell University Medical School.

On admission the child was greatly prostrated, face flushed, with a temperature of 104° F., and a pulse of 130.

Complains of occipital headaches and severe pains over the lower zones of the chest, especially on the left side.

There was priapism, and catheterization was necessary. The extremities were freely movable. The examination of the internal organs and cranial nerves were negative. The leucocyte count numbered 30,000.

January 6, 1903: The spine is slightly arched and rigid, and the head is retracted and the neck stiff. There is a complete flaccid paraplegia, with loss of the tendon reflexes. The Babinsky reflex is present on both sides. The line of anæsthesia goes to the eighth dorsal spine posteriorly, and the eighth rib anteriorly, and apparently involves all sensations, although the age and condition of the child precludes certainty in this respect.

The abdomen is distended and the lower ribs do not rise with the inspirations. Above the line of anæsthesia is present a distinct hyperæsthetic band, which corresponds in level with the sharp shooting pains complained of by the patient before admission.

The spinal column presents no gross evidences of disease, save the rigidity and extreme pain on movement.

On the upper dorsal region, from the fifth to the eighth dorsal spines, there is extreme tenderness, the slightest pressure causing excruciating pain. The tenderness is by no means confined to the spines themselves, but is felt also on both sides of them, more especially the left.

On movement pain is referred to the same level. Over this area the soft parts are somewhat swollen, puffy, and œdematous, but without any fluctuation.

The temperature had fallen to 98° F. in the morning, rising to 103° F. in the afternoon. Kernig's symptom was absent.

NOTE.—January 5: Temperature rose to 102° in afternoon. Pulse 120, respiration 30. The child lies flat on the back, and is dull and apathetic, inclined to somnolence. Spontaneous pain in the back is very much diminished, and when questioned complains only of the sharp pains in the lower dorsal region, any attempt at movement, however, is accompanied by screams.

The motor and sensory paralysis remains unchanged. There is constant priapism, and catheterization is necessary. Leucocyte count 29,000. Urine normal.

January 8: Transferred to the surgical ward for operation. The œdema over the fifth, sixth, seventh, and eighth dorsal spines has increased, and a slight sense of fluctuation is detected.

The superjacent skin is glistening and somewhat mottled.

Tongue is heavily coated. Slight cyanotic tinge of lips and face. Spleen not palpable. Leucocytes 30,000.

The plantar reflex is absent on the left side, the abdominal and cremasteric reflexes on both sides.

Operation by Dr. Chetwood, January 8 at 4 P.M.: The anæsthetic was nitrous oxide, followed by ether inhalation. An incision was made in the median line, exposing the spines of the fifth to the eighth dorsal vertebræ. On cutting through the muscles about four ounces of fetid pus was evacuated, and after retraction of the soft parts, more pus could be seen escaping between the laminæ of the fifth and sixth dorsal vertebræ.

The spines and laminæ of both the sixth and seventh dorsal were rough and partially denuded of periosteum. A laminectomy of the sixth dorsal was performed, allowing a further escape of extradural pus.

The exposed external surface of the dura was covered with velvety granulations. The dura mater was not incised.

January 9, 1903: Marked improvement in the general condition. Complains of very little pain. Motor symptoms remain unchanged. The line of anæsthesia has fallen to the level of Poupart's ligament. Both knee-jerks and achilles jerks are absent. Both plantar reflexes are active and of the extensive type. Catheterized.

January 13, 1903: Slight, barely perceptible dorsal flexion of the feet and flexion of the knee was first observed. Anæsthesia to Poupart's ligament. Catheterized.

January 17: Urine passed without catheter. Bacteriological examination of the pus evacuated at the time of operation was made by Dr. H. H. Buxton of the Cornell Laboratory. A pure culture of the staphylococcus pyogenes aureus was the result.

January 29, 1903: Spontaneous, involuntary movements of legs occur. Nurse finds that the legs change their position. Slight skin stimuli produce reflex movements. On making passive movements the flexors of both knees show a slight tendency to contraction, is easily overcome and disappears after a time. No voluntary movements observed. The left knee-jerk has returned and is exaggerated. The right knee-jerk and both achilles jerks are still absent. Coarse tactili impressions are recognized over the lower extremities. Pain and temperature sense uncertain. Deep sensibility is not greatly disturbed.

February 8: No knee-jerks elicitable to-day, and the lower extremities are quite flaccid.

February 13: Barely perceptible voluntary movements of toes and feet. Slight flexor contractures of knees. The knee-jerks are elicitable with difficulty.

March 21: Legs have gained from day to day, all movements are carried out. The left leg is weaker than the right. Sensation is practically normal. Incontinence of urine.

February 15, 1904: The child has been under constant observation since the last note, the motor power in the lower extremities gradually improving. Is able to stand alone and walk about, but the gait is slow and spastic, particularly the left leg. Sensation is completely restored. There is still incontinence of urine. Otherwise the child is in perfect health. The spine is straight and mobile and without the slightest curvature.

History.—The history of the affection begins with the publication of Lannelongue's monograph in 1879, entitled "L'Osteomyelite Aigue de la Croissance."

Less accurate observations were recorded before this by Valleix in 1835 and Brietze in 1872.

Since then the literature has been enriched by many excellent theses and case reports.

Those deserving of special mention are the monographs of Cadeilhan (1880), Tournadour (1890), Chipault (1897), and Grisel (1903) in France, Hahn (1895 and 1899) in Germany, and Makins and Abbott (1896) in England.

Hahn, in his later monograph, published in 1899, collected and analyzed forty-one cases.

I have collected the cases of acute osteomyelitis of the spine, which have been recorded since this publication, bringing the total number up to sixty-eight. Of these, three were not accessible in the original and three cited by Hahn were excluded

because of insufficient data, so that the present study is based on an analysis of sixty-two cases.

Etiology and Pathogenesis.—One of the most potent factors, seemingly almost essential to the production of an osteomyelitis is the growing period of life.

These years during which the spine is undergoing gradual ossification and development.

This process is usually not complete until about the thirtieth year.

According to Gray, at birth each vertebra is represented by three ununited primary cartilaginous portions, one for the body and one for each lamina and its processes.

During the first year the laminæ are united posteriorly, and about the third year the neural arch is joined to the centrum. Before the age of puberty no other changes occur except a growth of these primary centers.

At the sixteenth year four secondary ossification centers appear, one for each transverse, and two sometimes fusing for each spinous process.

At twenty-one a thin epiphysial plate of bone develops on the upper and under surface of the centrum.

At about the thirtieth year the vertebra is completely formed.

Certain obscure nutritional conditions are present in these growing bones which attract and favor the development of pyogenic bacteria.

Hence the age is an etiological factor of the first importance. In 59 cases

18	occurred	in	the	1st	decade	of life;
31	"	"	"	2d	"	" "
7	"	"	"	3d	"	" "
1	"	"	"	4th	"	" "
2	"	"	"	5th	"	" "

Among the exciting causes may be mentioned injury to the spine, either a direct blow or a lifting strain. Excessive fatigue. Exposure to wet and cold. Some local septic process, as a furuncle, angina, or the puerperium. The larger number of cases, however, develop spontaneously.

The affection is twice as frequent in males.

In 56 cases there were 38 males and 18 females.

The direct excitant is naturally always microorganismal. In 20 cases in which a bacteriological examination was recorded:

The staphylococcus pyogenes aureus	was demonstrated	in	15	cases.
The staphylococcus pyogenus albus	"	"	1	case.
The streptococcus	"	"	2	cases.
Staphylococci and streptococci	"	"	1	case.
Micrococcus Tetragenus	"	"	1	case.

Pathological Anatomy.—Any of the numerous bones engaged in the formation of the spinal column may be the seat of the disease. The coccyx alone seems to be exempt, probably owing to its protected situation and functional insignificance.

In 61 cases the disease was localized in the cervical region, 12 times; dorsal region, 15 times; lumbar region, 24 times; sacral region, 10 times. Several vertebræ may be implicated in the process or a small part of a single segment may present the only focus, as a lamina, a transverse or a spinous process.

Cases are recorded in which the erector spinæ group of muscles was riddled with abscesses, the contents of the neural canal bathed in pus with numerous metastatic abscesses, all originating in an insignificant and scarcely demonstrable bone or periosteal focus. Among the more potent factors influencing the prognosis may be mentioned the portion of the vertebræ involved and the extent and intensity of the inflammatory process itself.

Some writers speak of an anterior and posterior osteomyelitis, indicating involvement of the centrum or neural arch respectively, finding a justification for this division in the subsequent course and termination.

In the anterior osteomyelitis the suppuration is much deeper, giving rise to retropharyngeal, psoas, mediastinal and pelvic abscesses with consecutive visceral complications.

In the posterior osteomyelitis, on the other hand, the process is more superficial, the pus infiltrating the muscles of the back; usually indicated externally by œdema and fluctuation.

This variety is more accessible and more readily evacuated, and the prognosis is correspondingly more favorable. Spinal complications in this variety are, however, not infrequent.

The extent of the bone and periosteal involvement varies greatly in different cases.

Three degrees may be recognized. A mild form, more in the nature of an acute periostitis, the bone not undergoing denudation.

A more severe grade, involving the superficial layers of bone, leading to the formation of subperiosteal abscesses, roughening and denudation.

In the gravest form the bone and marrow are riddled with abscesses and purulent foci, and recovery if it occurs, is accompanied by sequestra formation.

In this form the danger of a generalization of the process and pyæmia are most imminent. The mild form will be referred to later in discussing the etiology of the so-called acute primary suppurative perimeningitis.

The situation of the spinal cord and meninges within their canal, render them peculiarly liable to implication.

Of sixty-two cases, fifteen presented grave symptoms of compression of the cord. In nine additional cases an extradural collection of pus was demonstrated at autopsy or operation, without symptoms of cord compression having been recorded.

If the osteomyelitis originates in the inner wall of the canal, neural complications are inevitable.

Pus may, however, find its way into the canal from without, through the intervertebral foramina or by penetrating the ligamentous attachments of the vertebræ.

Infection may also occur through the medium of the blood-vessels.

The result is an extradural abscess at the affected level. In not a few cases, however, instead of a circumscribed collection of pus, widespread suppuration of the loose areolar tissue occurs, through the whole extent of the canal, constituting the acute suppurative perimeningitis.

As the spinal dura is firmly attached anteriorly to the posterior common ligament and above to the margins of the upper cervical vertebræ and foramen magnum, the exudate is distributed chiefly over the postero-lateral aspect of the dura, and above is effectually shut off from the cranial cavity.

The cord suffers chiefly through compression and inflammatory œdema. In only one case was the dura perforated. In three cases there was noted suppurative leptomeningitis.

Hence the dura presents a fairly effectual barrier and any operative interference should relieve only the compression. Incision of the dura would only increase the danger of a general meningitis.

Septic thrombosis of the spinal plexus of veins is a frequent complication, which by blocking the circulation leads to distention and prominence of the superficial veins of the back over the affected area. This constitutes an important objective symptom and its significance was recognized and described by Lannelongue.

In contrast to the tuberculous osteitis, angu

deformities, and curvature of the spine are the exception.

This condition was mentioned in only six of sixty-two cases. Four of these recovered. One case, complicated by an empyema with resection of the ribs, was permanent, and one of my cases with a cervical localization and cauda symptoms was discharged with a slight lateral curvature.

This freedom from spinal deformity is largely accounted for by the acuteness and gravity of the process, enforcing the recumbent posture and by the irritative nature of the inflammatory process stimulating periosteal proliferation.

Also those cases with rapid breaking down of the bodies, and naturally most favorable to the development of this condition usually prove rapidly fatal.

Symptomatology.—In the great majority of cases the onset is acute; ushered in with high fever, rapid pulse, and the other evidences of a severe general infection. The onset may be preceded for several days by mild prodromal symptoms, as headache, rigors, and a general feeling of malaise.

Co-incident with the acute general symptoms, where local pains are felt in the spine. These are very intense, having the character of osteocopic pains in general. As a rule they are most severe over the affected area, but their local character may be masked by their intensity, producing a general rachialgia.

Often accompanying the intense throbbing and boring pains of bone inflammation, are the sharp lancinating pains following implication of the nerve roots within the canal or the intervertebral foramina. These root pains are readily distinguished from the bone pains, and, depending on the level involved, are referred to the extremities or encircle the trunk. I would particularly emphasize the occurrence and often early appearance of these lancinating pains which, with the acute general infection, have in many instances given rise to diagnostic errors. Among these may be enumerated: cerebrospinal meningitis, pleurisy, pneumonia, peritonitis, and appendicitis. Later with the formation of abscesses and the symptoms of general pyæmia, the true nature of the affection was recognized.

Abdominal pain and distension has received occasional mention in the dorsal localization, and is ascribed to compression of the sympathetic ganglia or their communicating branches.

Rigidity of the spine is almost a constant symptom and when severe may be accompanied by opisthotonus and retraction of the head.

Some observers note in addition to the fixation of the spine, strange and bizarre attitudes assumed by the patient, evidently in an effort to relieve tension and tender parts from pressure.

A symptom of paramount importance, and one to which I am inclined to lay the greatest stress is the extreme local tenderness over the inflamed area of the spine. It is especially valuable because an early symptom and scarcely ever absent. This is not a hyperæsthesia but an intense and agonizing pain induced by direct pressure over the column.

In contradistinction to tuberculosis, jarring of the spine is usually negative, a fact emphasized by Chase. Movements of the spine are generally limited, owing to the rigidity, and are accompanied by pain, usually referred to the affected level.

The further progress of the disease is characterized by an increasing sepsis, abscess formation, visceral complications and pyæmia.

The continued high fever, rapid pulse, rigors and sweats; the splenic tumor and increasing leucocytosis, the extreme exhaustion and progressive emaciation, all indicate but too clearly the profoundly septic state.

With the formation of abscesses, external evidences of deep-seated suppuration are usually evident, more conspicuous, and more constant in the posterior osteomyelitis.

There are reddening and glazing of the skin, slight pitting on pressure, bogginess or distinct fluctuation. Dilatation of the superficial cutaneous veins is sometimes noted due to thrombus formation in the peridural plexus.

The danger of visceral complications resulting from the deep-seated suppuration, have been sufficiently indicated in discussing the pathological anatomy. The symptomatology of such visceral lesions is naturally peculiar to the organ involved and requires no special comment.

It is well, however, to bear in mind the acute osteomyelitis, in cases of acute retropharyngeal, mediastinal, paranephritic, and pelvic suppurations, of obscure origin in young adults, as history teaches us that this is often overlooked in view of the more important visceral manifestations.

If the vertebral symptoms are preceded or accompanied by the formation of distinct osteomyelitic fever in other bones, the true nature of the case is immediately apparent.

Such multiplicity of bone lesions is, however, rather infrequent, occurring in only fourteen of sixty-two cases.

Neural complications, because of their frequency and importance, are deserving of special mention.

The almost uniform cause of such symptoms is to be found in an extradural accumulation of pus, originating in the diseased bone focus.

The natural effect is a compression of the cord, the symptoms of which are focal, corresponding in level with the vertebral pain and tenderness.

It must be emphasized, however, that an extradural abscess may exist without symptoms of compression. (In nine of sixty-two cases.)

The sharp posterior root pains and vesical symptoms are usually the first indications of the beginning compression. Paræsthesiæ and progressive weakness in the parts below the lesion soon follow, usually advancing until a complete motor and sensory paralysis results. In brief, the symptoms of a complete transverse lesion of the cord are present, which, varying with the level, is indicated by a paraplegia or a quadriplegia, as in one of my cases cauda equina symptoms may exist and in two other cases unilateral involvement of the roots of the brachial plexus may follow suppuration in the deeper structures of the neck.

An interesting observation in some of these cases, is the gradual rise in the level of the paralysis, as is observed in Landry's disease. This increase of the paralytic phenomena is to be directly ascribed to the burrowing of the pus in the loose peridural cellular tissue.

Such an extension is accompanied by extreme general rachialgia, rigidity, contractural states and hyperæsthesia, as in meningitis.

In some cases infection of the loose peridural areolar tissue takes place almost immediately, is not circumscribed, spreading like wildfire in all directions. When this occurs the focal manifestations, often slight, may be completely masked by the symptoms of acute general meningeal irritation. This group of cases is a frequent source of error; their real nature in many cases is not recognized until the autopsy, and some not even then.

The above description represents, in a general way, the usual type or clinical picture of the disease. Certain aberrant cases deserve notice however: One is an extremely acute fulminating type, death occurring in a few days, apparently from the virulence of the infection. Others run a more sub-

acute course with mild septic and irritative symptoms, progressing with the formation of large abscesses and resembling in some particulars the tuberculous osteitis.

Diagnosis.—The diagnosis of the acute vertebral osteomyelitis, by virtue of the extent and manifold relations of the spine and the depth of the suppurative process is often one of extreme difficulty.

The primary condition and underlying cause is often obscured by the presence of grave neural and visceral complications. This is especially true, if the case first comes under observation at this period.

Diagnostic errors are likewise very common in the earlier stages, the combination of a septic state and referred root pains simulating other acute infections, as: pleurisy, pneumonia, peritonitis, appendicitis, and meningitis.

Hence the recognition and proper interpretation of the initial bone symptoms are of paramount importance.

The abrupt onset in a young adult of intense local vertebral pain and tenderness with increasing symptoms of infection should always suggest the osteomyelitis.

With the persistence of extreme local tenderness, increasing sepsis, and the superficial signs of deep-seated suppuration, the diagnosis becomes reasonably sure. Multiplicity of bone lesions would render the nature of the case certain.

It must be remarked, however, that with the formation of abscesses an amelioration of the intensity of the spinal symptoms may take place.

This subsidence of the acute vertebral pain was present in both of my cases, and may be very misleading. The local pain on movement and direct pressure, however, persisted.

The differential diagnosis of this affection, because of its manifold possibilities and protean nature, cannot be discussed in detail.

I know of no other spinal affection which should cause serious confusion.

Tuberculous caries with proper care should never be confounded with it. The same is true of the various forms of infectious osteitis of the vertebræ.

The acute articular rheumatism is said rarely to invade the spine, and with the other joint manifestations might for a time be misleading.

The possibility of pyogenic invasion of preëxisting tuberculous spondylitis must be borne in mind. Chipault has reported one case.

Prognosis.—The prognosis of the acute vertebral osteomyelitis is extremely grave. Of sixty-two cases, of which fifty were operated, thirty proved fatal, constituting a mortality of 50 per cent.

The statistics of cases recorded during the past five years are distinctly more favorable. Of twenty-eight cases, all but two of which were operated, there were twenty recoveries, and only eight deaths.

This reduction in the mortality is no doubt owing to greater accuracy in diagnosis, and more prompt and efficient surgical measures, so that even better results may be looked for in the future.

The following factors may be emphasized as influencing the prognosis:

The virulence of the infection; the degree and extent of the osteomyelitis process; the visceral involvement; the level of the spine affected.

Of 12 cases in the cervical region, 7 died;
" 15 " " " dorsal " 3 "
" 24 " " " lumbar " 13 "
" 10 " " " sacral " 7 "

Treatment.—Any treatment which does not include the evacuation and drainage of the abscess cavities and removal of diseased bone is to be regarded as futile and temporizing. The longer operation is delayed the greater becomes the danger of visceral entanglement and pyæmia.

Therefore an early diagnosis and immediate surgical interference yield the most favorable results.

If the cases are abandoned to their fate death is practically certain; only two cases are recorded with spontaneous rupture of a dorsal abscess and recovery.

Remarks on the Relation of the Acute Primary Suppurative Perimeningitis to the Acute Osteomyelitis of the Spine.—In the discussion of the vertebral osteomyelitis, the perimeningeal suppuration and the peridural abscess have received frequent mention. It is one of the commoner complications and was noted in twenty-four of sixty-two cases.

Such inflammatory and suppurative processes outside of and encircling the dura, were described as early as 1833 by Albers, and termed by him the perimeningitis medullæ spinalis. Frank recorded similar cases under the title of peripachymeningitis both of these terms are in use at the present day.

The infection of the peridural areolar tissue is secondary, and may usually be traced to some pathological process in the immediate neighborhood as the spine, thoracic or abdominal viscera, or sacral bedsores.

In addition to these cases in which a source of the infection could be demonstrated, a few observations have been recorded during the past twenty years, the majority by French observers, in which no such primary focus was apparent.

Clinically their course was rapidly fatal, and attended by intense spinal irritative and paralytic symptoms, the autopsy revealing nothing but peridural cellular tissue bathed in pus.

So that in the course of time, as the number of carefully recorded observations increase, an idiopathic infectious suppurative process has come to be rcognized, originating in the vascular areolar tissue encompassing the dura mater.

In other words, this loose cellular tissue has come to be regarded as a structure in which a pyogenic process may arise *per se*, independent of any other focus.

Systematic writers on nervous diseases are, generally speaking, very guarded in their brief remarks devoted to this subject, describing the general pathological characters of the peripachymeningitis, its mode of origin, and usually secondary nature. Others again touch on the obscure nature and uncertain origin of the so-called primary form. Gowers says distinctly in the last edition of his text-book, published in 1899: "It is certain that acute general external meningitis occurs as a primary disease, and may run an intensely rapid course with profuse suppuration between the membranes and the bone."

The various structures of the body vary greatly in their susceptibility to pyogenic processes. The bones and serous membranes are good examples of tissues extremely liable.

The rarity alone of the primary perimeningitis would justify a reasonable doubt as to its idiopathic origin, which would, by no means, be removed when the immediate relation to the periosteum and bone is given due consideration.

Futhermore there is nothing specific in the highly vascular areolar-tissue; it is in no sense an endothelial structure, as might be erroneously inferred from the terms perimeningitis peripachymeningitis, and external meningitis, the intense fibrous dura forming a fairly effectual barrier to the spread of inflammatory processes in either direction.

In discussing the pathology of the acute osteomyelitis, the variations in the intensity of the bone lesions were emphasized.

The periosteum alone or the periosteum and the superficial layers of bones may represent the depth of the suppurative process, and the surface area may be proportionately small.

It is therefore quite conceivable, in a complicated mechanism like the spine, with its innumerable surfaces and projections, that a small focus of periostitis or superficial necrosis could readily escape detection or be regarded as a secondary affect.

It is also quite obvious that if the abscess formation were superficial, it would, meeting with less resistance, burst at an earlier period into neighboring structures.

If this were to occur in the spinal canal the result is easily conjectured.

These preliminary considerations I think show that the primary perimeningitis as a clinical and pathological entity may justly be regarded with a spirit of skepticism, until strong positive evidence is brought to the contrary.

A careful study and analysis of the recorded cases go far to disprove the theory of an idiopathic origin.

There are twenty-four cases of this affection recorded in medical literature, or cited in monographs devoted to this subject. A few of these belong to the older literature, and have only an historical interest, while others, because of an insufficiency of detail, are not entitled to serious consideration.

Of the total number only thirteen may be regarded as worthy of analysis. (Recorded in abstract in the appendix.)

One of these, a case reported by Putzel, may be immediately relegated to the primary spinal affections, because of the focal character of the symptoms and the eventual evacuation of an abscess containing a sequestrum. Another case recorded by Lewitsky was complicated by a deep sacral decubitus following primary medullary symptoms which would sufficiently account for the peridural suppuration.

Of the remaining eleven, all terminated fatally, after an acute illness, the majority succumbing in the second week of the disease.

Sex.—Ten of the cases were in males; one of the cases was a girl.

Age.—Five cases in the first decade of life; four cases in the second decade of life; one case in the third decade of life.

As in the acute osteomyelitis the affection belongs essentially to the adolescent period of life.

In all of the cases—and I would particularly emphasize the fact—there were present distinct local symptoms referable to a certain level of the spine.

These local manifestations, while no doubt somewhat masked by the general severity of the process, stood out quite clearly in the clinical picture.

They are variously indicated, usually by local pain and tenderness, and local abscess formation in the adjacent muscles. In six cases there were sensory and motor paralysis referable to a compression myelitis, the level of the compression corresponding to the other local manifestations.

In one of these cases, evidently a cervical localization, the neck was enormously swollen, deglutition was difficult—there were root pains in the course of the occipital nerves, and cervical abscesses.

In two of the cases fistulous tracts in the muscles led directly to roughened and denuded bone. In another case, evidently a sacral localization, there was noted a perirectal abscess, and a deep sacral abscess, following a typical osteomyelitic manifestation in the left tibia.

If these eleven cases are tabulated according to their local manifestations, the ratio of involvement of the various regions of the spine bears a striking analogy to that of the acute osteomyelitis.

In both, the lumbar region is most frequently diseased, the dorsal coming next in order.

Of the eleven cases, local manifestations were referable to the cervical region, one case; dorsal reigon, three cases; lumbar region, six cases; sacral reigon, one case.

From the foregoing considerations, I feel justified in asserting that there is not a single recorded case of acute primary suppurative perimeningitis, which does not accord perfectly in its clinical and pathological manifestations, to our present conception of the acute osteomyelitis of the spine; and if Erb's dictum of thirty years ago be true, that there is no just ground for assuming that such idiopathic inflammations may not occur, it may be said with equal truth, that with the evidence now in hand there is no valid reason for assuming that such an idiopathic inflammation ever has occurred.

It may be argued by some that the pressure of a minute focus of osteomyelitis does not materially affect the nature of the case, and that the lesion and symptoms are essentially those of a suppurative perimeningitis.

That, therefore, our present conception and title is the correct one, as best indicating the general character of the process.

Such a point of view, I consider not only to be scientifically inaccurate, but, from the practical standpoint, a very dangerous one.

It is of the first importance, that the greatest stress should be laid upon the focal spinal symptoms, as not only indicating the true nature of the affection, but also the immediate necessity and site for operation.

I believe that with due attention to the early diagnostic features indicated in the discussion of the acute osteomyelitis, the true nature of these cases may be recognized and the proper surgical measures instituted; and that under such conditions the prognosis would be by no means unfavorable.

All of the recorded cases terminated fatally. In only one case was an operation attempted, the immediate effect of which was favorable, death occurring as the result of an endocardial complication.

In the operative management of this group of cases, the double laminectomy in the mianner suggested by Chipault may be employed with benefit as insuring the most perfect drainage.

General Summary.—The vertebral column is rarely the seat of the acute infectious osteomyelitis. Sixty-two cases have been collected and analyzed in the present communication. Great diagnostic difficulties are sometimes encountered, owing to the immediate relation of the spine to the vital organs of the thoracic and abdominal cavities and the spinal cord and its membranes. Hence retropharyngeal, mediastinal, retroperitoneal and paranephritic abscesses, pelvic abscesses, peridural suppurations, and general pyæmia may be mentioned among the more important complications. Peridural abscess or suppuration occurred in twenty-four of sixty-two cases. Of these, fifteen cases presented grave symptoms of compression of the spinal cord. The essentials of the clinical picture consist of the symptoms of a severe general infection, associated

with the local signs of an inflammatory process of the spine: *e.g.* excruciating pain and tenderness, œdema and fluctuation. The mortality of the affection is 50 per cent. Immediate and thorough surgical interference is the only treatment. Some systematic writers accept, and cases are recorded of a primary suppurative perimeningitis or idiopathic suppuration of the loose peridural areolar tissue. Twenty-four cases of the so-called primary suppurative perimeningitis were collected, eleven of which present sufficient data for purposes of analysis.

An attempt is made to establish the relationship of these cases of primary suppurative perimemingitis to the acute osteomyelitis of the spine. Based on the similarity of the clinical and pathological manifestations and the *a priori* improbability of such idiopathic peridural suppuration. For the reasons detailed at length in the paper, it seems advisable to abolish entirely from our present nomenclature the term idiopathic or primary suppurative peril meningitis, and to regard all such cases as identica- with the acute osteomyelitis of the spine.

ABSTRACT OF THE CASES OF PRIMARY SUPPURATIVE PERIMENINGITIS.

Constant, *Gaz. Med. de Paris*, 1835.

Girl, aged ten. Acute onset with chills, fever, and headache. Pains in the extremities.

Headaches continued, very severe in the occipital region radiating laterally and producing the sensation of a constriction. Severe pains in cervical, lumbar, and inguinal regions. Extreme general hyperæsthesia. Right thigh is flexed; movements of left leg limited; arms free; retraction of neck, general rigidity; neck is enormously swollen; deglutition is almost impossible; later, legs in constant flexion; incontinence of urine.

Autopsy.—The epidural space from the cervical region to the cauda equina was bathed in pus.

Bristow, Transactions of the London Pathological Society, 1855, p. 45:

Man, aged thirty-six. No previous history. For some days severe pain in back, especially localized in the lumbar region, which was tender. On movement pain referred to lumbar spine. High fever, rapid pulse, progressive weakness and emaciation. Paraplegia developed gradually.

Autopsy.—External surface of dura bathed in pus. Some pus also in subdural space.

The erector spinæ groups, and the ileopsoas muscles were riddled with abscesses. Small accumulations of pus beneath the pleura as the intercostal nerves emerge from the intervertebral foramina.

Traube, "Gesammelte Beiträge II," p. 1039:

Man, aged twenty-three. Acute onset after exposure to cold with headaches and violent lumbar pains, also pain in neck with stiffness and pains in the legs. Difficult micturition. High fever and severe constitutional symptoms.

One month after onset an abscess presented itself in the left lumbar region; very tender; incised and pus evacuated.

Autopsy.—Purulent infiltration of lumbar muscles on the left side, leading down by fistulous tracts to the twelfth dorsal, the transverse process of which is roughened and partially denuded. Pus in the spinal canal outside dura and in the psoas muscles.

Lewitsky, *Berliner klinische Wochenschrift*, 1877, s. 227:

Man, aged forty-four. Fall on lumbar region; pain for two days, then disappeared. Admitted, January 18. Paralysis of right leg and paresis of left leg with corresponding sensory disturbance. No pain, no spinal tenderness or rigidity. Gradually the legs grew worse and the left arm became paralyzed. Absolutely no pain or tenderness on percussion of the spine. General condition encouraging.

January 24: A large, very extensive and deep sacral decubitus developed, laying bare the bone. After this the temperature rose. There were rigors. Temperature continued high with chills. Death, February 6.

Autopsy.—Extradural accumulation of pus most marked in lower portion of the spinal canal. Also a purulent leptomeningitis. The cord was hyperæmic. No microscopical examination recorded.

NOTE: *The history of this case suggests a primary medullary affection with a resulting decubitus. The suppuration in the spinal canal resulting secondarily from the gangrene of the soft parts and exposure of the sacrum.*

W. H. Spencer—*Lancet*, 1879, Vol. I, P. 836:

Boy, aged fourteen, Acute onset with pains in the back, shooting down the legs, Worked for one week, suffering with lumbar pains. Occasional rigors. On admission severe pain in lumbar spine with great tenderness on both sides. Motility and sensation undisturbed. Sphincters normal. Pains in lumbar region continued, a few days later extending to dorsal region and neck. Rigidity of neck. The temperature, rapid pulse, septic symptoms and diarrhœa resembled typhoid fever. Died.

Autopsy.—A large collection of pus in muscles of lumbar region. The spinal canal outside the dura was filled with pus from cervical region to the cauda, oozing through the intervertebral foramina. The spine was normal; cord normal; a recent clot of blood in left occipital fossa.

L. Putzel, MEDICAL RECORD, Vol. 13, 1878:

History.—Man aged twenty-two. Onset March 8, with pains in shoulders, cervical and upper dorsal regions. Torticollis.

March 13: Swelling appeared on back of neck. Diagnosed as deep abscess. Pyrexia, rapid pulse, and an eruption resembling typhoid.

March 20 to April 1: Complete paralysis of the bladder. Girdle at lower part of chest. Paralysis of left arm and leg with sensory disturbances.

April 2: Regained power in left arm and leg, which became hyperæsthetic.

July 19: Discharged, greatly improved. Paræsthesia and fibrillary twitchings on left side.

September 19: Examination by Dr. Putzel. Paresis of left arm and left leg with paræsthesia on same side. Tender mass in left rhomboid muscle.

February 28: A small abscess in region of third and fourth dorsal was opened and drained, discharging thick pus.

March 1: A small piece of bone was discharged from the sinus. Complete return of motor power; recovery.

Lemoine et Lannois, *Revue de Médecine*, 1882, P. 535:

Man, aged twenty-two. Two days after a fall, felt pains in the back. The day following chills and difficulty in breathing. Legs grew weak. Four days after onset was completely paraplegic. movements cause pain at the level of the first and second dorsal vertebræ. This area is also extremely tender on pressure. No other tender points along the spine.

Anæsthesia complete to the mammary level. Plantar and tendon reflexes of legs are lost. A hyperæsthetic band above the level of anæsthesia.

Retention of urine. Priapism. On movement pains are constantly referred to the first and second dorsal.

The line of anæsthesia ascends. Severe pains and burning in the arms which become weak. Later paralysis of both arms. And the line of anæsthesia rose 10 cm. above the line of the nipples.

Autopsy.—No evidences of a bone lesion discoverable after careful search. Pus wells up from between the first and second dorsal vertebræ. Exposure of the dura reveals a purulent collection extending from the seventh cervical to the eighth dorsal, most abundant at first and second dorsal. At this level the cord is pulpified.

Robert Maguire, *Lancet*, 1888, Vol. 2, P. 9:

History.—Man, aged seventeen. Slept in damp sheets. Onset with pains in lumbar region for several days, very severe. The lower extremities became weak, and later paralyzed. The next day the paralysis ascending, involving the arms. Insufficiency of the sphincters. No shooting pains, no rigidity of spine, no retraction of the head.

Status.—Movements cause slight pain—referred to spine. Severe pain induced by pressure over any part of column. No œdema of back. Paralysis of arms, legs, and trunk with anæsthesia. Died.

Autopsy.—The muscles of the lumbar and cervical regions were infiltrated with pus, especially copious in the lumbar region on the left side. At this point the pus appeared to arise from the arches of the vertebræ. Extensive peridural accumulation of pus from second cervical to cauda. Leptomeninges normal.

Anthony, *Bulletin de Société med. des Hôpitaux, de Paris*, 1892, page 74:

Man, aged twenty-three. In good health; no assignable cause. Acute onset with girdle pains paresis and sensory disturbances in legs; retention of urine; violent pains in the dorsal region of spine, which was very tender from the seventh cervical to the seventh dorsal. High temperature and great constitutional disturbance.

Later complete paralysis of motion and sensation below the umbilicus. Four days after onset, violent pains in left arm and in neck. The sensation over chest diminished, the arms becoming paralyzed.

Autopsy.—The external surface of the dura mater bathed in pus from the third cervical to the lumbar region.

The cord is so softened at the level of the compression as to preclude microscopical examination. The inner surface of the dura and the other spinal membranes are intact. Cultures demonstrated staphylococcus pyogenes aureus.

Meslier (Service of Thibierge), Thèse de Paris, 1894:

History.—Onset February 15. A man, aged nineteen. Following a long march, developed pain in the left leg above the malleoli. There was swelling, redness, and great tenderness over the affected area. Fever, chills, and severe pains. The swelling diminished; the pyrexia, rigors, and sweats continued. Admission March 4. Status: Extreme tenderness along the left tibia, redness, and swelling. Percussion caused agonizing pains. Temperature 40° C.; pulse, 130.

March 6: Intense throbbing pains in the lumbosacral region. Marked tenderness, especially over left sacroiliac junction. The whole spine is rigid and tender, especially between the shoulders; rigidity of neck; retention of urine.

March 8: Delirium and hallucinations.

March 9: Pain in left sacroiliac region disappeared. Severe pain, however in the interscapular region, spontaneous and on pressure extreme rigidity of spine. Death March 13. No paralyses.

Autopsy.—The peridural cellular tissue bathed in pus from third cervical to the cauda. Collections of pus in sacral region on deep incision. Also a perirectal accumulation of pus infiltrating the sheath of the left sciatic nerve. No bone lesion of the sacrum or spine discoverable. Multiple lung infarctions. No focus was demonstrable in the bone, or muscle of the left malleolar region.

NOTE.—The affection of the left leg was at first regarded as an acute osteomyelitis. As the local symptoms subsided, the diagnosis of acute rheumatism was substituted. The case is recorded as one of acute perimengingitis (primary).

Delorme, "Etudes de chirurgie medullaire" (Chipault), Page 369:

Patient, a man. March 18, 1892. Onset with pains in the dorsolumbar region, pains in the knees, great fatigue, pyrexia. Diagnosed, acute rheumatism.

December 15: Paralysis of both lower extremities, anæsthesia to the nipples, girdle sensation. Paralysis of the sphincters. Severe pains in the dorsal region of the spine. Temperature 39° C. Staphylococci demonstrated by culture in the blood. Diagnosis: cord abscess.

December 16: Operation. Laminectomy of the seventh, eighth, ninth, tenth, and eleventh dorsal vertebræ. At the eighth dorsal was a purulent infiltration, beneath which, on the outer surface of the dura, was a fungoid membrane of diphtheritic appearance. This was removed by curettement. Death due to a septic endocardial complication.

Moliere et Perret, *Lyon Médicale*, March 30, 1897:

Man, aged twenty. After exposure to rain, developed pains in lumbosacral region, followed by stiffness of the spine and cramps in the legs. On admission to the Hotel Dieu the pain and rigidity of the whole spine was extreme. Tendency to spasm in the legs; motion, sensation, and reflexes normal. High temperature. Diagnosis spinal reumatism. The pains and rigidity of spine persisted with pyrexia and constitutional symptoms. Death occurred nineteen days after onset. No paralysis.

Autopsy.—Redness and œdema over the spine. In the lumbosacral region, on incising the muscles, pus gushed forth as if under pressure. The surrounding muscular tissues were infiltrated with pus. The external surface of the dura mater was bathed in pus as high as the third cervical. Cord normal. A careful examination of the spine showed no bone disease.

Deléarde, *Gaz. Hebdom. de Med. et de Chirurg.*, 1900, p. 493:

A man, aged twenty-five, in robust health, following an exposure to cold, developed weakness and paræsthesia in the legs, accompanied by severe pains and rigors.

Status on admission: Flaccid paraplegia with preservation of the tendon and abolition of the plantar reflexes. Anæsthesia of the parts below the anterior superior iliac spines. Encircling the upper level of the anæsthesia was a hyperæsthetic band. Retention of urine. The lumbar spine is very tender and painful. Kernig symptoms absent. On the day following, the anæsthesia had ascended to the fourth intercostal space. Sacral decubitus. Pyrexia and septic symptoms.

Autopsy.—The peridural cellular tissue infiltrated with pus. At the site of compression the cord was diffluent, but normal above and below. Streptococci demonstrated microscopically. No other abscess foci; spine normal.

BIBLIOGRAPHY AND CLINICAL TABULATION OF TWENTY-ONE CASES OF ACUTE INFECTIOUS OSTEOMYELITIS OF THE SPINE, WHICH HAVE BEEN RECORDED SINCE THE PUBLICATION OF HAHN'S MONOGRAPH IN 1899, OR WHICH WERE NOT INCLUDED IN THE TABULATIONS PREVIOUS TO THAT PERIOD:

	Reference.	Age.	Sex.	Cause.	Localization.	Neural Complications.	General Complications.	Operation.	Result	Remarks.
1	Swoboda *Wiener klinische Wochenschrift.* No. 4, 1904.	Nursing child.		Mother suffering with acute articular rheumatism.	Cervical region.		Focus in left tibia and cervical abscess.	Abscess incised and drained.	Died.	Staphylococci; tumor formed beneath sternocleido on left side.
2	Suttell, Thése de Lyon, p. 43, 1899.	16	F	Abscess of right breast and left arm following pregnancy.	Lumbar region		Abscess in left lumbar region.	Incised and drained; left side of lumbar spine denuded.	Recovery.	
3	Suttell, *Ibid.* p. 55 (Vincent).	4	M	A fall.	Right transverse process of second lumbar.		Abscess in right lumbar region.	Drained.	Recovered.	Discharged in a plaster jacket.
4	West, Transactions London Pathological Society, Vol. 38, p. 269.	48	M		Body of fourth cervical and disks.	Paralysis of left arm; later legs and right arm.	Onset with paralysis in left arm. (Probably a plexus lesion.)	No operation (a seton).	Died.	Abscess beneath longus colli on right side.
5	Duprat, Thése de Bordeaux, p. 25, 1901.	13	M		First lumbar.		Purulent collections on both sides of first lumbar; second, focus in tibia.	Drained.	Recovered.	Admitted as typhoid fever. Sequestra eliminated, no spinal curvature.
6	Duprat, *Ibid.*	9	F		Fourth dorsal.		A general osteomyelitis. Developed pain and tenderness at fourth dorsal.	Incised.	Recovered.	No sequestra.
7	Warren, *Boston Medical and Surgical Journal*, Vol. 148, p. 503.	23	M		Second and third cervical.	No nervous symptoms.	Torticollis, pain, and tenderness.	Two deep incisions on either side of median line.	Recovered.	
8	Ferrio, Ref. *La Presse Médicale*, January 6, 1900.	19	M		Bodies of seventh cervical and first dorsal.	Rapid onset with paraplegia and anæsthesia ascending to arms.	Painful deglutition; purulent cystitis; trophic disturbances in legs.	None.	Death.	Dura mater is intact. Cord is softened in dorsal lumbar, and lower cervical regions. Infection probably vascular myelitis.
9	Wiesinger, *Deutsche medizinische Wochenschrift*, p. 38, 1901.	21	M		Third and fourth cervical.	Increasing weakness and paræsthesia of legs and arms.	At operation no pus discovered. Eight days later purulent discharge from wound.	Operation: spines of third cervical removed.	Recovered.	Motor power and reflexes returned in legs. Discharged cured.
10	M. Schmidt, *Deutsche Zeitschrift für Chirurgie*, Vol. 58, p. 566.	13	F	Trauma causing focus in right tibia.	Lower cervical.	Sudden paralysis of right arm. Later paresis of left arm and legs. Incontinence.	Development of focus in left hip.	Operation; evacuation of pus in cervical region and spinal canal.	Recovered.	Complete recovery. Paralysis of right arm (Erb type) persisted for three months.
11	Eichel, *Münchener medizinische Wochenschrift*, Vol. 47, p. 1201, 1900.	27	M		Posterior arch of atlas.	No nervous symptoms.	Swelling developed on right side of neck post.	Evacuation of abscess and sequestra.	Recovered.	
12	Wiesinger, *Deutsche medizinische Wochenschrift*, p. 362, 1902.	24	F		Third and fourth dorsal spines and transverse processes.	Slight paresis of legs. Knee-jerk absent.	Evacuation of abscess cavity, including an extradural abscess.	Operation.	Recovered.	Staphylococcus pyogenes aureus demonstrated in blood. Sequestra discharged.
13	Lippmann et Lecéne, *Gas. Hebd. de Med.*, 1901.	16	M	A fall.	Spine and laminæ of third lumbar.	No symptoms. Autopsy: an extradural abscess.	Lumbar abscess incised and drained.	Operation.	Died.	Staphylococcus pyogenes aureus in pure culture; metastatic abscesses in kidneys.
14	Heyking, *St. Petersburgher medizinische Wochenschrift*, p. 60, 1902.	14	M		Sacrum.		Pelvic abscess on rectal examination.	Pus drained through sciatic notch.	Recovered.	Two months later humerus involved; operated; cured.
15	Pilzer, *St. Petersburgher medizinische Wochenschrift*, p. 362, 1902.	12	F		Sacrum.		Whole sacrum infiltrated with pus and removed in toto.	Operation.	Died.	Pus and blood contained staphylococci and streptococci.
16	Weber, *Deutsche medizinische Wochenschrift*, p. 333. 1903.	15	M		Second lumbar.	Extradural collection of pus; no cord symptoms.	Lumbar abscess.	Evacuation of abscess; spines of first, second, and third lumbar removed.	Cured.	Staphylococcus pyogenes aureus. Two weeks after first operation gluteal abscess developed; was drained.
17	Schönwerth, *Münchener medizinische Wochenschrift*, s. 269, 1902.	27	M	Furuncle on right wrist.	First lumbar.	Extradural accumulation of pus, no symptoms.	Pain and tumor in lumbosacral region.	Operation for a perinephritic abscess.	Death.	Diagnosed as a perinephritic abscess.
18	Grisel, *Revue D'Orthopædie*. Nos. 5 and 6, 1903.	9	F		Laminæ of twelfth dorsal and first lumbar.	No cord symptoms.	Lumbosacral tumor on right side.	Incision and drainage.	Recovered.	Streptococcus in pure culture; vertebral deformity; no sequestra.
19	*Ibid*	9	M	Furuncle on left thigh.	Transverse processes of third and fourth lumbar.	No cord symptoms.	Lumbar abscess.	Incised and drained.	Recovered.	No spinal curvature. No sequestra micrococcus Tetragenus.
20	J. R. Hunt.	18	M	A fall.	Sacrum and arch of fifth lumbar.	Compression of cauda equina by extradural abscess.	Painful swelling in left lumbosacral region.	Evacuation of abscess and lamina of fifth lumbar removed.	Recovered.	Atrophy of muscles with R. D. in both legs and left thigh. Skin covered. Slight lateral curvature of spine. Staphylococcus pyogenes aureus.
21	J. R. Hunt.	5	M		Spines and laminæ of sixth and seventh dorsal.	Compression of cord with motor and sensory paralysis.	Painful swelling in upper dorsal region. Staphylococcus pyogenes aureus.	Evacuation of abscess. Spine and laminæ of sixth dorsal removed.	Recovered.	Perfect mobility of spine. Spastic paraparesis still persisting with incontinence of urine.

102 EAST FIFTY-SEVENTH STREET.

OBSERVATIONS UPON THE PROTECTIVE VALUE OF THE INSPECTION OF PUBLIC WOMEN AS CARRIED OUT IN PARIS.*

By FREDERIC GRIFFITH
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FRANCE, which means Paris, sets the fashion in things venereal as in dress. It is probably true that a man visiting Paris will be more likely to seek and fall in temptation of irregular sexual diversions than in any other place. The freedom of speech and action tolerant to the French character, added to the cultivated desire to please, having in view the question of personal gain, is responsible for this, and makes the French woman when she essays the rôle queen of courtezans. It is impossible to tell of the exact number of women that here depend partly or solely upon sexual intercourse as a means of livelihood. The statement that 15,000 females are actively engaged in sexual occupations may be accepted, and as each woman cohabits with from three to ten men in a evening, it is plain that the prostitute of Paris is by no means an idle individual.

As a natural sequence of such promiscuous venery, disease results, and the French capital may be set down as a distributing center of venereal diseases for the rest of the world. The government, alive to this situation, has for centuries tried to lessen the disease-bearing properties of its public women, and that a real interest has been taken in this peculiar people, who are, indeed, no mean factor in the commercial welfare of the country, is shown by the city records. A complete department has been established under the direct supervision of the Prefecture of Police with a chief, a corps of inspectors both police and medical, with their assistants. One-half of a city prison, the Maison St. Lazare, has been set aside as a detention hospital, having over 200 beds, and at the Hotel de Ville, or central municipal government buildings, inspection offices and a dispensary is maintained. Here every actively engaged prostitute in Paris is supposed to come for examination as to the state of her bodily health, having, however, particular attention paid to her sexual apparatus. Every interest of the women is protected by the government supervisors. With the probable thought in mind of future identification by visitors, the lay heads of the departments discourage investigation. As an illustration of the secrecy accorded, I found that a number of the cabmen of the city were unable to drive me to the Maison St. Lazare, neither were they aware of the nature of the work done at that institution. These same individuals, however, would have considered themselves as being worthy of the contempt of their fellows if they could not have driven me in the most direct course to any one of the licensed houses of prostitution now flourishing throughout Paris, the cab drivers throughout the city being the readiest guides to these places.

For a better understanding of the system of municipal control of the city's prostitutes, I will trace the official career of a girl whose morals having become corrupted, becomes careless of her virtue, and bids openly for patronage. She may be arrested by one of the sanitary police for soliciting after midnight upon the streets, or she may excite the attention of one of the regular police officials and be taken for acts of lewdness at any time either upon the streets or about the cafés. For ordinary infringements the girl is taken before an inspector of police, where her age, personal description, and nature of her misdeed is noted; she is then allowed to go. Arrested a second time for a similar offense, she is again quickly freed after official note of her case has been added to the first arraignment. A third arrest brands the offending female as a professional prostitute. Her name is now listed upon the department record at the Hotel de Ville. A small photograph of the girl is taken and glued to a card upon which is written the individual's name, address and date of registration. The card is given to the girl, she is directed to return to the dispensary for medical examination at intervals of fifteen days under penalty of imprisonment of from two to ten days at the Maison St. Lazare, and again freed. Upon the back of the card the dates of her return visits for examination are set down. The card thus becomes the passport for the freedom of the streets of the professional street-walker, or house inmate if she elects to connect herself with one of the ninety odd houses which are to-day officially recognized in the city of Paris. Upon demand of the police or a prospective recipient of her favors, the girl is bound to produce her card for inspection. Failure to produce the registration card or any irregularity in the sequence of the dates subjects the owner to arrest and nominal imprisonment at the detention hospital. In passing it must be observed that, while accepted as a public charge, and with association close to the criminal class, the prostitute is protected within the law as much as are other classes of individuals. The system of espionage is, on the whole, not irksome, and identification not so minute as that of the Bertillon method for avowed criminals.

The life of the solitary prostitute is more in accord with a healthy existence than when herded in a company of from five to thirty-five others in the public house. Besides the competition in immorality, necessarily rife amongst them to attract the attention of visitors, the living of these girls is of the poorest imaginable; as the French kitchen must often not be too closely scrutinized, so here the quarters of the inmates of the cheaper resorts compare with the packing-box retreats of "hop" smokers in a Mott Street Chinaman's joint. Drinking, especially of a light kind of beer known amongst them as "bock" is generally encouraged, to fatten them I suppose, for the tendency of the young French prostitute is to grow scrawny, as it is toward early middle life to become gross.

The French inspection system is to a greater or less extent the pattern for St. Petersburg, Berlin, and Vienna, and there is a growing tendency for cities in our country to look toward it as being probably the best solution of our own municipal social questions. A full exposition therefore of the methods, in so far as they relate to the control of the disease-bearing capabilities of the prostitutes which are carried out there should be of interest. According to Dr. Levy-Bing, chief of staff at the St. Lazare, there are in the neighborhood of 8,000 registered women, all of whom, unless otherwise accounted for by the house visiting inspectors, are assembled and examined in relays upon inspection days. The rapidity with which these examinations are made cannot fail to excite the wonderment of the visitor. Four hundred women having been examined in the space of one hour and a half previous to one of my visits to the inspection office. The feat, for it is no less than one, is accomplished by the aid of two ordinary wooden gynecological examination tables placed facing the light before a large window. The women are ranged in a continuous line of five or six beside the tables. A dozen of the old-fashioned, large-sized, tubular speculæ are at hand, and as fast as used they are dipped in a boiling water-kettle before being returned to the sterilizing solution beside the medical inspector. As the woman settles herself upon the table she receives an observant glance from the doctor. The

*Presented at the Academy, Obstetrics and Gynecology Section, January 28, 1904, and by invitation before the Physicians' Club of Newark, N. J.

speculum is rapidly inserted, exposing the uterine os, and quicker than it takes to tell it, if nothing pathological has been discovered, the woman's place is taken by the next comer. It cannot be gainsayed that a highly developed power of correct snapshot diagnoses can be made by these examiners, as anyone experienced in ordinary surgical or genitourinary dispensary work in a large city hospital must admit.

If the female is discovered to have a rash, or mucous patches in or about the genitalia, she is placed to one side for final disposition after examination of the rest has been completed. She may then be committed to the detention hospital, or if in the judgment of the medical inspector she is not a dangerous disease disseminator she may be allowed to continue her calling while undergoing treatment at the municipal dispensary. As practically all of the prostitutes have perforce chronic vaginitis some allowance is made for this by the examiner. For this reason, and owing to the fact that the French women are expert syringers, gonorrhœal discharge is seldom seen. The haunts of these people being comparatively near to the dispensary, an average case of gonorrhœa can be successfully masked upon inspection day by this means. For, in spite of the manifest benefit to any of them by a stay in St. Lazare, the average French prostitute prefers her life of freedom of the streets to that of enforced confinement at the hospital, and will therefore shrewdly seek to deceive the examiner in every way possible. Microscopical examinations for the detection of the gonococcus are not made, for the reason that practically all of the women are endemic breeders of the germ, and if any concerted attempt at eradication should be made, the hospital facilities would become at that same moment inadequate for the purposes for which it is intended. Syphilis in its grosser manifestations, chancroid, or simple ulcer, with its complications, are therefore the chief conditions sought.

It is especially the older syphilitics who, becoming hardened to their condition, seek by subterfuge to avoid the enforced confinement of months, or even one or two years' time, during which some of them are forced to abide under the restraint of the hospital. To secure a continued freedom I saw a number of females, who by their characteristics and demeanor of action, proved themselves to be undoubtedly professional prostitutes, obtaining treatment in the great skin clinics at the Hospital St. Louis, thus, by medication administered with little or no importance placed upon the source or interdiction of continuance of their calling aside from the usual admonitions they are enabled to continue the life, although certainly not free from risk to their sexual partners.

To show the chance and reality of existence of undetected syphilitic lesions, owing probably to the length of time in the interval between inspections in one public house, harboring some fourteen girls, aging between eighteen and twenty-five years, I discovered two cases showing secondary syphilitic eruptions. In another nearby house, though, in justice to the system, it must be said that this latter place is not regularly listed as a public house upon the city records, although regularly and for years I was told it has continued as such undisturbed, I found a girl of possibly sixteen, though she glibly claimed twenty-one years of life, who presented a well-marked mucous patch at the corner of her mouth. That she, as well as those who had her in charge, thoroughly understood the nature of the condition was shown by the fact that, upon being approached, she momentarily excused herself to return again with the lesion cleverly concealed by the aid of cosmetics.

For the Maison St. Lazare nothing but praise can be said. The medical gentlemen in charge there while keenly alive to the limitations of the value of their work as preventive of venereal disease dissemination to the male sex at the French capital must be rightly proud of the immediate results upon their patients. So marked is the improvement upon the girls that after a few weeks' stay with the quiet, absence of drinking and carousal with enforced regulation of hygiene and proper medication, they become almost unrecognizable in the beneficial physical change which takes place. It becomes apparent to one who has studied the question that there is a distinct advantage to be gained by French prostitutes who continue under the control of the system which has been described. The woman's life is assuredly lengthened many many years beyond the expectation of harlots not subject to such form of municipal control. The woman's existence being considered and her vocation being recognized as legal by the city's authorities, she is not subjected to the same degree of blackmailing with all of its demoralizing effect upon subordinate officials of the city's government as when not so legalized.

The question, however, is the protection and husbanding, not of the female primarily, but of her transient consort. Viewed in this light, the value of the system to the woman in enabling her to continue her career beyond the years of ordinary expectation must be set side by side with the influence which registration carries in the community where it is in force. Again quoting Dr. Levy-Bing who stated to me that there were probably from 16,000 to 24,000 unregistered prostitutes within the city limits of Paris. The influence of the system upon the male population is that of increased security of freedom from attack of disease. Indeed it is considered to be rather a breach of etiquette among the *demi-monde* for a Frenchman to ask his paramour of the occasion to produce her card. And that there is a spirit abroad of afforded guarantee existing against venereal disease in Paris, I have but to cite patients of mine, men about town who have spoken longingly of a desire for a similar condition to be put in effect in American cities.

49 East Sixty-fourth Street.

SOME POINTS ON THE DIAGNOSIS AND DRUG TREATMENT OF PNEUMONIA IN INFANTS AND YOUNG CHILDREN.*

By LOUIS FISCHER M.D.,
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Lobar pneumonia is an acute infectious disease caused by the invasion of the pneumococcus. It is transmittable, therefore our first duty is to isolate. A case of pneumonia should be isolated as strictly as a case of diphtheria. All healthy persons should be excluded, be they family or friends, and it is best to let them know that this disease can be disseminated.

The Diagnosis is frequently a very difficult matter in very young children. The temperature alone is useless as a guide. The ease with which infants and very young children raise a temperature is very well known. For example, a slight gastric derangement will send the temperature to 103°, 104°, 105°. The same holds good when evidences of intestinal autointoxication exist. What is the important diagnostic point? It is to rely upon the disturbance of the normal pulse and respiration ratio. A child in good health has one respiration

*Discussion before the East Side Physicians' Association, March, 1904.

to every four pulse beats. Hence there should be about thirty respirations to every one hundred and twenty pulse beats. When pulmonary disturbance is present this normal ratio of one to four is usually about one to three. There may be fifty to sixty respirations to one hundred and fifty or one hundred and eighty pulse beats. There are several varieties of obscure pneumonia in which the condition is latent, such, for example, is central pneumonia. In these forms of latent pneumonia the pathological process begins in the center of the lung and extends to the periphery. In this form of central pneumonia the physical signs heard on auscultation, percussion, and palpation are useless as a diagnostic aid. Bronchial breathing or even subcrepitant or crepitant râles, cannot be made out until the disease extends from the center to the periphery, a question of several days in some instances.

Infants and very young children rarely cough, and never expectorate the characteristic rusty sputum so common in lobar pneumonia in adults. Therefore this symptom need not be looked for as a diagnostic aid.

Treatment.—Place the child in a room having fresh air and admit all the sunlight possible. The temperature of the room should be between 68° and 72°, never warmer, rather cooler.

Fever Treatment.—There are three methods of eliminating toxins from the body: First, through the bowel; second, through the kidneys, and third, through the skin. In every febrile process there is a slight torpidity of the secretions, hence it is wise to stimulate the emunctories of the body. One drop of tincture of aconite added to one-half teaspoonful of spiritus Mindereri can be given three or four times at intervals of one hour until diaphoresis is produced. A hot mustard foot bath given at the same time will aid the aconite in reducing the temperature. If the fever persists in spite of the aconite, sponging the surface with alcohol and tepid water every half hour will be very grateful and aid in reducing the fever. If we are dealing with a temperature of 105° F. or more, the infant should be watched very closely for twitching or spasm. The temperature at this stage should be reduced by the diaphoretic drugs above mentioned, and instead of cold sponging a cold pack consisting of a sheet wrung out in cold water, should be wrapped around the chest, and should be repeated every half hour until the temperature goes below 103° F. The effect of the cold pack is not only seen in the reduction of the temperature, but some children will fall into a restful sleep. I have always noticed a soothing effect on the nervous system when cool packs, at a temperature of 70° to 80° F., were applied.

Attention to the bowels.—A good dose of castor oil to relieve the intestinal tract is advisable. A very pleasant laxative and one that I use in preference to castor oil, is citrate of magnesia. As citrate of magnesia contains citric acid it not only has a laxative effect, but a diuretic effect as well. It also quenches thirst. I frequently advise the use of acidulated water, made by adding five drops or more of diluted phosphoric or diluted hydrochloric acid to a tumblerful of sweetened water. The same to be given *ad libitum*.

Nutrition.—This is the most important part of the treatment. Unless the strength is supported by proper feeding we cannot expect to have resolution take place and see the baby recover.

The interval of feeding should be prolonged and the food given well diluted. An infant that received eight ounces of milk before it was taken sick should receive during a pneumonia four ounces of milk and four ounces of water. If this is not well borne, milk should be excluded and whey given in its place. Soup or broth or strained gruel may be given. Water should be given freely.

No greater mistake is made than constantly to disturb a child suffering with pneumonia. To give medicine every hour night and day, and keep the child awake, is to retard convalescence. While food may be necessary to stimulate subnormal vitality it should be given with due regard to an infant's requirements, and if the heart's action is good it is poor judgment to awaken a sick child to give food or medicine.

An interesting case, seen recently by me in consultation, was that of a child who vomited during the course of lobar pneumonia. The child was either fed or wakened for medicine every fifteen minutes night and day. Besides this it received a "cough mixture" that contained syrup, which is one of the worst things to pour into a feverish stomach. I stopped the medicine, ordered the infant absolute quiet for at least three hours at a time. The vomiting ceased and the child finally recovered. The child slept quietly after receiving its food or medicine until it was again awakened. I make it a rule not to disturb an infant oftener than every two hours by day, and rarely oftener than every four hours by night. I do not mean to be understood to advocate neglect, especially if nervous symptoms, such as twitching or spasms, are seen during hyperexia, but in an ordinary case of pneumonia in which no severe fever exists rest is as important as fresh air and food.

65 East Ninetieth Street.

PROPHYLAXIS OF PUERPERAL SEPSIS.*

By GEORGE L. BRODHEAD, M.D.,
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It would seem at the present time, when in our medical schools, and in the medical press, so much emphasis is being laid on the necessity of strict surgical cleanliness in the management of labor, that it should be unnecessary to call attention to the still ever-present danger of puerperal sepsis.

That puerperal sepsis is still a very common disease no one familiar with the existing conditions will question. In hospital practice all observers agree that in the last few years both morbidity and mortality have markedly decreased; but in private practice it is the belief of those most competent to judge, there has been little,if any, diminution in mortality, and no improvement in the statistics of morbidity. Moreover, it is a fact, attested by many authorities, that the statistics of mortality in private practice are extremely unreliable because of the fact that death from sepsis is frequently ascribed to causes other than septic infection. Williams, in his recent textbook of obstetrics, states that it is doubtful whether results are materially better to-day than they were before the introduction of antiseptic methods; and that in England, outside of the lying-in hospitals, sepsis claimed as many, or perhaps more, victims than it did twenty or forty years ago. The same author (Williams) showed conclusively that the vaginal secretion of healthy women is absolutely free from pyogenic cocci, but that bacteria are present upon the hymen and labia minora in most cases. If, then, the vagina is free from pathological bacteria, the cause of sepsis must necessarily be the introduction of septic material from without. We cannot doubt that, as a rule, the germs are carried in on the examining finger,

*Paper read before the Hospital Graduates' Club, March 24, 1904.

and thus we find that the internal or vaginal examination during labor is directly responsible not only for a large number of deaths, but for a vast amount of suffering and years of invalidism as well. With all possible precautions, there is always a small element of risk in making a vaginal examination in labor, and the question naturally arises: "Is it necessary or advisable to make internal examinations during labor?"

In answer to this let us consider for a moment the objects to be attained in making such an examination. We desire to inform ourselves as to (1) the presentation and engagement; (2) the position; (3) the degree of dilation; and (4) the possible presence of a prolapsed cord. The diagnosis of presentation, engagement, and position can almost invariably be made out by careful external examination; and, therefore, it is unnecessary in the majority of cases to use vaginal touch. The amount of information which can be obtained from a painstaking, thorough abdominal examination is really wonderful. I believe that in the teaching of ante-partum and intrapartum diagnosis by external manipulation lies one of our greatest safeguards against puerperal infection. I am convinced that many lives are lost each year from internal examinations which were absolutely unnecessary; and that, taken as a whole, internal examinations are productive of far more harm than good. Labor is a physiological process, and interference of any kind is in many cases wholly unwarranted. As to the amount of dilation present, we should be guided, I think, largely by the character of the pains, their frequency, the duration of labor, and the parity of the patient; and dilation must certainly be taken into account if the patient is to be left without attendance for a number of hours. But given the case of a primipara, for example, in which we know by external examination that the presentation and position are normal, when the pains have been going on for a short time only, and the membranes are intact, the fetal heart being strong and regular, it is unnecessary to examine for dilation—for unless one is to be prevented from seeing the patient for many hours there will usually be ample time in which to return. In multiparæ, when the pains are strong and frequent, it may be necessary to examine; for, possibly, it will be unsafe to leave the house. If however, the physician is to remain with the patient, or is ready at any time to respond to the call, internal examination to determine the amount of dilation is unnecessary. Prolapsed cord is a rare occurrence; and in many cases the complication cannot occur, for the reason that the head of the child is firmly engaged in the pelvic brim. If, on the other hand, the head is freely movable above the brim, internal examination should be made immediately after rupture of the membranes; for, under these circumstances, the cord may have prolapsed. Enough has been said, I think, to show that internal examinations are undoubtedly made far more often than they should be; and in my own practice I have demonstrated over and over again that labor can be conducted successfully with no vaginal examination whatever. Even when labor is prolonged, the number of examinations can be limited to but very few. In tenement practice, the rule of infrequent examinations (if indeed any are necessary), is especially applicable, for obvious reasons. To emphasize the point which I desire particularly to bring out, let me make an earnest plea for careful ante-partum examination of our patients, to the end that at the time of labor internal examinations will be unnecessary, or at least they will be made only in the presence of strong indications.

If internal examination is necessary, the best method of sterilization of the hands and vulva is that advocated by Stewart of New York in the MEDICAL RECORD of January 30, 1904. In my practice I use for the vulva a solution consisting of chloride of lime, one teaspoonful, and acetic acid (U. S. P.), two teaspoonfuls, to the quart. For the hands, after the cleansing with soap, water, and powdered pumice stone, I use chloride of lime, two teaspoonfuls; acetic acid, four teaspoonfuls, and water to make one quart. The hands are immersed for five minutes in this solution, they are then rinsed off in a one-per-cent. lysol solution, after which rubber gloves are worn. By use of the method above mentioned, the danger of infection is exceedingly small. For further details of the method I would refer to Dr. Stewart's paper.

110 WEST FIFTY-SEVENTH STREET.

PRELIMINARY NOTES ON TRANSILLUMINATION OF THE STOMACH WITH FLUORESCEIN.*

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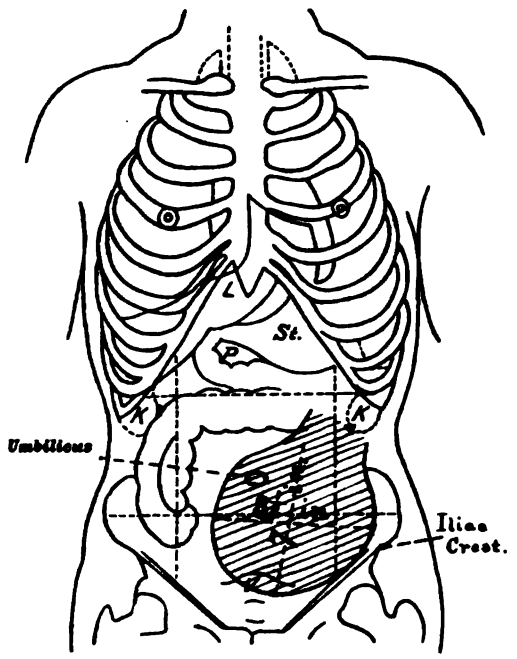
TRANSILLUMINATION of the stomach as a diagnostic method has been practised for some years since its inauguration by Einhorn.

Transillumination of this organ, employing a solution of fluorescein as a translucent medium has been done, so far as I am informed, only since October, 1903, by R. Coleman Kemp of New York. Before using this drug in the human subject it was most exhaustively experimented with upon the lower animals by injection, both subcutaneous and intravascular, and proven to be absolutely harmless. A solution of the strength of 10 grs. to the ounce was pronounced non-irritant in the stomach. The description of the drug is brief. It is a naphthalin product, is a red powder, gives a greenish yellow fluorescence, and is phthalic anhydrid, 5 parts resorcin, 7 parts heated to 200°. The solution we use at a distance shows a very beautiful green ring $\frac{1}{16}$ to $\frac{1}{8}$-inch thick at its thickest. For convenience, I have the powder made into compressed tablets. Used in above ¼-gr. doses it loses its illuminating properties to some extent, but if 1 gr. or more be used it becomes dense and like an aniline dye, such as congo red. Acidity lessens its power, as determined by Kemp, who tried it in varying strengths of HCl in the stomach. The previous administration of quinine increases translucency, as also does the co-administration of glycerin. For much of the above I am most gratefully indebted to Dr. Kemp.

As is well known, there are many cases in which we would like to determine beyond any question just where the stomach lies and also whether it is enlarged or dilated (there is, to my mind, a great difference between megalogastria and dilatation). In the typical hypochondriac who is below weight, with thin abdominal walls, neurasthenia in every line, etc., we can get a fair outline of the lower curvature at least, together with epigastric impulse over a large area (I recently examined one in which the phenomenon could be *seen* for six inches several yards away from the patient), a history of mucous colitis and so on. In this class the lamp with simi

*Read with demonstration before the Kings County Medical Society, Section on General Medicine, March 1904.

water in the stomach will be satisfactory, but there are many others decidedly atypical with regard to muscular development in which all the usual methods fail to tell us positively the exact location and size of the stomach. Could we place a stopcock at the pylorus, filling the organ with either water or air might help us out, but we cannot. The splashing sound is not sufficiently precise. In the method we have one free from objection either to patient or the profession, accurate, inexpensive, easy of application for both patient and physician, and, what is more important, one which can be practised anywhere. The lamp which I use is one which I had made after my own ideas some four or five years ago. It consists of a small capsule which has the light in one end, and is connected to the battery by fine copper wires enclosed in a very fine rubber tube, little larger than the ordinary match. An illustration of this lamp was published in the *New York Medical Journal* at the time it was made. Its very great advantage



is that the patient does not need to become accustomed to the tube, the case to be demonstrated being one that bears that instrument badly. I believe it better in most instances to allow the individual to introduce the light himself as, unlike the stomach tube, the lamp will go down very easily, and after that there seems to be no irritation from the little cable, and no nausea. I might also remark that it is better to introduce the lamp before the solution, so that should there by any chance be any trouble, the fluorescein will not be vomited. Besides, there is positively less irritability with the stomach entirely empty. This may seem a small matter, but experience will prove its value. The best time to examine is at night, the patient having fasted since noon. The heat thrown out by the light is minimum and of no account, as the lamp is, of course, immersed in the solution. Method: Give the patient 10 or more grs. of quinine during the day of examination or the day previous. Introduce the lamp. Have the patient drink a glass of water into which has been dissolved 30 to 40 grs. of sodium bicarbonate, to render the gastric contents alkaline. Allow another glass of water to be taken, into which has been placed 1/8-gr. of fluorescein, 1 drachm of glycerin, and 20 or more grs. of sodium bicarbonate. The abdomen being bared, conduct the patient into the dark room or, if at night, simply turn out the lights.

The patient was referred to me last October, having suffered from two severe hemorrhages and shock. Ulcer was diagnosed and a hurry call brought the patient to the Bushwick Central Hospital, where, after three weeks' treatment, she recovered without surgical interference. Since leaving the institution there has been marked general improvement, together with some gain in flesh. The accompanying illustration shows correctly what I found as marked upon the abdomen with the light *in situ*, and measured after leaving the dark room. Diagnosis, megalogastria and gastroptosis. It will be seen that the stomach lies upon the left iliac crest and also extends to the right to beyond the umbilicus. The navel seems a very unfixed point on the line between the ensiform and the symphysis.

I have successfully examined persons of all weights up to 175 pounds, and with all thicknesses of abdominal wall. This could be done by no other method.

Growths lying upon the anterior gastric wall, or anything lying between the stomach territory and the observer, will show as a dark spot, as in one case examined a plugged transverse colon stood out beautifully.

Since presenting the above I had opportunity of examining a negress weighing 150 pounds, whose abdomen was heavy, in whom I had had administered quinine in minute doses for forty-eight hours previously. I was very anxious to compare negro and white. I obtained a very good picture; not as I had hoped, that perhaps the pigmentation might to a minute degree enhance the translucent value of the fluorescein, but yet a shadow which well paid me, and permitted seeing and measuring beyond any doubt exactly where the stomach lay. The exposure took place before the staff of the Bushwick Hospital.

113 HANCOCK STREET, BROOKLYN.

SUPPLEMENTARY NOTE ON A CASE OF TYPHOID SPINE.

BY LEONARD W. ELY, M.D.,
ORTHOPEDIC SURGEON TO THE ROOSEVELT HOSPITAL DISPENSARY.

IN the MEDICAL RECORD of December 20, 1902, I reported a case of typhoid spine. At that time I said: "The patient now goes about wearing his brace. He can walk a moderate distance and attend to the lighter duties of his practice." A few further notes may be of interest.

Soon after the report was made the patient undertook some active work and began to leave off his brace about the house during the evening. The pain in his back became worse and the lateral curvature more pronounced, and on January 1, 1903, he applied to Dr. Gibney for treatment. The treatment consisted of the thermocautery two or three times weekly, and of the brace, which was now worn during the entire twenty-four hours, and it was continued for about six weeks. At the end of that time the cautery was stopped, and after a month or two longer, as the pain and discomfort decreased, the brace was left off—at first during the night, then gradually during the day, until it was finally discarded about May 1. After that date, with the exception of some weakness, the only symptom remaining consisted of occasional attacks of cramp-like pain occurring at increasing intervals, and ceasing altogether after two or three months,

leaving the spine finally practically normal. These cramp-like attacks of pain might be described as a "catch," and were followed by a return of the lateral curvature to the side opposite the pain, this lateral curvature gradually wearing away and reappearing with the next attack.

The whole duration of the disease was about eighteen months, which agrees well with the accounts of the cases heretofore published.

An examination by Dr. Gibney, several months ago, showed that the only visible remnant of the affection was a slight lateral curvature.

451 West End Avenue.

Statistics of the Use of Diphtheria Antitoxin.—The Bulletin of the Chicago Health Department says that between October 5, 1895—date of first case treated—and December 31, 1903, the antitoxin administrators of the department treated 7,435 cases of bacterially-verified diphtheria, of which number 479 died—a mortality rate of 6.44 per cent. The average mortality without antitoxin still remains about 35 per cent. That the value of antitoxin depends upon its early administration is shown by the following: Of the total 7,435 cases, 586 were treated on the first day of the disease, with 2 deaths—mortality rate, 0.34 per cent. Of 1,913 treated on the second day, 28 died—mortality rate, 1.46 per cent. Of 2,624 treated on the third day, 85 died—mortality rate, 3.24 per cent. Of 1,374 treated on the fourth day, 148 died—mortality rate, 10.8 per cent. Of 936 first treated later than the fourth day, 216 died—mortality rate, 23.1 per cent.

The Effect of the Saline Mineral Waters on Metabolism.—Dapper, who has subjected the properties of certain saline waters to exhaustive clinical studies, comes to the conclusion that these waters have great value in modifying the formation of hydrochloric acid in gastric disorders. In many cases of catarrhal and other conditions a pronounced and permanent increase in hydrochloric acid formation is produced. In disorders associated with hyperacidity, especially in nervous dyspepsia, the judicious use of the waters is followed by a reduction of the acidity and improvement in the symptoms. The treatment does not require adherence to a rigid diet, indeed strictness in this regard is often undesirable. Especially the use of fats in considerable quantities, of raw fruit, of salad, vinegar, etc., is in many cases beneficial rather than the reverse. Large amounts of saline waters do not impair the assimilation of fats or other foods, and they may safely be administered even in the treatment of obesity. Uric acid excretion is slightly increased, so that these waters are entitled to consideration in the treatment of uric acid retention.—*Von Noorden's klinische Abhandlungen*, No. 5, 1904.

Suggested Physical Examination in Cases of Sciatica.—In an article on referred pains, mostly gouty in their origin, W. Bruce advises the following procedure in sciatica to determine whether or not the hip-joint is affected in such cases: (1) Find out if there be a limp, and in which leg. (2) Place the patient, in his usual clothes, on a firm couch, lying on his back. Flex the affected leg at the knee and then the thigh on the body; evert and invert the leg at the hip-joint; try Thomson's test by extension of the affected leg, while the other leg is fully flexed, and note the results as to extent of movement and pain in each case compared with normal conditions. (3) Expose the hips, placing the patient on his face, noting (*a*) wasting (or not) of the glutei; (*b*) if any obliteration of the folds of the nates; (*c*) any fulness over the capsule; (*d*) any heat over the same; (*e*) any tenderness on deep pressure over the capsule; (*f*) any similar tenderness, and what amount, at the sciatica notch, or in the course of the sciatica nerve. But be very careful to make sure that the patient does not mislead you, because where he has the painful feelings, there he is sure is the seat of the disease.—*Scottish Medical and Surgical Journal.*

The Formation and Resolution of Peritoneal Adhesions and Exudates.—H. J. Wetherell advances the following propositions: (1) Peritoneal adhesions and exudates are essentially conservative in their purpose and effect. (2) With certain very rare exceptions, when the source of irritation or infection which causes them is removed and the necessity for their further existence is past, they will be taken up and disposed of almost or quite completely. (3) Tympanites, through increasing the intraabdominal pressure without peristalsis, and even so-called intestinal paralysis are also means to the same conservative end. (4) We should be most reluctant to antagonize any of these conservative agencies during the acute stage of the disease by untimely operation, or the administration of food or cathartics. (5) Ordinarily, an interval operation will be required for the removal of the source of the infection in order to restore the patient to health and insure immunity from relapses, and such an operation in skilled hands is many times safer than taking the chances of leaving it alone. They are quite uniformly successful and attended with an extremely low mortality.—*Colorado Medical Journal.*

The Implantation of Carcinomatous Tissue into the Brain of Experiment Animals.—Wagner describes experiments undertaken to test the correctness of the assertions of Adamkiewicz in regard to cancroin, the remedy against carcinoma devised by the latter. One of the fundamental principles of the theory underlying the application of the remedy consists in the assumption of a directly toxic principle excreted by the carcinomatous cells, and Adamkiewicz claimed to have proved this by experimental work on rabbits. Animals that had bits of carcinomatous tissue implanted into their brains died within twenty-four hours, while others inoculated with sarcoma or other tumors survived. The author repeated these experiments with several modifications and was able to show that death following the implantation of carcinomatous material is due solely to the associated bacteria present and that sterile portions of cancerous growths are just as well borne by the tissues as other benign tumors or sarcoma. On the other hand, benign tumors when infected with bacteria obtained from the non-sterile carcinomata caused death in exactly the same way as these did. These observations demolish the experimental groundwork of Adamkiewicz's theory just as clinical observations have deprived it of all claim to therapeutic effectiveness.—*Wiener klinische Wochenschrift*, March 24, 1904.

The Pretyphoid Fever State.—Robert D. Rudolf thinks that this term is properly applied to a state of health, or rather ill health, which occasionally precedes, for perhaps some weeks, the onset of enteric fever. The patient complains of indefinite symptoms, malaise, with want of appetite, dyspepsia and disturbances of the bowels, usually in the direction of constipation, often attended by some irregular fever, and at last a regular attack of typhoid fever sets in. The author thinks that this state precedes typhoid fever sufficiently often to receive special notice. This condition of lowered state of health associated with gastrointestinal disturbances may predispose to typhoid infection by lowering the local or general resisting power of the individual. It may be due perhaps to the presence of typhoid bacilli in the intestine setting up an irritation for weeks before the true typhoid. There are many authorities for believing that irritation of the intestine predisposes to the severer intestinal infections. Sir Taylor writes, "It is a notorious fact in all our military campaigns, whether in South Africa or in the Nile Valley or in Northern India, that those soldiers, especially the young ones, who suffered from catarrhal affections of the bowels, were more rapidly attacked by enteric fever than were their comrades who were in perfect health."—*Canada Lancet.*

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DISEASE OF THE HEART DUE TO OVER-INDULGENCE IN ALCOHOLIC DRINKS.

DR. W. HALE WHITE, London, England, calls attention to the fact that there is a form of disease of the heart which has attracted very little notice in Great Britain, but which is often described in German medical writings, namely, that associated with an over-indulgence in alcoholic drinks. This condition was observed in the form of dilatation and hypertrophy of the heart and was first named "Tubingen heart." It was soon discovered, however, that the same form of heart disease occurred in Munich and in many other places in which the consumption of beer was excessive. Osler says that Strümpell, at his Erlangen clinic, told him that the condition was very common there among those who worked in breweries. Krehl, in "Nothnagel's Specielle Pathologie und Therapie," devotes a separate chapter to the heart disease which follows excessive indulgence in alcoholic drinks, and while he fully admits the existence of what he calls the "Beer heart," he is somewhat doubtful whether the same condition follows excessive drinking of wine, but with regard to its following spirit drinking he says that at any rate it must be very rare, and he himself knows of no case.

Dr. Hale White thinks that Krehl shows a commendable caution in heading this chapter "Heart Disease due to Over-Indulgence in Alcoholic Drinks," for the reason that the condition is so well known where beer is drunk, and rare where other forms of alcohol are taken to excess, this fact giving rise to a very strong doubt as to whether it is the alcohol that is the cause of the trouble. The writer states that in cirrhosis of the liver and peripheral neuritis, the consumption of alcohol is not co-extensive with the prevalence of the disease, and we do not know for certain which is the offending constituent of the alcoholic drink, so that it is much more accurate to describe the affection as due to alcoholic drinks rather than to alcohol.

Again, because the condition is so much more common among those who drink German beer than among those who drink other alcoholic drinks it has been suggested that it may be due to the carbohydrates in German beer; but Dr. White remarks that if this be so it must be some special form of carbohydrate, for carbohydrates in general do not lead to cardiac hypertrophy and dilatation; for if they did this heart trouble would be often seen among Irish peasants, who live upon potatoes. The suggestion has also been made that the large quantity of fluid drunk by these beer drinkers is the cause of the hypertrophy and dilatation, but the writer is of the opinion that the force of this view is negatived when it is considered that the body so quickly gets rid of an excess of fluid in the vessels that we have no certain proof that the total amount in the vessels at any time is much above normal; and that, further, the work of the heart is the resultant of the quantity of blood and the rate of the flow, and if the quantity be increased it may be that the rate of flow is diminished —for a rapid pulse does not necessarily mean a rapid flow. It has also been said that the salts in the beer may cause the trouble; but of this, Dr. White says there is no proof, nor does he deem it likely that Bauer's suggestion placing the cause of the hypertrophy on increased peripheral resistance due to alcohol is correct, for the pulse is always low tension. Dr. White likewise scouts the supposition that this condition is due to alcoholic vagal neuritis, a theory advanced by some writers, although not by German authors, and concludes that we do not know precisely the cause of the disease characterized by cardiac dilatation and hypertrophy, and known as "Tubingen heart," "Munich heart," or "Beer heart."

The writer then describes five cases which were under his immediate care in Gray's Hospital, and draws certain deductions from these, and from the autopsies performed upon them. The post-mortem appearances were as follows: In none of them was there any renal or valvular disease to account for the cardiac hypertrophy. In the first case this reached twenty-two ounces, and there was fatty degeneration of the heart, but this is to be ascribed to the alcohol, for the coronary arteries were perfectly healthy. The liver was extremely fatty. In the second case it might be urged that the atheroma was not sufficient to call for any particular comment from the demonstrator of morbid anatomy. To the naked eye, at any rate, there were none of the fatty, fibroid and degenerative conditions characteristic of disease of the coronary arteries, and during life the symptoms were so striking that the patient was believed to be suffering from an alcoholic heart, and after death this organ was found to weigh twenty ounces. Unfortunately no mention is made in these two cases as to whether the right side was hypertrophied as well as the left, but in the third case the heart was uniformly enlarged, and both the symptoms during life and the conditions after death showed a typical alcohol heart. The fourth case showed at the post-mortem a typical alcohol heart.

The final conclusions of Dr. White, drawn from his own cases and from literature on the subject, is that at present we know of no histological changes which are characteristic of alcoholic disease of the heart.

CONGENITAL TUBERCULOSIS.

THAT the new-born child may be the victim of tuberculosis, acquired during intrauterine existence, has been indubitably demonstrated. It is believed that the infection may be transmitted from either parent, but this must take place in the large majority of instances from the mother. While the number of cases of undoubted congenital tuberculosis on record is not large, this fact may be due in part to difficulties in demonstration and in part to want of careful and thorough examination. Placental and

fetal tuberculosis are not uncommon in cows. It has been thought that the intact syncytial layer of the chorion forms a secure barrier to the passage of microorganisms from the maternal to the fetal blood, but this may not be invariably so. A case bearing upon this subject has recently been reported by Drs. A. S. Warthin and D. M. Cowie (*Journal of Infectious Diseases*, Vol. I, No. 1), who also analyze the recorded cases. The patient was a woman, twenty-seven years old, who died in the seventh month of pregnancy, after giving birth to a dead fœtus. Port-mortem examination disclosed in the mother chronic primary tuberculosis of the kidneys, subacute miliary tuberculosis of the lungs, the liver and the spleen, tuberculous cystitis, tuberculosis of a true corpus luteum and tuberculous thrombosis of the decidua; in the fœtus the presence of tubercle-bacilli and agglutination thrombosis in the blood, without histological alterations; and in the placenta tuberculosis of the chorionic villi and tuberculous thrombi in the intervillous spaces and the chorionic vessels. From the evidence afforded by this case and from a study of the literature of the subject, the conclusion is expressed that when tubercle-bacilli (miliary tuberculosis or chronic tuberculosis) or other microorganisms gain entrance into the maternal blood during pregnancy the conditions of the circulation in the placental and uterine sinuses favor the collection of the bacteria in those situations. If the bacilli are capable of multiplication, the first step in the development of tuberculosis of the placenta appears to be thrombosis due to agglutination and coagulation of the maternal blood in the intervillous spaces. The formation of such thrombi around the multiplying bacilli may, to some degree, be effective in inhibiting or restricting their growth. The syncytium appears to possess a certain degree of resistance to tubercle-bacilli, the tuberculous thrombus in many cases being attached to an apparently normal syncytium, and occasionally the latter may be found extending over the thrombus. The question of the passage of tubercle-bacilli through an apparently normal syncytium still remains open. If the syncytial covering undergo destruction, the stroma of the chorionic villi may become involved in the tuberculous process, either directly or by extension from a tuberculous thrombus. The syncytium of the normal placenta is not intact throughout, processes of decay and growth taking place in the chorionic villi from the earliest stages of pregnancy. In the later months the placenta is a senile organ, presenting in many places an atrophic or necrotic syncytium (infarction), and through such damaged areas microorganisms may pass. The deposit of fibrin, found so frequently over damaged areas, may tend to prevent the passage of the bacteria. Tubercle-bacilli may be found free in the reticular spaces and blood-vessels of the chorionic villi without the histological changes of tuberculosis. The fetal blood may contain large numbers of tubercle-bacilli without other changes than the presence of agglutination thrombi, and inoculation demonstrates that these bacilli have retained their virulence. It may, therefore, be assumed that the fetal tissues are relatively immune to the effects of the tubercle-bacillus. Admitting such immunity, it is possible that living tubercle-bacilli may be present in the fœtus and the new-born child without exciting histological changes; and developing some time after birth, they may then give rise to characteristic tuberculous lesions. A true latent congenital tuberculosis is, therefore, both possible and probable, but additional investigation is necessary to establish the frequency of such an occurrence. The commonly accepted dicta regarding congenital tuberculosis are probably extreme. It is not at all unlikely that this condition is of much more common occurrence than is generally appreciated.

RECOVERY AFTER PROTRACTED SUPPRESSION OF URINE.

SUPPRESSION of urine of any considerable duration is so generally fatal that the report by Dr. George Heaton (*Birmingham Medical Review*, February, 1904, p. 94), of a case in which recovery ensued after such a condition had existed for more than eight days in consequence of impaction of a calculus in the ureter, would seem to be deserving of special note. The patient was a blacksmith, forty years old, who had previously had attacks of pain in the loins and the abdomen—in the last three months before coming under observation having passed by the urethra blood and twenty small red-colored calculi—and for a few weeks had noticed that his abdomen was rapidly increasing in size. He was, early one morning, awakened by severe pain in the epigastrium and across the loins, with a strong desire to pass urine, but without being able to do so. The pain moderated in a short while, and also the desire for micturition. On examination on the fifth day, the abdomen was found greatly distended, but free from tenderness. Consciousness was preserved, and the mental state was unaffected. A catheter was without difficulty introduced into the bladder, but no urine escaped. These conditions persisted for two days more, when, a diagnosis having been made of obstructive suppression of urine, probably from impacted calculi in the kidney or the ureter, the left kidney was exposed through a lumbar incision and found atrophied. The ureter could not be seen or felt, nor any swelling in its usual course. The upper portion of the wound was closed and drainage provided for from the lower angle. There was a good deal of vomiting after the operation, but no urine was passed until the ninth day, when the discharge began suddenly, eight or ten ounces being passed at a time at frequent intervals. A total of 173 ounces was voided in the first twenty-four hours, 178 in the second, 136 in the third, and 126 in the fourth. Thereafter the quantity gradually diminished, although it continued to be from fifty to eighty ounces in the day. The urine at first passed contained a little blood and a trace of albumin, the former, however, soon disappearing, but the latter persisting. Some two months later three small uric-acid calculi were passed.

The case is interesting—apart from the fact that recovery ensued after anuria of such long standing and in the sequence of an operation probably not affecting directly the obstructed organ—on account of the absence of symptoms of uræmia. The thought, therefore, suggests itself that these symptoms, when they occur, are not due alone to the suppression of urine, but that other special factors may be necessary for their development.

PROFESSOR EHRLICH'S VISIT TO AMERICA.

PROFESSOR EHRLICH'S recent visit to Baltimore for the purpose of delivering the first series of Herter lectures was the means of forging another link in the bond of interest between the physicians of Germany and the United States. The high position which this gentleman occupies as the director of the Institute for Experimental Therapeutics in Frankfort, and his well-recognized eminence as a brilliant scientific investigator, served as a means of attracting a large gathering of interested auditors to McCoy Hall, at Johns Hopkins University. The technical difficulties of the subject, and the fact that the lecturer spoke in German, necessitated the closest attention, but the hearty applause which greeted the speaker at the beginning and the end of each session, afforded substantial proof of the impression he had made. During the course of his lectures on "Immunity," he frequently alluded to the attainments of American observers in this field of research. And these were not idle compliments, such as might be bestowed by a guest on his hosts, for the impression one gained from seeing and hearing Professor Ehrlich, revealed him as a sincere and earnest man, not given to flattery or wasting time on idle compliments.

A pleasant feature occurred after the last lecture. At its conclusion Dr. Wm. H. Welch spoke of the munificence of Dr. and Mrs. Herter in affording to the American medical world this opportunity of hearing foreign authorities lecture in that particular field where they had attained their reputation. Then, turning to Professor Ehrlich, he addressed the latter in German, thanking him for his kindly efforts and labors to make these lectures a success, and assuring him of the high regard which American workers entertained for his scientific attainments. This elicited from Professor Ehrlich a reply couched in the most sincere and friendly terms, in which he alluded to the constantly increasing interest and appreciation which Germany is manifesting in American medical research. He also expressed open admiration for the zeal and earnestness which animated Americans to extend their search for knowledge beyond the confines of their own country. The example set by Dr. Herter led him to hope that ere long steps might be taken in Germany toward establishing a similar institution, so that foreign investigators could be invited, their ideas be interchanged in certain fields of endeavor with which their names had become intimately associated. In concluding, he expressed himself as not only pleased with his visit, but as bearing away with him new ideas and aspirations, that he came to instruct and was instructed, and in going away he felt that he did not want to say good-bye, but merely "*auf wiedersehen.*"

The receptions given him in Chicago, Ann Arbor, and especially in New York, have also abundantly shown how much his brilliant labors in his department have been appreciated by his *confrères* in America. The banquet tendered him by the German Medical Society of this city was one of the most cordial of its kind with which any previous medical visitor has been honored. The eloquent speeches by Adler, Jacobi, Meltzer, Dunham, Breitenfeld, and the response of Ehrlich elicited an enthusiastic appreciation seldom vouchsafed in a similar scientific assembly. Ehrlich, with a generosity that proved the true merit in himself, repeated his high estimate of research work in America and thus gracefully reciprocated similar sentiments expressed to his own country. In no surer way can science prove its broader aims and its widening cosmopolitanism.

THE PROBLEM OF THE CRIMINAL.

The criminal has always been an object of the greatest solicitude, and is more so to-day than ever before. The means taken to reform him are many and varied and differ considerably in all countries. In Great Britain the principle has been followed of deterring vicious persons from pursuing their evil path by punishing them severely when caught breaking the law. This system, however, has not been successful, but has probably more frequently had the effect of rendering those thus treated more confirmed in their vicious ways. The mode in vogue here for endeavoring to reclaim criminals has been chiefly conceived on an entirely opposite plan to that of Great Britain. Reformatories and institutions of a like nature have flourished, but men who have had experience with the prison population in the United States declare that, as a rule, treating criminals by kindness does not turn them from following the path which they have chosen or fallen into. At the annual meeting of the Association of Executive Health Officers of Ontario, held on the 9th and 10th of September, 1903, Dr. C. K. Clarke of Kingston, Medical Superintendent of Rockwood Hospital for Insane, read a paper on the care and treatment of the criminal. His classification is as follows: (1) The criminal insane; (2) Moral imbeciles; (3) Instinctive criminals; (4) Occasional criminals; (5) Habitual and professional criminals; (6) Accidental criminals.

The writer defines the moral imbecile as one who is devoid of moral qualities, and drops into criminal acts without any exhibition of viciousness or sense of responsibility. The instinctive criminal differs from the moral imbecile in that he is vicious from the outset. He is not only mentally but physically abnormal, and his depravity is absolutely beyond reach. The occasional criminal is one whose weakness is his chief characteristic. The accidental criminal, or criminal by passion, is, in the majority of instances, a normally constituted person, who, stung by some great injustice or wrong, takes the law into his own hands, and in a moment of passion commits a crime.

Dr. Clarke protests against the British system of punishing the crime alone, and is inclined to agree with Havelock Ellis, who said: "The key to the failure of the prison, and a chief clue to its reform, lies in the system of administering definite and predetermined sentences by judges, who, being ignorant of the nature of the individual before them, and therefore of the effect of the sentence upon him, and of its justice, are really incompetent to judge." The first step in the solution of the problem should be the development of the indeterminate sentence.

The writer does not believe that crime is invariably the outcome of disease. He is also of the opinion that when the tide of emigration turns to Canada, as it is now doing from Europe, more will be known concerning the criminal than is the case at present. He thinks that Canada should take warning by the experience of the United States, which has resulted in such a serious condition of things in this country, and advises that a far more rigid system of inspection should be adopted. In a few words, Dr. Clarke is strongly of the view that the alien degenerate should be excluded from Canada by all possible means.

Hemorrhagic Septicæmia in Animals in the Philippine Islands.

Several cases of the above condition have occurred in the Philippine Islands, chiefly among carabaos, and have been reported on by Drs. Wooley and Jobling of the Government Biological Laboratory.

The investigators say that in summarizing the main clinical features of these cases three fairly well differentiated types have been observed—one, intensely acute, in which the animals died within a few hours after the onset of symptoms; one less acute in which the animals suffered chiefly from weakness in the limbs, and more especially in the hind ones; during the course of this form of the disease the appetite was little or not at all affected. Lastly, one in which the course was prolonged, accompanied by great weakness and emaciation and occasionally by suppuration. These, however, are not distinctly defined types, for rarely, say the authors, does the disease affect the animals in the same way, except in the acute form, in which the course is so rapid that there is little time to observe symptoms.

The pathological types are as indefinitely defined as the clinical types. In a general way, there is a pulmonary type in which the lesions resemble those of bronchopneumonia, sometimes with abscess formation, and with or without pleuritis. Combined with these changes there may be marked changes in the interlobular tissues, with the formation of fibrous bands and with emphysema. Another type is the rapidly septicæmic form, in which there are few macroscopic changes in the organs beyond incipient parenchymatous degenerations. The third type is a glandular and suppurative one, which terminates in a general infection. In all these forms there have been more or less widespread hemorrhagic lesions combined with gelatinous œdemas. This last-named condition was especially frequent about the base of the heart, and in some cases it was the only macroscopic lesion. The clinical cases given above agree in many points with those described in the literature of the affection, but in many details they do not. Wide variation clinically and pathologically seems to be one of the most common features of the disease caused by B. plurisepticus.

From a summary of the facts given in the literature, it may be concluded that the animals attacked are of all ages, the onset is usually sudden, the course is rapid and death occurs in from 85 to 98 per cent. of the cases. In the less rapid forms of the disease the symptoms may be refusal of food, cessation of rumination, and lactation. The initial rise of temperature may be followed by a drop to normal or subnormal. The respirations may be rapid or labored, bloody material may be discharged from the nostrils, bowels, or bladder, and noncrepitant swellings may occur on face, neck, or about the back and ankles. In the outbreak, studied by Drs. Wooley and Jobling, the characters of the microbe have been as follows: Short bacilli with rounded ends, polar staining, occasionally encapsulated, and non-motile; non-liquefying, non-Gram staining, growing invisibly on potato, not producing gas, not coagulating milk or reducing litmus, producing indol and nitrites, and not forming spores. It is an organism which corresponds closely with the bacilli of hemorrhagic septicæmia of Hueppe, and especially with that member of the group called B. boviseptícus (Kruse), B. bovisepticum (Kruse-Migula), B. der buffelseuche (Oreste-Armanni), etc. The chief differences between the present bacillus and the ones described in the literature are its indol production, which is invariable, and its invisible growth on potato, which also appears constant.

There has been no evidence that the disease in the Philippine Islands is directly contagious, although many authorities considered the malady which they studied to be so. Up to the present time the investigators have been unsuccessful in obtaining any serum or protective substance that will modify or ameliorate the course of the disease in experimental animals.

The Disappearing of the Old-time General Practitioner.

In the *Albany Medical Annals* for April is a memorial notice of Dr. Rial Strickland, a country doctor of the old school. Dr. Crothers, the writer of the notice, refers to its subject in the following apt phrases: "The bustling, resolute, independent doctor who was a surgeon and obstetrician, a neurologist, a chemist, a dentist, a veterinarian, and an undertaker on occasions, and who wrote wills, said prayers, and conducted funeral services, and did many other things unknown to the modern physician, belongs to the past century. Dr. Strickland was a marked type of this class. In the sixty-four years of his professional career he filled this rôle completely, and officiated in every possible way that a physician of long ago was called upon to do."

The old-fashioned country general practitioner has been driven out by modern methods of medicine. Of course in many ways he was behind the times, and somewhat of a relic of the past, but it cannot be truly said that the old country doctor is not missed, nor that his place is in many respects adequately filled. The opening up of the country by railroads has obviated the necessity of the country general practitioner being qualified to fill the numerous positions mentioned by Dr. Crothers. Yet, at the same time, it must be confessed that the modern substitute for this medical "handy man" is deficient in many of the qualities which distinguished his sturdy predecessor. In the days gone by, the country doctor was compelled to be self-reliant, the fact that he was so situated that he was unable to call in the assistance of a medical brother acted as the spur. If he was lacking in the self-reliant spirit, the practice of medicine in the country was clearly not his vocation. Under present conditions, however, the product of the medical schools is a better finished article than was the medical graduate under the old régime.

Nevertheless, one can but allow that in his day the old country doctor did yeoman service, and filled excellently well a position of great responsibility, accentuated, be it said, with not a few hardships. The passing of the old-fashioned country doctor—while after all but a necessary phase in the evolution of medical practice—cannot be regarded without certain feelings of regret. Such must be always the case when the old order changes for the new.

Observations on Tuberculosis in Marburg.

Dr. E. Schwartzkopf has recently contributed to the *Deutsche Archiv für klinische Medizin* an account of some observations made by him on a large number of cases of tuberculosis in the Medical University Polyclinic of Marburg.

It was noted that although hereditary influence or predisposition to the disease may be a factor in its causation, it could not explain why healthy persons should contract it after living in certain houses, nor why the malady should be so frequent among children in these houses.

From observations made in the hospital the writer states that "among the women in the hospital, 61 per cent. of those affected with tuberculosis had unquestionably been exposed to infection, while among those who did not have tuberculosis, only 24 per

cent. had been exposed to infection. . . . The danger of contracting tuberculosis increases with the number of patients in the neighborhood, and with the duration of the exposure. A case of infection in childhood which becomes real lung tuberculosis in the thirteenth year is rarely cured, and the chance of recovery is less if renewed infection takes place. After the age of fourteen years, a person becomes more susceptible to the disease, and the susceptibility becomes greater up to the age of forty. . . . As for inheritance of the disease, heredity has not the least influence in the origin of tuberculosis of the lungs. That depends upon infection."

According to the deductions drawn by Dr. Schwartzkopf from his observations, the danger from tuberculous parents does not seem to lie in an innate tendency to develop the disease, but in the great exposure to infection by living with such parents, and, in that case, there is more danger from the mother than from the father, because she is more closely associated with the family. The very frequent occurrence of tuberculosis among the children of the poorer classes was shown by post-mortem examination of the patients in the hospitals. Seventeen per cent. of all such examinations for children from one to five years of age showed tuberculous changes, and 33 per cent. of those from five to fourteen years of age.

News of the Week.

Dr. Einhorn's Works Translated into Japanese.—Doctors S. Nagayo of Tokio and Masuza Tanaka have translated Dr. Max Einhorn's book on "Diseases of the Stomach" into the Japanese language, a copy of which has just arrived. The same authors are also at present at work in translating Dr. Einhorn's book on "Diseases of the Intestines." This makes the fourth language in which this book has appeared.

The Drug Dramshop Law in St. Louis.—The St. Louis Court of Appeals handed down a decision recently which will prevent physicians, who are also pharmacists, from filling their own prescriptions the principal ingredient of which is whiskey. T. S. Manning of Audrain County, Missouri, was found guilty of violating the drug dramshop law and was fined $100. He appealed. His defence was two prescriptions written by himself for Henry Rivere. He said he had a right to prescribe whiskey as a physician and to fill the prescription as a pharmacist. The Court held that the requirement of a prescription is intended as a check on the pharmacist, and that if the same man is permitted to write and fill the prescription the check is virtually removed. It admits that some hardship may be worked on a physician who writes that kind of a prescription and is compelled to have it filled at a remote drug store, but it is held that his hardship cannot be permitted to frustate the intent of the law.

Bequest to Yale University Medical School.—By the will of the late Mrs. Henry Farnam of New Haven, Conn., the Yale Medical School receives a legacy of $54,500, as an addition to its general endowment fund.

Death of Frances Power Cobbe.—Miss F. P. Cobbe, one of the most prominent opponents of vivisection, and the founder of a monthly magazine in which the antivivisectionists aired their views, has just died. Miss Cobbe was the founder, and for eighteen years the honorary secretary of the Victoria Street Society for the Protection of Animals from vivisection. Since 1898 she had been president of the British Union for the abolition of vivisection.

Infant Mortality in Belgium.—The Central Section of the Belgian Chamber has unanimously adopted the suggestion of Dr. Delbastée forbidding the insurance of the lives of infants. Dr. Delbastée proposed that no child should be insured under the age of five years, but the Chamber lowered the limit to three years.

French Congress of Alienists and Neurologists.—The fourteenth annual meeting of the French Congress of Alienists and Neurologists will be held this year at Pau from August 1 to 7. Among the questions to be discussed are motor localization in the medulla, and the measures to be taken in regard to criminal lunatics.

The International Congress of Ophthalmology.—In response to numerous requests, the Executive Committee of the International Congress of Ophthalmology at Lucerne has resolved that the proceedings shall commence on September 13 and terminate on September 17. Only those papers will be discussed which have been handed to Professor Dr. Mellinger, Bâle, before May 1.

French Congress of Colonial Hygiene.—A Congress of Colonial Hygiene is to be held in Paris from May 29 to June 6, under the presidency of Professor A. Charrin. Professor Brault of the Medical School of Algiers is vice-president, and M. Alizaky, secretary of the Islam Committee. The French Government has given facilities to officers of the Army, Navy, and Colonial Service to attend the Congress.—*British Medical Journal.*

Fight for Pure Milk.—The Superintendent of Milk Insepction of Chicago is making preparations for a thorough inspection of all insanitary dairies, and hereafter the department will enforce a rigid compliance with the requirements of the ordinances governing the sale of milk in Chicago. In former years it has been the practice to issue licenses first and inspect afterward. But a new policy is to be begun. Every one of the thirty-five hundred dairies which furnish milk to Chicago will come under the searching eye of an inspector before the end of this month. Dealers who do not come up to the sanitary requirements of the city milk ordinances will be denied licenses. This rule is to embrace all places where milk is kept for sale, or for purposes of sale to agents, whether they are actually dairies or not. To make the preventive campaign more effective, the inspectors will insist on the sterilizing of all milk bottles. This, with rigid inspection of the sources of supply and the good work of the Pasteurizing plants, should insure a high grade of milk for consumers during the coming summer.

Music for the Insane.—The General Superintendent of the Hospital for the Insane at Dunning, Ill., believes that music will act beneficially on the minds of patients, and therefore music will be tried as a curative influence on the inmates. The musical instruments, which, with a supply of games, and a moving-picture machine, were purchased out a fund of $1,100 secured by donations, are later to be distributed to the various wards of the hospital and kept in use at all times. It is believed that these entertainments will take the patients' minds off their broodings and melancholy thoughts.

Committee to Bring About Unity of Action.—Closer affiliation between the Chicago Medical Society and the Dental, Homeopathic, and Eclectic professions is the object of a Committee on Public Relations, appointed by the Chicago Medical Society. The dental profession has already been approached on the question of closer relations among the various branches of the healing art, and the

proposition has met with favor. It is essential to secure unity of action on all questions of public policy.

Land Secured for Chicago Hospital.—Mr. John A. Markley has sold to Mr. McCormick one-fourth block of land at $40,000 for the construction of a hospital for the cure of infectious diseases, and a deal is under way for purchase of the remainder of the block. It is believed the hospital buildings will cost $500,000, while aside from this there will be a heavy endowment. It is said that Dr. Ludwig Hektoen will be the medical director of the institution, which will be in affiliation with the University of Chicago.

Gift to a Negro Hospital at Wilmington.—Mr. William H. Sprunt of Wilmington, N. C., has given $10,000 to build an annex to the James Walker Memorial Hospital, to be used exclusively for the negro race.

Cincinnati Filtration Plant.—A recent decision of Supreme Court of Ohio, upholding the validity of an additional bond issue for the new water works, will result in the pushing to completion of this large plant and will also give $1,000,000 for a filtration system.

Cincinnati Children's Home.—The endowment fund of the Children's Home was yesterday increased $200 from the estate of Miss Anna A. Warder, who recently died in North Bend, O.

New Cincinnati Hospital Internes.—In the competitive examination for internes at the Cincinnati Hospital, concluded recently, the Ohio Medical College won a signal victory over the Miami Medical College by gaining seven out of the eight internes to be selected. Those successful in gaining interneships were Jessie Wyler, Joseph L. Ransohoff, C.W. Smith, George S. Mytinger, Oscar Behrman, Oscar Berghausen, A. E. Osmond, and Edward B. Reemelin; alternates, O. D. Barker, A.F. Heavenrich, C. D. Heisel, and George H. Holt. The first-named four will enter upon their duties in May, while the others must wait until November. The alternates will fill vacancies.

Five Hundred and Fifty Dollars for Degree of M.D.—Charles Conrad, 56 West Fifty-sixth street, and J. White Bushnell, 5 West One hundred and fourth street, charged by the New York County Medical Society with practising medicine without a license, were arraigned in the West Side police court on April 15 and held for trial. "Dr." Conrad is said to have been a Norwegian sailor, who, as president of the Platen Institute, has done a thriving business. According to a woman agent of the Medical Society, he offered the degree of M.D. for $550.

The Health of the Czar.—There have been for the past few weeks many reports with regard to the state of the Czar's health. According to Mr. Henry Norman, the distinguished English writer and journalist, who is now in St. Petersburg and who had a long interview with the Czar on April 13, the accounts of the Russian ruler's physical and mental breakdown are false.

Fire at the Home for Incurables in New York.—On Saturday evening, April 16, a small fire was discovered in the Home for Incurables, at Third avenue and One hundred and eighty-first street. Mrs. Elliot, the head nurse, discovered the fire in a cloak room at the rear of the building. The medical superintendent, Dr. J. C. Jones, sent in a fire alarm, but the blaze was extinguished before the engines arrived.

Life's Elements in the Sea.—The New York *Sun*, April 17, publishes the following cable dispatch: "Ten years ago the injection of salt water as a restorative to patients dying from loss of blood aroused general interest. The discovery of t quality of salt water probably suggested to French savant, M. Quinton, a long and patient search concerning salt water, the conclusion of wh throws unexpected light on and adds support to Darwinian theory of evolution. M. Quinton ma tains that sea water is the natural source from wh as Professor Haeckel believes, elementary bodies which develop into all the species, including human. The environment wherein the anatom elements of living creatures exist is neither more less than a marine one. Our tissues and cells c tinue to exert their functions in a fluid, the comp tion of which bears the closest resemblance to t of sea water.

Death Benefit Plan for New York Elevated Rail Employees Rejected by Them.—A sick and de benefit and accident insurance plan framed by Interborough Rapid Transit Company for its ployees, has been rejected by the unions of employ on the Manhattan elevated roads. The objecti to the plan were chiefly because the men themsel paid all the money into a fund and might lose they had paid in if they were discharged or resig

Fire in a Hospital.—On April 17 a fire occu in St. Vincent's Hospital, Indianapolis. One wo was killed as the result of injuries received in l ing from a window, while several of the pati have suffered severely from shock.

Marriage Legislation.—A bill has been introd in the Ohio Legislature which provides that no son who is an imbecile, insane, a drunkard, or su ing from the effects of narcotic drugs, shall be eli to marry. Will the case rest in the hands of Probate Judge? Will it be his duty to say to a ing bridegroom, Are you a drunkard? Then question comes up, What is a drunkard? That will be hard to enforce, and perhaps, in part, wi held unconstitutional.

New College President.—At a meeting of Board of Trustees of the Central University, ville, Ky., held this week, Dr. F. W. Hinitt of field, Ia., was unanimously chosen President to ceed Dr. W. C. Roberts, whose death occurred eral months ago. It is thought that Dr. Hinitt accept.

A Cincinnati Sanatorium Fails.—With liabiliti indefinitely estimated at from $4,000 to $6,000, a assets at $2,000, the Brunton Sanatorium in Avo dale last week made an assignment to Attorney J seph Cox, Jr. The Brunton institution was estal lished about two years ago for the treatment of ne vous disorders.

The Indianapolis Medical Society.—A meeti of the society was held April 5 at the Central Ho pital for the Insane. The address of the evenin was delivered by Dr. F. W. Langdon of Cincinna on "Cardiovascular and Blood States and The Relation to Nervous and Mental Diseases."

The St. Clair County (Ill.) Medical Society elect the following officers: *President*, Dr. C. H. Starke *Secretary*, Dr. B. H. Partuondo; *Treasurer*, Dr. E. Lansing. It was voted to admit any reputab graduate of medicine, provided he be not a sectari practitioner.

Bacilli Exhibit.—Bacilli and germs will form th interesting exhibit of Dr. M. Miyajima, a note Japanese scientist, at the World's Fair. The spec mens which Dr. Miyajima will exhibit were co lected by Prof. Shibasaburo Kitasato, the wel known scientist of Japan. Dr. Miyajima is a instructor in the Imperial Hygienic Institute Japan and a personal friend of Kitasato.

ortable Hospital at Bellevue.—The authorities Bellevue, in order to relieve the overcrowding ch has prevailed for some time in the wards of evue Hospital, and to test the effect of the en-air" treatment of consumptive cases, have ted on the grounds of the institution a new ilion which will be devoted solely to the use tuberculous patients. The new pavilion is able, and is sixteen feet six inches by thirty- e feet in its dimensions, having accommoda- s for twelve patients. The building is con- ted of interchangeable sections, covered four from the foundation with clapboards, and ar- ed with adjustable awnings, and with sliding lows to admit the sunlight and air. The roof ade of canvas, having adjustable ventilating s, which are operated from the floor. Over roof is placed a canvas fly, leaving a space of t eighteen inches. By this arrangement a circulation of air is readily obtained.

ospital Bequest.—It is said that the late Solomon of New York left $5,000 to the Cincinnati Jew- Hospital. Mr. Loeb started in business in Cin- ati.

arborn County (Ind.) Medical Society.— meeting of the society March 29 a resolution passed endorsing the "Pure Drug and Food Bill" pending before Congress. Dr. Johnson of Moore's read a paper on "Fracture of the Forearm."

ituary Notes.—Dr. EDWARD A. HITE, a promi- Kokomo (Ind.) physician, died Friday, after an ation for appendicitis.

r HENRY THOMPSON, one of the most distin- ed British surgeons, died on April 18. He was y-three years of age. The deceased baronet born in Framlingham, Suffolk, of poor parents, was brought up and educated by the Framling- doctor. He operated on the late Emperor oleon III, and was surgeon extraordinary to the of the Belgians, consulting surgeon to Univer- College Hospital, London, and Emeritus Profes- f Clinical Surgery. Sir Henry Thompson was uated in medicine at University College, Lon- where he won honors. He was a man of great tility. In addition to being the author of erous papers on scientific and surgical subjects, rote several novels. He was also a painter of nean ability and a deep student of astronomy. te years he has been one of the foremost advo- of cremation.

r. JOHN A. PEARSALL, a prominent homeopathist New York State, died in Saratoga on April , aged fifty-three years. He was a member of the w York State Homeopathic Medical Society and the American Institute of Homeopathy.

Dr. SAMUEL SMILES, the author of "Self Help" d other well-known works, has just died in London the age of ninety-one years. Dr. Smiles was born Haddington, Scotland, on December 23, 1812. e received his degree of M.D. and also an honorary gree of LL.D. from Edinburgh University. He on, however, gave up the practice of medicine to come the editor of the *Leeds Times*. His most mous book was "Self Help," which was translated to several languages. His later years were spent uietly in Kensington, London.

Dr. JOHN W. ADAMS of St. Louis died at his home April 14. Dr. Adams was born in Franklin ounty, Mo., in 1865. He graduated from the eaumont Hospital Medical College (St. Louis) 1887, and at the time of his death he was Pro- sor of Physical Diagnosis in the St. Louis Col- e of Physicians and Surgeons. His wife and a ughter, eleven years of age, survive him.

THE HERTER LECTURES.*

BY PROF. PAUL EHRLICH,
FRANKFORT, GERMANY.
(From Our Special Correspondent.)

LECTURE III.

CYTOTOXINS AND CYTOTOXIC IMMUNITY.

PROFESSOR EHRLICH began his third lecture of this series with a brief description of the development of our knowledge concerning bacteriolysins and cytolysins. Although the ancients were aware of the fact that one attack of a contagious disease usually protected the same individual against subsequent infection, the first really scientific conception of the subject of immunity was published to the world by Jenner in his work on cowpox and smallpox. The second period was marked by Behring's discovery of antitoxin, and the great increase of the literature during recent years showed the importance which this domain of science had attained. Bacteriolysins, agglutinins, and cytolysins were next described, and among the authors mentioned in connection with the development of this part of the subject, he alluded to the importance of the recent work of Welsh on myelotoxin.

Professor Ehrlich then took up the mode of action of amboceptors and complements and stated that the interpretation of Pfeiffer, Metchnikoff, and Bordet's demonstration of the participation of two substances in producing bacteriolysis was made clear by means of absorption experiments and experiments at low temperature. In treating of the establishment of the amboceptor theory, he showed by the aid of explanatory diagrams that the amboceptor, which was the specific product of immunization, united by means of one haptophore group with the receptor of the susceptible cell, and by means of another group with the complement. The complement had one chemical group suitable for union with the amboceptor, and another, the zymotoxic complex, which caused the injury to the cells. In opposition to this, Bordet had devised the so-called "sensitization" theory, which the speaker, however, sought to refute.

For the theory of direct union between cell-receptor, amboceptor and complement, Ehrlich submitted the following evidence: (1) The fact that there were well-established chemical analogues, such as among the anilin dyes. (2) Complements might be side-tracked by an excess of free amboceptors, as was proved in the case of bacteriolysis by Neisser and Wechsberg and also firmly established for hæmolysins by the employment of anti-amboceptors by Morgenroth. (3) The existence of products which resulted from the breaking down of amboceptors—the co-called amboceptoroids. These were no longer anchored by the cell, but still were able to divert complements. The amboceptor then acted like a demordant. The complete hæmolysin thus formed an analogue of a toxin, in which one part, the amboceptor, corresponded to the haptophore group, and the second part, the complement, to the toxophore group.

Contrary to the conception of Bordet, the complement was not a simple unit, but was made up of a great many partial complements, which become attached simultaneously to the amboceptor. Accordingly, the amboceptor contained a whole series of complementophilic groups, and not a single one, as was first supposed. The various amboceptors which could belong to one animal species, differed specifically only in those haptophore groups which were concerned in the union with the cell, while they were practically

*Delivered at the Johns Hopkins University, Baltimore, Md., April 14, 1904.

identical, or at least similar, as far as their complex complementophilic component was concerned.

Proof of the multiplicity, as opposed to the unity, of complements might be shown by the method of partial absorption, by the selective instruction of single-partial complements, by the demonstration of anti-complements which inhibited only a certain part of the complement action, and finally, by the evidence brought forward by Metchnikoff, who showed that, by the disintegration of microcytes or macrocytes, at least two complements arose, which differed in their effects, one producing demolysis and the other bacteriolysis. In this connection it might be stated that in each individual instance of lytic action it was not necessarily the whole series of complements, but only a certain fraction, which he called the dominant complements, which was concerned.

The amboceptor theory was next discussed.

Amboceptors were cell products. In the protoplasm of cells, there were, in addition to the single receptors which gave rise to antitoxin, certain more complicated receptors, which became effective in the absorption of the more complex molecules. He distinguished two varieties of these receptors. In the first place, those which, in addition to their anchoring the haptophore groups, possessed a chemical complex which might induce coagulative processes. These were usually quite resistant to heat. As the result of immunization with cells or albuminous material, receptors of this order appeared in the serum as coagulins or agglutinins. Amboceptors might also arise from receptors of the third order. These were concerned with the fixation and assimilation of the largest food-molecules. For the catabolic changes in these molecules there were needed a whole sequence of processes, which could only be carried out by a multitude of fermentative agents such as the complements. These complements would be destroyed if the affinity of the complementophilic groups were such that the complements were continually being absorbed by the receptors. A wonderfully well-adjusted mechanism controled the complement absorption, for by the union of a haptophore group with a nutrient molecule, the avidity of the complementophilic group of the receptor was so augmented as to permit its combination with a complement. This was a sort of economy which enabled the labile ferment to reach the cell at exactly the favorable moment for its utilization.

Amboceptors could be produced by immunization which were specific antibodies for a great number of albuminous materials, and the speaker expressed the hope that the study of these amboceptors would give us a much clearer view than we could now obtain, into the process of assimilation. It must be assumed that those parts of the protoplasm which were the bearers of the receptors of the second and third orders must be completely immune to the destructive action of the zymotoxic groups of the complements. Although with the means at present at our disposal it was impossible to bring forward direct proof of the partial separation of these particles of protoplasm, yet we were forced to believe that such a separation did exist, from the fact that complements were able to destroy their own cells if they were artificially brought into relationship with certain other constituents of the cell. This was easily effected with the aid of cytotoxic amboceptors, which could be readily produced for nearly all kinds of cells. Thus the erythrocytes of a sheep, which were laden with hæmolytic amboceptors, would show no signs of injury so long as they are suspended in normal salt solution, but would be dissolved at once upon addition of the very same serum which had been removed from the sheep. Thus the most important agents of the body economy were turned into deadly weapons if brought into false relation to the protoplasm.

The last topic was the pleuristic conceptions of cells. The latter were systems of a very complex construction. Each possessed a great number of separate components which, from a purely theoretical point of view, were capable of producing an equally great number of specific reaction products. It was probable that each morphologically different cell constituent—that is, protoplasm, nucleus, etc.—was capable of producing a serum specifically antagonistic to this particular structure, which serum in turn might be made up of a whole series of partial components.

In dealing with protection against autointoxication, Ehrlich took occasion to comment on the term "horror autotoxicus," first presented by himself to express the suitable means which an animal had of regulating the production by the animal of certain substances. It was well known that by the injection of foreign cellular materials into animals, cytotoxic substances were produced, which were especially directed against the material employed for the immunization. In human pathology, however, we were not concerned with the resorption of foreign bodies, but of those which originated in the organism itself, as shown where hemorrhage had taken place into cavities, where the absorption of lymphatic tumors had taken place, and in other instances.

An immune serum in the former restricted sense of absolute specificity did not, however, exist, and we could speak only of the specificity of one amboceptor type for one definite causative substance. Since the immune sera contained a great number of different fractional components, which, in turn, could occupy a correspondingly great number of receptors—furthermore, since not the whole number of receptors of any one cell were peculiar to this cell, but a variable number of them were also common to other nearly related cells—we must conceive that serum produced by immunization with a certain type of protoplasm, while it exercised its chief action against this protoplasm, also exhibited its action upon a whole series of other substrata of protoplasm. The more closely related the receptor apparatus was of two immunity producing agents, the more completely did the sera produced by them correspond in their action.

In closing, Professor Ehrlich referred to certain topics from a very extensive domain pertaining to this subject of pleuralistic conceptions:

1. The controversy over alexins. These, formerly supposed to be simple units, corresponded to a very great number of agglutinins and amboceptors. These normal substances, destructive to the cell, might arise homologously (*e.g.* the cololysins), or heterologously (cholera amboceptors of the goat, trypanosomacides of human serum). It should be the aim to obtain for therapeutic purposes in this serum not only the complements, but especially the powerful curative amboceptors of normal organs.

2. Alterations in the receptor apparatus of the blood corpuscles and their relations to the isolysins, as shown by Koch, in the isolysins of coast fever.

3. The determination of philogenetic relationship, as exemplified in Uhlenhuth and Wassermann's blood test for forensic purposes.

4. The relationship between the virulence of bacteria, the receptor apparatus and the development of immunity, as proved by Hamberger, Wasserman, Walker, Pfeiffer, and particularly by Welsh.

5. Practical results from the production of bactericidal sera. These must contain many amboceptor groups for various species.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

MARMOREK'S SERUM TREATMENT — PROSTATECTOMY — MUNICIPAL MILK SUPPLY—ARMY COUNCIL—ABUSE OF IRISH POOR LAW—INFANT FOOD AND PATENT MEDICINES—SIR W. CHURCH—HOSPITAL APPEALS AND FINANCES.

LONDON, April 2, 1904.

PROF. A. MARMOREK has been over here, and last week read a paper at St. George's Hospital on treatment with his antituberculous serum.

He began with stating that the human organism is refractory to the tubercle bacillus, and of those who show symptoms of infection 20 per cent. recover through their own natural immunity. From twenty to twenty-two recoveries also occur under the different methods of treatment. Hence the same number of people get well whether treated or not, still treatment is of use to those who vacillate between natural immunity and lack of it. Dr. Marmorek believes that tuberculin does not play the rôle which has been attributed to it, but that it is really only a reactive which causes the bacilli to secrete another toxin, hitherto unknown, and this new toxin is the weapon with which the bacilli attack the organism.

Treatment with tuberculin is active immunization by means of the toxin secreted in the dieased organism, and may sometimes produce favorable results, but they are only exceptions, because we cannot control the amount of toxin produced in this indirect way.

The dangers of this treatment are well known, but disappear when this active immunization is replaced by the surer passive immunization induced by his antituberculic serum. Tuberculosis, with its chronic course and variations, is not to be compared with acute diseases like diphtheria or plague. The death rate would not show the value of the serum for years. Hitherto slight cases have been selected for treatment by various methods, but Dr. Marmorek says that we cannot in any case tell whether such would be amongst those capable of self-recovery or not. He therefore began with severe cases. He wished to descend the latter from the top to the bottom, and not the reverse plan followed by his predecessors. He anticipated extraordinarily advanced cases could not be affected, but was determined to find out at what advanced stage the serum would begin to take effect. So at first he treated all cases, even the very worst, with the serum. Most patients show no serious reaction, but a few cannot support the treatment. The earlier the infection the greater the probability of benefit. In chronic cases with acute extensions the most recent lesions are first healed while the older parts with loss of tissue, etc., take a longer time to rebuild. The serum is directed against the primary effects, and if only primary lesions have occurred a complete restoration is obtained. Even in the most acute form of tuberculosis, viz., meningitis, Dr. Marmorek does not despair of some day attaining success, and in the hope of doing so, has devised a method of arriving at earlier diagnosis by testing the spinal fluid. To the question whether his serum can cure pulmonary consumption by its specific action, Dr. Marmorek answers, without reserve, Yes. Among his cases I cite one complicated with laryngeal disease which had passed six months in a sanatorium without benefit. After seventy-seven injections the patient felt well, and the bacilli had disappeared from the sputum. This patient interrupted the treatment, and went into the country with the result of a relapse, but on renewing the injections, after some months, completely recovered.

In reference to clinical symptoms, serum reduces hectic, but if streptococci are present, Professor Marmorek advises alternating with the appropriate serum. If no streptococci are present his serum suffices. Dyspnœa also yields to the treatment almost without exception. Bacilli decrease as the sputum becomes less. As in other cases, they may be found for a long time after symptoms have disappeared, and it is an open question whether they may not exist merely in saprophytic life. One would hardly expect the serum to control hæmoptysis, and yet Dr. Marmorek has had cases which had previously suffered from several attacks which did not recur under serum. He mentioned the fact, but did not pretend to decide whether it was accidental or not. Then he showed photos of surgical tuberculosis relieved, and finally assured us that he had never seen any serious consequences due to the treatment by his serum.

Surgeons do not seem able to agree as to the completeness of the operation which they have called prostatectomy. The question came up again at the Medico-Chirurgical Society in a paper by Mr. Thomson Walker, which he devoted to the surgical anatomy of the normal and enlarged prostate, and to the operation in question. He described four specimens of the parts left behind after the suprapubic operation, and then considered the seventy-three specimens of prostate removed by Mr. P. J. Freyer, dividing them into two groups—those entirely extravesical, and those with an intravesical portion. In some of the specimens nodules of prostatic tissue were left behind, but held this could not vitiate the completeness of the prostatectomy. The real question he held was whether the line of cleavage passed between the prostatic capsule and the sheath, or along some plane within the capsule, or even within the gland. His investigation supported the contention that the gland was removed within its capsule, and the sheath left behind. Recent statements to the contrary were based on insufficient evidence, and could not be accepted as applying to the operation under consideration. Shreds of gland tissue left behind were mere accidents, and not proofs of incomplete operation.

Mr. Reginald Harrison said that from study of his own specimens he concluded they embraced both results; in some, the gland was completely shelled out, in others a distinct portion of prostatic tissue was left behind.

Mr. Cuthbert Wallace remarked that it was admitted the normal gland could not be enucleated, and asked how it was that specimens weighing little more than normal were removed as easily as large ones. In one of Mr. Walker's specimens a small adenoma in the capsule was left. Clearly this represented part of the prostate, for it could only have arisen from preëxisting gland tissue, so that histologically the operation was not complete. Mr. Wallace dealt also with the possibility of leaving the urethra intact, expressing the opinion that with small tumors this might be, but not with large ones.

Mr. Swinford Edwards said that in some operations there was extracapsular, in others intracapsular enucleation. Great relief was the usual result for the patients.

Mr. Pearce Gould said when an organ came within the scope of the operating surgeon many fine anatomical points got cleared up. He quite agreed that the question of extra- or intracapsular enucleation depended on the plane of tissue opened, and mentioned a case in which he had removed six adenomatous masses from the prostate and yet it was not a complete prostatectomy. The value of the operation could not be doubted.

Mr. Pardoe suggested that prostatic tissue might rupture the capsule and pass within the plane of that tissue.

Mr. P. J. Freyer considered that the whole capsule was removed and a complete prostatectomy performed. To sum up the foregoing discussion: Cannot we reconcile the two views by saying surgically it is prostatectonus, and histologically it is not complete when gland tissue is left behind? The question is of mere academical interest. The great thing is that patients are generally greatly relieved.

The municipal milk supply is making fair progress. Battersea has followed Liverpool with considerable energy and success. Respecting the latter, Dr. Hope has recently communicated important particulars as to the care with which the milk supply of Liverpool was superintended. He described the plan of distributing sterilized milk, and as it is being called, humanized milk, to the poor of Liverpool. This milk is supplied in baskets of nine bottles, containing a sufficient supply for twenty-four hours, no bottle being used twice. The value of substituting pure, clean, suitable food for the contents of an evil-smelling feeding-bottle and the promiscuous bits often given to babies cannot be doubted, and the statistics already accumulated prove the point. Out of more than 6,000 infants fed on this milk it was possible to keep records of 4,453, about half of whom were ill when the food was first given them. The rate of mortality was 78 per 1,000. The causes of death showed no peculiarity, bronchitis, pneumonia, whooping-cough, convulsions, and so on, prevailing in the certificates. This rate compared very favorably with the ordinary infantile mortality of the city, especially considering the great proportion of sickness amongst them when the feeding was begun.

Of all plans of artificial feeding this would seem the best; but, of course, no substitute for mothers' milk can be perfect, and Dr. Hope and his committee fully recognized this. They make no claim that their plan is ideal—only that it has saved many lives and restored many sick infants to health—diminishing thus the mortality and improving the stamina of the city's infant population. The corporation can never relieve the mothers from their duty to their children, and every card issued contains instructions to the effect that the milk is intended for infants whose mothers are unable to suckle them.

It must be admitted that, however good the milk and however carefully prepared, it must be inferior to the food provided by nature. As Dr. Welch remarked in his Huxley lecture, human breast milk is immune, or par-

tially immune, from many diseases, and probably confers some immunity on the infant. Again it passes directly from the breast to the infant without exposure to the air, and so undergoes no abstractions, adulterations, preservatives, or other admixture or uncleanness. It is bacteriologically pure and cannot be equalled by any substitute. It is therefore most satisfactory to learn that Liverpool is educating its mothers up to this point.

At an inquest on Wednesday the coroner contrasted London's lack of ambulances with the system in New York, which he pronounced excellent. Our County Council has the matter under consideration, so may possibly take a leaf out of your book.

The secretary of the Mount Vernon Hospital was summoned for Rates on Wednesday and pleaded that the hospital was £15,000 in debt, and at the last Finance Committee meeting had no funds after paying servants' wages due. I am afraid it is another case of overindulgence in bricks and mortar.

The head of the medical service is to have no seat in the new Army Council, as he can be asked to attend when his special knowledge or advice is desired. We may be sure our "Military Advisers" will go on in the old way and never send for him unless they want a scapegoat for their blunders. Sir Michael Foster, as soon as Parliament reassembles, will ask if the House will not have an opportunity of discussing the matter before action is taken on the report so far as it concerns the health of the army.

For shameless abuse of medical charity perhaps Ireland holds the record. No one appears to find any difficulty in obtaining a free ticket for the Poor Law Doctor's attendance, and what is worse, no one seems ashamed to beg one. Tradesmen, contractors, shopkeepers, mill-owners, etc., commonly avail themselves of the poor-law service and yet would resent being described as paupers, or imposters, or as beggars. On Saturday the Coleraine Guardians achieved great distinction by the unheard of proceeding of cancelling two free tickets. It was stated at the meeting that the doctor had been called upon for free attendance by two families who had a balance at the bank of £500.

Sir W. S. Church has been reëlected president of the Royal College of Physicians.

The Lunacy Commissioners have directed the Committee of the Portsmouth Asylum to accept the resignation of Dr. Henderson and Miss Watson in consequence of the recent error when four female patients died from chloral. A solution was used the strength of which seems to have been misstated. The committee has adjourned the consideration of the report, not thinking the accident requires resignation.

The North West London Hospital is making a strong appeal for funds, and states in *The Times* that Mr. George Herring, the treasurer, has promised to add one-third to the amount received. This is the gentleman who added to the Sunday fund collection more than £10,000 on the last two occasions.

THE USE OF THE LIBRARY OF THE ACADEMY BY NON-MEMBERS.

To the Editor of the Medical Record:

Sir: In your issue of April 2, Dr. A. Jacobi, in defending the new rule of the Library of the Academy of Medicine (whereby the medical public has now but little access to this valuable "public" library), endeavors to make it appear that I am also the author of an anonymous communication to a New York medical journal. This I emphatically deny. My only comment, or criticism, concerning the Academy has been in regard to its stringent library laws and then only in the Medical Record of March 26, and under my own signature. Dr. Jacobi says that for many years the Academy has been very generous to the medical and lay public. But he omits to say that this generosity (?) was compulsory, owing to the fact that the Academy poses as a public educational institution with a *free* public library, and on this account has taxes remitted on the Academy building. The following letter, which I received from the Commissioner of Taxes, shows that the reason the academy is exempt from taxes is because upon investigation of the tax department it found the Academy maintained a public library, open daily from 9 A.M. to 5 P.M. The letter from the tax commissioner of April 7 reads in part as follows: "I beg to advise you that the question of exemption of this property (17 W. 43d street.) has been before the commissioners a number of times. At its old home, 12 West Thirty-first street, its property, which was used in a similar way to the present property, was exempted from taxes in 1885–1886 by a supreme court decision because it was a public library.

"In 1891 the question of exemption of this property came up, and after considerable hesitancy, it was decided favorably by the commissioners.

"In 1896 the question was again before the department of taxes and assessment, and on the affidavit of the treasurer of the board of trustees, as to ownership, occupancy and the use of these premises for the purposes of the society, and on the report of the deputy, that he found that the entire second floor has a library *free* to the public from 9 A.M. to 5 P.M., the commissioners again exempted from taxation. In 1901 . . . at this time the commissioners made an exhaustive examination, and decided that because this property was owned by a corporation organized exclusively for the mental improvement of men and women for educational, scientific, and library purposes . . . it was still entitled to exemption."

Thus from the foregoing letter, it is apparent, that if the Academy of Medicine still purposes to be exempt from taxes it will be necessary to permit physicians in general although not members of the Academy, to have the use of their library during such hours as other public libraries are open.

Samuel G. Tracy, M.D.

April 11, 1904.

ANÆSTHETIZED DURING SLEEP.

To the Editor of the Medical Record:

Sir: During the past winter, I have successfully anæsthetized with chloroform, while sleeping, ten patients for operation at the Hospital for Ruptured and Crippled.

As instructor in anæsthetics in this institution, I have had ample opportunity for testing this much-mooted question, and find there is little difficulty in producing rapid and profound anæsthesia without the slightest struggle or apparent consciousness. My cases have all been children, ranging in age from four to nine, but there is no reason to believe that a child waiting its turn for an operation should sleep any more profoundly than an adult. I use the Esmarch inhaler and dropper, and am careful not to touch the patient at first, but hold the mask close to the face. After the primary stage, I then switch to ether, and invariably they take the anæsthetic well and less of it, and have less nausea following. I doubt if one could be anæsthetized with ether while asleep without their knowledge, unless they had been previously drugged with alcohol, morphine, or some other narcotic.

My usual method for anæsthesia is with the Bennet cone, commencing with nitrous oxide gas, followed by ether.

These cases were merely for experiment.

Preston Satterwhite, M.D.

New York, April 11, 1904.

A Case of Full Term Extrauterine Pregnancy.—Czyzewicz reports this unusual case. The patient was a iv gravida in her eighth month. It was found that while the fœtus was distinctly palpable and was of the proper size for the period of gestation, the uterus was very moderately enlarged and was empty. A month later labor pains began in the empty uterus and the fœtus was removed by laparotomy. The hemorrhage following the removal of the placenta was so severe as to necessitate the ligation of both broad ligaments, and the patient died the next day of shock. The child was small, but well-developed, and lived.—*Zentralblatt für Gynäkloogie*, No. 4, 1904.

Good Feeding in Infancy.—Dr. A. Belcham Keyes, in a lecture before the School of Domestic Arts and Science of Chicago, recently reviewed what good feeding in infancy prevents: (1) It lessens the number of cases and mortality from acute intestinal and infectious diseases. (2) It avoids the distressing condition known as English disease or rickets, from which a large number of children die annually, and, if they survive the disease, are often deformed for life. (3) A large number of the cases of tuberculosis, especially of the bones, in young children are predisposed to the disease by the catarrhal condition of the intestines, in which conditions they take into the circulation the bacillus of tuberculosis, which the imperfect inner lining of the blood-vessels of the long bone makes a good resting-place, with its resultant chronic invalidism, and later frequent implication of the lung and death. (4) Proper infant feeding, even if these first three escaped, is a necessity for the good health and perhaps even the formation of the character of the child that later will become the man, and this is the preservation of the health and character of the American-born man

Progress of Medical Science.

The Boston Medical and Surgical Journal, April 7, 1904.

Infectious Arthritis.—Joel E. Goldthwait states that infectious arthritis may result from practically any of the infectious or pus-producing organisms, and the type of the lesion or its character will depend upon the special organism involved. The disease may be mild and of short duration, or it may be very severe, with much suffering, and, at times, fatal termination. One or many joints may be involved. The symptoms depend upon the severity of the infection. The joint lesion in infectious arthritis is generally of the nature of a toxæmia. The organisms are not found in the joint, but the symptoms all suggest the result of an infection. The origin of the infection is important. At times it can be definitely determined; at other times this is impossible. The result of the infection depends upon the organism from which the infectious element is absorbed. In the differential diagnosis of infectious arthritis from the other types of rheumatoid disease, in case the history, the general appearance of the patient, and the local lesion is not distinct, the *x*-ray is of the utmost importance. In infectious arthritis the bones are of normal density; the cartilage is present and of normal thickness, and although the joint may be ankylosed, this is due to the adhesions which have resulted as a part of the inflammation. If the arthritis goes on to more distinctive changes in the repair there may be new bone formed about the joint and true ankylosis result, but the appearances are entirely different from the atrophic or rheumatoid arthritis. The blood in infectious arthritis in the beginning and during the active stage shows a marked increase of the leucocytes, with usually a high percentage of hæmoglobin. As the disease progresses, the increase of leucocytes gradually disappears and the percentage of hæmoglobin becomes less. The lymphatic glands are almost always somewhat enlarged in the beginning, but when the toxæmia has been overcome it gradually and entirely subsides. If the infectious process is quite profound, the urine shows the characteristics of a septicæmia, and otherwise it is not peculiar. It is essential that the eliminative functions be kept as near the normal standard as possible. For the local treatment there is little to be done other than to protect the affected joint, and by means of hot applications and liniments to relieve the discomfort. When operation becomes necessary, the joint should be as thoroughly explored as possible, and the opening be made on both sides. The writer appends notes of various cases.

The Boston Medical and Surgical Journal, April 14, 1904.

Bilateral Facial Atrophy, with Report of a Case and Its Treatment by Subcutaneous Infection of Paraffine.—Benjamin T. Burley presents the history of a very interesting case. The atrophy came on when the patient was eleven years of age. It resisted all treatment. At the age of twenty-three she was seen by the writer. She was evidently not of nervous temperament. The subcutaneous tissues from the orbits to the chin and back to the ears were apparently entirely wanting. There was a marked depression in each cheek. After observing the patient for two months, the writer began the paraffine injections. At the first sitting 1½ c.c. of paraffine of melting point, 109.5°, was injected below each molar process. Aside from a slight prickling sensation, coming on occasionally for the next day or two, which was easily relieved by alcohol bathed over the areas, there was no discomfort. In all, nine treatments were given, the last three largely to make the surface uniform. The result was most satisfactory. The paraffine is expected to give way gradually to new tissue formation.

Journal of the American Medical Association, April 16, 1904.

Insufficientia Pylori.—This disease is discussed by M. I. Knapp, who has the following views as to dietetic treatment: The object is not to introduce any acid food nor food which develops gases. Sweets very quickly form acids in the digestive canal, consequently also these will be omitted from the dietary. Coffee, tea, spirits, fermented liquors, CO_2 containing waters, too much milk, cabbages, peas, beans, radishes, turnips, spices, salads, whole-grain bread and other cereals with their husks (the easily fermenting cellulose) on, fruits, especially grapes, peaches, plums, and prunes should be forbidden. Excluding these, the patient has a free choice of food but not of drink. Clean, filtered water and milk are about all the patient can have.

Surgical Treatment of Nephritis.—A. H. Ferguson gives his experience with this measure, dwelling especially on the history of a case occurring in a young girl suffering from nephritis and floating kidney. The results were excellent, and six years later she was well. Points of interest in the case were: (1) That her right floating kidney was fastened a year previously by stitching it in place by a good gynecologist, without splitting or peeling off the capsule, but thereby she was not relieved. (2) Decapsulation relieved this same kidney of pain and tenderness. (3) The double decapsulation so far has cured her interstitial nephritis. He also reports two other cases, one of renal decapsulation and puncture for acute diffuse nephritis with a fatal result. In this case chronic interstitial disease was present with every evidence of granular kidney without any previous symptoms or signs. If a microscopic examination of a portion of the kidney had not been made, the case would have gone down in history as one of acute nephritis. (2) The severity of the acute diffuse nephritis, without other apparent cause than exposure to cold was, in the author's view, remarkable. It was so severe that it might be called "hemorrhagic nephritis," which, however, is more characteristic of intense septic and infectious cases. (3) Operation was of no avail, because it was to late in being performed. In a second case double decapsulation was done for interstitial disease and this patient recovered. The author considers that floating kidney may be regarded as one of the indications for decapsulation.

The Surgical Relation of the Vermiform Appendix to Perforation in Typhoid Fever.—L. J. Hammond states that the appendix is the seat of perforation, according to Cushing, in 9.6 per cent. of typhoid. Other observers have reported varying percentages down to five. He believes that a large number of cases occurring in the ileum and ascending colon that can be directly traced to preëxisting disease of the appendix, and quotes two cases bearing on this view. When the appendix has once been inflamed, a disease like typhoid fever is sure to light up a recurrence, and, as at best its powers of resistance are poor, it could hardly be expected to escape rupture within the organ itself, or what would seem more often to take place, rupture of a Peyer's patch, which, if not actually caused by impairment of the function due to preëxisting disease in the appendix, may be regarded as at least favoring it. It is within the power of the surgeon to reduce the mortality in perforative peritonitis in typhoid fever from 80 per cent. to 73, first by eliminating the appendix as a factor *per se;* second, by freeing the agglutinated intestines from adhesions caused by previous attacks of appendicitis, which afford possibility of still further serving as prophylaxis against occurrence of perforation in the ileum. Most observers agree that acute appendicitis, occurring during the course of typhoid fever, is merely a coincidence, and is probably in no instance the result of the bacillus of Eberth, nor to the general infective process resulting from the fever.

Medical News, April 16, 1904.

Poisoning by the White of an Egg.—J. R. Clemens describes the case of a boy of fourteen months who has had four attacks of intoxication following the ingestion of the white of egg. There were no incubation periods. In the first attack, the child was suddenly seized with an attack of acute urticaria and alarming collapse, the face and ears being greatly swollen and the radial pulse withdrawn from the wrist. Hypodermics of strychnine brought the child from its apparently moribund state. Two weeks later a similar attack occurred. Both times the child had been given the white of egg with his milk, which was an innovation. The third attack occurred after the patient had eaten custard. A little later, after eating ginger bread for which two eggs had been used, the child's feet became extremely swollen and purpuric. Treatment consisted in cleaning out the gastro-intestinal tract with oil, followed by full doses of calomel and later by salol and magnesium sulphate.

Hepatectomy for Tuberculoma of the Liver.—Joseph Ransohoff reports a case that came under his care. The patient was a man, aged thirty-six years. Ten years before the present illness the left testicle had been removed for tuberculosis. The patient's health had been excellent since then until four months before he entered the hospital in October, 1903. During this time he felt a sense of weight and then of pain in the pit of the stomach. There had been no nausea nor vomiting. A tumor for the past two months had been noticed under the tip of the sternum. On examination the tumor seemed very mobile. The dulness over the tumor was directly continuous with that over the liver. The stomach was normal in motility and secretion. Diagnosis was made of tumor of the liver, probably primary in character and of cancerous nature. Operation showed that what was felt as the tumor mass was found to be the left lobe of the liver, hardened and nodular on its lower surface, but quite movable. A second tumor was not felt. The writer determined to remove the tumor by resection. To this end an oblique incision three inches in length was made to the right. The left lobe of the liver was brought into

the wound, and two large, blunt-pointed bullet probes were passed at right angles through the thickness of the liver, an inch or more beneath the tumor mass, and an elastic tube thrown round the liver to form a pedicle. The operation was to be completed at another sitting. The lower part of the wound was closed in the usual way, the upper part slightly packed with gauze. Hemorrhage took place during the morning, and it was found that the elastic tourniquet had forced the skewers through the liver tissue, producing slight lacerations from which the hemorrhage came. The band was removed, and by means of one of the skewers a very heavy ligature was made to take its place. There was no further bleeding. With the thermocautery the left lobe was cut away with no further loss of blood. Death occurred on the sixth day after operation, probably from necrosis of the gastric mucosa from retrograde thrombosis of the omental veins. Careful examination after death makes it almost certain that the case was one of large tuberculoma. A nodule similar to the one in the left lobe, and half the size, was found in the right lobe on the upper surface of the liver close to the peritoneal reflection. The writer believes this to be the first case in which a resection of the liver has been made for a tuberculous tumor.

Ulcer and Cancer of the Stomach, from a Surgical Standpoint.—William J. Mayo declares that the most important subject before the medical profession to-day is that of diseases of the stomach. He first considers gastric ulcer. The etiology of this disease is obscure. The three known factors of great importance are anæmia, hyperchlorhydria, and mechanical injury. Chronic ulcer of the duodenum should be classed with gastric ulcer. It is essentially a disease of adult males. The symptoms of chronic ulcer are variable, but the chief one is pain. Indications for the surgical treatment of gastric ulcer can be divided into two distinct classes: First, the ulcer itself; second, the complicating adhesions, deformities, obstructions, and so forth. There are clinically three varieties of gastric ulcer: the mucous erosion, limited to the superficial epithelium; the round and fissure ulcer, limited to the mucous coat, except in perforative cases; the large irregular ulcer invading all the coats of the stomach. The keynote to the surgery of gastric ulcer is drainage, and the best place for this is to the left of the muscular pyloric part. The four methods of inducing gastric drainage are: The Heinike-Mikulicz pyloroplasty, which does not give satisfactory ultimate results in more than 70 per cent. of the cases; Finney's gastroduodenostomy, a most excellent operation, most useful in narrow strictures and least successful in open ulcer; Rodman's operation; gastrojejunostomy. Gastric carcinoma is the most frequent form of cancer in the human body. In the writer's experience of forty-three radical operations for malignant disease of the stomach, all but two who survived the operation lived beyond the year; one lived three years and seven months, and several are alive and well more than two years after. The mortality depends largely upon the case. In an early operation upon a patient not materially reduced, the mortality will not exceed 10 per cent. Much of the danger depends upon the adhesions to neighboring viscera. The writer believes that the diagnosis cannot be made in time by medical means. It can be surmised, but not often diagnosticated with certainty. Exploratory incision is practically harmless; a tumor of itself does not mark inoperability. In the writer's experience, the larger number of cases with symptoms of gastric cancer in which no trace of a tumor was present at the pylorus and without symptoms of obstruction have proved to be hopeless cases of cancer of the body which gave no early symptoms. Laboratory diagnosis of cancer of the stomach has little importance during the operable period because the disease is of too slight extent to interfere with the secretions. When it does so it usually means a hopeless involvement. Cancer of the stomach can be cured without excessive mortality only when exploratory operation is undertaken.

New York Medical Journal, April 16, 1904.

Ureteral Catheterism as a Routine Method of Diagnosis in Renal Disease.—The advantages of this method are thus summarized by J. Van der Poel, who prefers the cystoscope to other instruments: (1) The cystoscope is more easy of introduction than are the separators or segregators, is less painful during the bladder manipulations, and much less so during the collection of the urines. Hence, as a rule: (2) With ureteral catheterism we can collect the urines during as long a time as may be thought necessary, the patient not requiring any supervision. (3) A cystoscopic examination of the bladder can be made at the same time, which, in some cases, is useful, in others, indispensable. (4) We are much more certain of the exact results, especially when the two urines are of a similar character, whether clear, bloody, or purulent. and (5) It is the only method by which we are fairly certain that there is no bladder contamination.

Penetrating and Perforation Gunshot and Stab Wounds of the Abdomen with Report of Cases.—The report is made by J. G. Brown. Analysis of the cases shows that nine were cases of perforating wounds of intestines, with six recoveries and three deaths. Of the deaths, one was due to shock, the injuries being so extensive that patient never reacted. The second patient entered hospital with general peritonitis, and while a perforation was overlooked it is probable that the result would have been the same if this injury had been repaired. The third patient should have been saved, but a small wound in the bowel was overlooked. Of the wounds of the liver—five cases in all—four patients recovered and one died. This patient died three hours after operation from shock, the result of hemorrhage. In a wound of the pancreas case the patient recovered. To these cases he adds eight cases in which laparatomy was performed and no injury to viscera found. This makes a total of twenty-three cases, with nineteen recoveries and four deaths.

Ergot in Typhoid Fever.—A. T. Livingston advocates the use of this remedy which he uses hypodermatically. He claims that from it we can obtain prevention or relief of general nervousness; insomnia, or delirium, all of which depend chiefly upon congestion of nerve centers; prevention or relief of headache and of abdominal pains and discomfort, and of any pain that depends upon congested blood-vessels; relief or modification of tympanites by stimulation of the muscular coat of the bowel and by modifying the congestion and inflammation that disturb the functions of the bowels; hence, also, better general action of the bowels; modification of the local inflammation, thus lessening the likelihood of hemorrhage or extreme ulceration or perforation; prevention or relief of excessive sweating; better eliminative action of glands generally, thus aiding the natural activities in removing both septic and waste elements; reduction of frequency of pulse and strengthening of the heart's action; lessening the likelihood of complications by securing improved general vascular tone; and, finally, preventing exhaustion of the heart by removing the chief obstacles to its free action—areas of vascular congestion; for if we relieve the internal congestions, the heart is better supplied with blood to pump through the peripheral vessels.

American Medicine, April 16, 1904.

An Efficient Army Medical Service.—James S. Kennedy calls attention to the new "bill to increase the efficiency of the Medical Department of the U. S. Army." This bill will do away with the impossible contract system entirely, and in its place there will be organized a commissioned force of experienced medical officers (reserve) with actual rank and its privileges, and in number no more than are now serving under the present régime, for the surgeon-general will not recommend any officer for appointment who has not passed a satisfactory examination, and whose services have not been of the highest character as to efficiency and professional ability.

A Case of Pemphigus Vulgaris, with Some Observations on Its Bacteriology.—A. C. Eustis, after giving the history of a case, concludes that: (1) In cases of pemphigus a diplococcus can be isolated from the contents of the bullæ. (2) This diplococcus when injected intravenously into the rabbit will cause death. (3) A diplococcus removed from the blood of the rabbit and identical with that obtained from a case of pemphigus vulgaris, when injected into the pig, produces a pustular eruption in the latter animal, attended with mild constitutional disturbances. (4) Arsenic is the main remedy to be relied upon in the treatment of pemphigus vulgaris.

The Lancet, April 9, 1904.

A Non-toxic Preparation of Iodine.—H. V. Wyatt Wingrave has sought to find a preparation of iodine which could be given internally in large doses for considerable periods without causing symptoms of iodism, without sacrificing its specific effects on lymphatic enlargements. He has finally settled on the following formula: Iodine 2½ grams; tannic acid, 4 grams; alcohol (90 per cent.), 38 c.c., and syrup q. s. ad., 75 c.c. The iodine is dissolved in the alcohol, the tannic acid and 30 c.c of the syrup are added, the solution heated to just below the boiling point until it affords no evidence of free iodine with the starch test (about twenty minutes), then cooled and the remainder of the syrup added with a flavoring agent. Each dram contains 2 grs. of iodine. It should be given in dosage according to age, in water or wine, before meals. It is particularly well borne by children with lymphoid overgrowth.

The Use of Dr. Marmorek's Antituberculous Serum.—Arthur Latham gives his personal experience with this mode of serotherapy in a series of cases, being led to its

employment from his being impressed with Marmorek's argument against tuberculin being the real toxin in tuberculosis and in favor of his own new toxin by means of which the serum is prepared. Latham briefly reviews the technical directions for the injections and dwells upon their effects as referable both to the mere serum and to its antitoxin element. He states that in the majority of instances his patients have expressed the definite opinion that they feel more comfortable for the injections. In three cases out of the six treated of surgical tuberculosis, the pain and tenderness disappeared completely after a few injections had been given. In the majority of cases of pulmonary tuberculosis the first few injections led to an increase in the weight of the expectoration and to an increase in the number of moist sounds. In a certain number this increase was followed by a diminution in the weight of the sputum which was progressive, together with a diminution in the number of adventitious sounds. These results were sometimes more marked than they are when the serum is being used. The author cautions against too sanguine interpretation of these and like results, and declares that more experience must be accumulated and the cases watched for a longer period before we can draw any positively valid conclusions as to the efficacy of this serum.

The Cardiac Dulness in Cases of Cancer.—W. Gordon states that some years ago, in the examination of patients with gastric cancer, he noted that although no evidence existed of ordinary emphysema, the area of cardiac dulness, mapped out in the recumbent position, was either much reduced or actually obliterated. In some of them in whom the dulness was obliterated the resonant note over the heart was, it is true, slightly higher pitched than over the lung, but it was definitely resonant, not dull. The reduction or obliteration of the cardiac dulness was sometimes associated with a rather surprisingly small and soft pulse. His convictions as to the diagnostic value of these facts are expressed in the following statements: (1) Great reduction or obliteration of the normal cardiac dulness is common in cases of cancer, particularly in cancers of the alimentary canal and in their late stages. (2) This loss of cardiac dulness does not seem to be found in the earliest stages of a cancerous case, but may precede cachexia, marked wasting, and loss of skin elasticity. (3) It is rarely observed in non-cancerous cases. (4) It is rarely absent in the later stages of cases of cancer of the alimentary canal. (5) It does not seem to occur in cases of sarcoma. (6) In doubtful cases its presence is highly suggestive of cancer; its absence is slightly suggestive of the absence of cancer, if the symptoms under consideration have lasted for several months. The application of this point in physical diagnosis is illustrated by the clinical histories of six cases.

British Medical Journal, April 2, 1904.

Abstract of the Arris and Gale Lecture on the Chemistry of the Urine in Diseases of the Pancreas.—P. J. Cammidge gives the results of observations of over 300 specimens of urine. He says that in view of the fact that inflammation of the pancreas is in a considerable number of cases associated with more or less jaundice, it is not surprising to find that bile pigments were discovered in 60 per cent. of the urines examined. In some only a faint trace was detected with difficulty, while in others there was a very large quantity. All the specimens but one derived from cases of malignant disease of the pancreas showed a considerable amount of bile in the urine. No special significance can be attached to the quantity present, as in many cases with chronic catarrh the urine is as deeply colored as it is in most cases of malignant disease. The removal of any obstruction of the common duct that may exist is generally followed very shortly by the disappearance of bile from the urine, but in a few cases in which the condition is of long standing, bile pigments may be found, although in much diminished quantity, several weeks, or even months, after the operation.

A Clinical Lecture on the Detection of Early Tubercle in the Lungs.—Isambard Owen emphasizes the fact that the condition of time is all important in this disease. Every month during which active tuberculous disease remains undetected and untreated lessens appreciably the prospect of recovery. He thinks that the use of the term "stage" in reference to cases of pulmonary tubercle is incorrect and misleading. Pulmonary tuberculosis, in most of its ordinary forms, is a disease of essentially intermittent or remittent character. This is not always so, however. Except in cases in which early hæmoptysis draws attention to the lungs it is doubtful if we often really see the initial attack at all. The writer, after a cursory inspection, makes a thorough stethoscopic exploration of the upper parts of the lung. He follows this up with percussion and with a more detailed inspection and palpation. The pitch of the harsh or tubular breathing heard in early tubercle of the apex is nearly always low. This "pitch" is always a mere "noise," compounded of vibrations of indefinitely various lengths. The breath sounds on the sides should be compared for intensity and rhythm as well as for character. Genuine broncophony without associated change in the breath sounds is very rarely met with. On account of the normal excess in vocal resonance of the right chest as compared with the left, great caution must be used in drawing conclusions from an apparent increase of voice sound at the right apex, unless its character be changed or other signs occur. The value of vocal fremitus in the diagnosis of early lesions is practically nil. To percuss the apices satisfactorily, it is desirable to have the patient standing before one. The results of percussion in many cases appear to correspond but ill with those of auscultation. Both light and deep percussion should be practised and their results compared. Before deciding on any question of moist sound, the patient should be made to cough. The cough brings out the moist sound that indicates alveolar exudation, and it eliminates moist sounds due merely to bronchial catarrh. It must be remembered that in a small number of cases the lesion is purely bronchopneumonic from the outset. The absence of bacilli is not absolute proof that there is no active lesion, and their presence, unless in large numbers, does not exclude the possibility of the lesion being at the time quiescent and mainly fibrous. Neither physical signs nor bacteriological results must blind one to the importance of symptoms in cases of doubtful diagnosis. A daily rise of temperature and a progressive loss of weight, otherwise unaccounted for, are most important symptoms. "Creaking" rhonchus in the adult should always convey a strong suspicion of tubercle. If, in addition, the inspiration should bring out sharp clicks, or even small râles of a higher pitch than is found over the rest of the lung, the proof is almost formal. These statements apply to the adult only, and practically to the elderly subject.

British Medical Journal, April 9, 1904.

Papilliferous Cyst from an Axillary Sudoriparous Gland.—H. Betham Robinson had charge of this case. The patient was a woman aged twenty-two years, who had noticed a lump growing in her armpit for two years. After removal, section showed it to be a skin cyst, consisting of one large cavity containing a thin watery fluid; the lining was in general smooth, but over an area the size of a sixpence, soft papillary growths were attached. The papillary processes show a many-layered epithelium, the surface cells being swollen and vacuolated, as is often seen in secreting glands. The appearances suggest an origin from that part of the duct between the epidermis and the coiled tube. This class of cyst is very rare. The writer had another almost identical case in a little girl aged thirteen.

On the Action of the Blood Serum from Cases of Acute Mental Disorder on B. Coli Communis.—Alice V. Johnson and Edwin Goodall conclude: (1) In 50 per cent. of the total cases of acute insanity examined, there was agglutination, whereas this was present in only 15.5 per cent. of the controls. (2) The agglutination was partial in the great majority of the cases (39 per cent.). (3) In those forms of the disease in which the cases were sufficiently numerous to permit of percentages being taken (mania and melancholia), the preponderance of partial over good agglutination was also obvious. (4) The percentage of agglutination (good and partial) was greater (58.5) in the cases of melancholia than in those of mania (45.2). (5) The percentage of good agglutination was greater in melancholia than in mania. (6) Even when the disease is quite recent in duration there is as often as not a failure to agglutinate.

Experimental Nephritis Followed by Decapsulation of the Kidney.—I. Walker Hall and G. Herxheimer define renal decapsulation as consisting of the removal of a part of the capsule, or of the entire capsule, with more or less laceration of the cortical tubules, of hemorrhage, and of the exposure of a "raw" absorptive surface. The removal of the capsule accelerates the absorption of any local toxins. In eight to fourteen days after renal decapsulation in animals in which degenerative nephritis has been induced, the kidney is covered by a thick, strong connective tissue capsule, and the hemorrhages and marked necrosis are replaced by cellular tissue, which in some instances is connected with the capsule, and which persists after the nephritic changes have resolved. When the capsule is removed in the first instance, the normal passage of capillaries from the capsule into the superficial areas of the cortex will be broken; if this is afterward fully regained, it is all that may be expected. From the anatomic standpoint yielded by their experiments and by those previously reported, the writers do not think that decapsulation appears to offer any advantages. If there is no anatomical basis for the operation in acute degenerative nephritis, it is impossible

that in chronic nephritis the capsular changes will be less marked. The simpler veni-puncture relieves tension and promotes renal functions. Boncz-Osmolowsky has found in his experiments that six days after decapsulation the leucocytes and connective tissue were increased between the tubules and the cells of the superficial tubules showed granular changes in the protoplasm. Twelve days after the operation there was atrophy of renal cells. He did not observe any new formation of blood-vessels in the reformed capsules.

Berliner klinische Wochenschrift, March 28, 1904.

Gonorrhœa in the Puerperal State.—Martin reports on twelve cases in which gonorrhœa was present during the puerperium, the diagnosis being established by the demonstration of the organism and in most of the instances by its cultivation. Four of the patients had no elevation of temperature and of the others six did not exhibit any rise till late in the puerperium. In all cases the affection ran a benign course and no tenderness of the uterus or evidences of perimetritis or parametritis were observed. Two of the patients have since become pregnant again and one of these has been confined without complications. Two of the infants developed gonorrhœal ophthalmia. The series proves that conception can take place during the course of a chronic gonorrhœa and that the pregnancy can go on to term without interruption.

The Diagnosis of Gastric Carcinoma.—Sigel has tried some of the methods that have lately been recommended as giving early diagnostic signs of carcinoma of the stomach in order to test their reliability. The first of these is the tryptophan reaction which was described by Erdmann and Winternitz, and consists in the production of a violet color when chlorine or bromine is brought into contact with proteinochron. This is an albuminous body found in the test-meals in cases of carcinoma. The method proved very unreliable in the author's hands, as the reaction was present in only two out of fifteen cases of carcinoma examined and was also positive in a case of ulcer. Salomon tests the amount of albumen and nitrogen present in the washings after the patient has been for a day on albumen-free diet and has had the stomach washed out several times. If the albumen is high in amount by the Esbach method and the nitrogen exceeds 20 mg. in 100 c.c. of the fluid, carcinoma is said to be present, but the author's results in twenty cases show that though of value in special instances the method is not infallible. Gluzinski, washes out the fasting stomach in the morning and then gives two test meals through the day in an endeavor to detect the change from an acid to a catarrhal gastritis, which occurs when carcinoma begins in an old ulcer. In eight cases of ulcer tested in this way the results pointed toward benignancy, while in four out of five cases of carcinoma the diagnosis was corroborated by the method. The author considers that considerable reliance may be placed on the procedure, and that in suspected carcinomas if HCl is constantly present under these conditions a diagnosis of non-malignancy may be made even if many other features point toward the more serious disease. The estimation of the fatty acids in the urine advocated by several authors did not give favorable results. He concludes that these various methods may often be of assistance, but that a broad consideration of all the clinical features is always necessary, and that purely chemical precedures cannot be relied upon to clear a doubtful complex of symptoms.

Münchener medizinische Wochenschrift, March 29, 1904.

The Injection Treatment of Gonorrhœa.—Lucke says that the compressor muscle offers only an incomplete barrier between the anterior and posterior urethra, and that this fact must be taken into account in treating urethritis by means of injections. There is a difference in the effectiveness of the compressor muscle in first infections and in later attacks. With first infections it may be assumed that the barrier is to be relied on for the first fourteen days, and the effort must be made to clear the superficial layers of the mucosa of germs during this time. When this has been accomplished it is usually possible with care to prevent extension posteriorly, and it may be said that first infections are satisfactorily to be treated by Neisser's method. With those who have already had other attacks, however, the compressor muscle is not to be depended on, and pressure injections should never be made until the anterior urethra has been freed from organisms by catheter irrigation, or by Janet's method. After this the injections may be employed. First infections that do not come under observation until the third week are to be treated like multiple infections. Examination with the urethroscope gives the best criterion as to complete cure.

The Relations between Laryngeal and Pulmonary Tuberculosis.—Frese discusses the various arguments which advocates of the local infection theory and of infection through the blood or lymphatics in laryngeal tuberculosis put forward, and details experiments made on dogs to settle the question. The laryngeal mucous membrane of the animals was subjected to either mechanical or chemical irritation, and then tuberculous sputum or pure cultures were rubbed on the surface. Five drops were used, and in spite of the resistance of these animals to tuberculosis, in one case typical tuberculous laryngitis was produced. A few tubercles were also found in the lungs and spleen thirty-eight days after the inoculation. The laryngeal mucous membrane was intact over the tuberculous lesions, no ulceration having resulted. From this observation, and from the theoretical considerations the author believes that tuberculous laryngitis is the result of sputum infection, and except in cases of general miliary tuberculosis is not to be ascribed to dissemination through the blood or lymphatics.

Isolation in the Treatment of the Insane.—Dieckhoff says that the treatment of the insane has passed through several successive phases; first, the abolition of the chains and barbarities that prevailed prior to the reforms instituted by Pinel, then the no-restraint system, and now the effort to abolish even the feature of isolation. The effect of the latter is injurious in several directions. It is accomplished only under constant physical restraint; it encourages maniacal outbreaks and does not produce the desired calming effect. In order to replace it several measures are employed. Narcotics do valuable service, though there is a limit to the point to which it is wise to push their administration. Rest in bed is a natural consequence of their use, and has most beneficial results. Prolonged hot bathing, extending over periods of hours, days, and even weeks is a most valuable sedative, and is never injurious; moist packs are useful, but if too long continued are apt to be followed by collapse. Of the greatest service are occupation out of doors and separation. By the latter is meant segregation of the patient but without the element of forcible restraint, as the doors are removed from the cells, or they are not locked. The newer system is somewhat difficult of application, but its consistent use in numerous institutions proves that it is *possible* to dispense with isolation in its older sense and therefore it *should* be dispensed with. Requisite are a large number of attendants, who must be of somewhat higher type than those employed under the old plan, and a careful medical supervision to recognize the first signs of impending outbreaks of violent nature.

French and Italian Journals.

Infectious Subglottic Œdema.—Deguy and Detoc report the case of an infant of nine months. The child had been suffering for eight days with a slight cough. For twenty-four hours before entering the hospital respiratory difficulty had peen progressive. The dyspnœa became intense, but there were no signs of diphtheria. Intubation became necessary. In performing this operation, marked œdema of the arytenoepiglottic folds was noted, but no retropharyngeal abscess. The dyspnœa persisted, however, in spite of the treatment, and within half an hour became so intense that the tube was suddenly ejected. Tracheotomy was practised on the spot. The dyspnœa then disappeared, and the respiration returned to its regular rhythm. On the next day the subglottic œdema persisted, the temperature became elevated, the urine showed the presence of albumin, and the dyspnœa reappeared. There were no signs of bronchopneumonia. Four days after its entrance to the hospital, the child died. Autopsy showed œdema of the arytenoepiglottic folds and of the superior vocal cords; tracheobronchitis with ulcerations, intense pulmonary congestion without any foci of bronchopneumonia. Examination of the blood taken from the heart immediately after death, and the microscopic study of the different organs, showed everywhere the existence of a yellow staphylococcus, which, inoculated into animals, proved to be very virulent, causing œdema.—*Le Progrès Médical*, March 12, 1904.

Contribution to the Study of Arguillulosis Intestinale.—Alberico Testi has made a study of the conditions under which the intestine is infected by these parasites. We are well acquainted with the development of the trichina in the intestine, and its passage by the lymphatics or the blood into the organism, to localize itself in the muscles. Tessier saw in the blood of a patient the larvæ of the parasite of trichinosis. The penetration of the larva may be assisted by a lesion of the intestinal mucosa. Ulcerative lesions are produced in various ways—for instance, by the presence of nematodes and other inhabitants of the intestine, such as lumbricoids. The author's own case indicates that to obtain nutrition the arguillulosis may enter the mucosa and produce grave lesions which may end in secondary septicæmia and death. This procedure distinguishes them from ankylostoma, which has quite other attributes. Ankylostoma produces only small superficial

hemorrhages, while arguillulosis may produce very severe deep lesions of the intestinal wall, the glands and the lymphatics. It was impossible to discover how the anguillulosi entered the intestine; the diet, mode of life, etc., of the patient did not differ from that of those persons living near her. The author believes that cases of arguillulosis infection are much more common in Italy than is generally recognized, and that the larvæ are communicated to those who work on the land by drinking water from the streams, or by eating green vegetables.—*Rivista Critica di Clinica Medicina*, February 20, 1904.

The True Value of the Objections Advanced against the Intramuscular Injection of Calomel in the Treatment of Syphilis.—A. Scarenzio has found calomel used hypodermically most successful in the very obstinate cases that resist all other forms of mercurial treatment. He recommends using calomel prepared from the vapor, because it does not clog the syringe, using oil of vaselin as medium, and making the menstruum perfectly aseptic. The Pravaz syringe should be used, made of ebonite and with a long needle that is not too small. The preferred location for the injection is the upper part of the gluteal muscles, a little above the great trochanter, at the beginning of the sacrococcygeal fold. It is to be recommended in phagedenic syphiloma of the tongue, malignant syphilides with early ulceration, tertiary sclerotic glossitis, severe laryngitis, rebellious secondary lesions of the tongue, and old gummata of the nervous system that resist all treatment. He has not found it to have bad results in cases in which proper dosage and technique were used. No marked pain was produced at the site of puncture, nor has he observed severe stomatitis, diarrhœa or embolic manifestations following its use.—*Gazzetta Medica Lombarda*, February 22, 1904.

The American Journal of the Medical Sciences, March, 1904.

Hæmolymph Nodes.—Hughes Dayton concludes that the histological and experimental evidence is strongly indicative of the existence of the hæmolymph node as an organ *sui generis*. In the light of our present knowledge the chief practical point, however, is to recognize the capacity for phagocytic destruction of red blood cells which is possessed to a high degree by certain lymphoid structures, rather than to dwell upon the individuality of the hæmolymph node. The occurrence of transition forms from the node containing blood sinuses only to that with sinuses containing lymph alone renders a strict classification impossible. For practical purposes Warthin's grouping of cell varieties under the heading of hæmolymph nodes appears eminently satisfactory.

A Study of the Caloric Needs of Premature Infants.—John Lovett Morse believes, from his study of this subject, that the caloric need of premature infants is relatively greater than that of full-term infants. This greater need is due in part to the small size and comparatively large surface area of premature infants, which cause them to lose heat faster than do larger, full-term infants, and partly to the incomplete development of their digestive powers, on account of which they utilize a relatively smaller proportion of the caloric value of the food ingested. This conclusion emphasizes the importance of protecting premature infants against loss of heat and of providing for them a food which will throw the least work on the partly developed digestive powers.

Multiple Sarcoma.—Thomas A. Clayton considers here the multiple sarcomatous growths in the skin and subcutaneous tissue, excluding that class of tumors characterised by lymphoid cells. As to the etiology of sarcoma, whether single or multiple, practically nothing is known. It may follow an injury or may take its origin from old scar-tissue, or there may be no discoverable cause. The parent tumor in this variety of sarcoma is not infrequently a pigmented mole which suddenly becomes malignant. The usual cause for this change is an accidental injury or friction from the clothing. The symptoms are not distinctive. The blood shows nothing but the conditions found in any severe secondary anæmia. The diagnosis is simple in a fully developed case. In the early cases it is not so easy. The most satisfactory method of diagnosis is to remove one of the smaller nodules for microscopical examination. But operations upon sarcomata are often followed by rapid and more malignant recurrence. If the skin has been involved, the growth is almost sure to recur at the original site, but if subcutaneous, the danger is much less. The question of operation is one which requires careful consideration. As to drugs, arsenic is the only remedy which has proven of any value.

Three Cases of Pernicious Anæmia, with a Description of the Pathological Changes Found in the Spinal Cord.—Robert Reuling describes these cases, one by one. In the first case, in every specimen examined, there was seen a narrow strip of degeneration in both the column of Goll and that of Burdach, most marked in the former in most sections. The degeneration was most apparent in the lower cervical and upper dorsal regions. In the Van Gieson specimens it was clearly shown that these degenerated fibers had lost their myelin sheaths, and very few axis-cylinders could be made out in the degenerated areas. The remainder of the cord was absolutely normal. The same degeneration was apparent as far down as the upper sacral cord. In the second case the spinal symptoms seemed to precede the onset of the anæmia. In all sections except those from the very lower dorsal, and the sacral regions, a well-marked degeneration, involving almost the entire posterior tract of fibers, including the columns of Goll and Burdach, was seen. The change was most pronounced in the upper dorsal and lower cervical regions. A number of nerve fibers of both right and left lateral columns had degenerated. In the third case the only change from the normal were several small circumscribed areas of degeneration limited to the anterior parts of the cord. This degeneration was due to small hemorrhages into the cord substance.

Tuberculous Stricture of the Ascending Colon, with Sudden Total Obstruction of the Bowel; Perforation of the Intestine; Removal of the Cæcum and Half the Ascending Colon; Recovery.—Thomas S. Cullen reports this case of a patient twenty-four years old, who had practically no symptoms until about five hours before operation, and then there was moderate pain over the appendix, accompanied by rigidity of the right rectus. Examination of the blood showed a total absence of eosinophiles. The only way in which the writer can account for the lack of symptoms is that for some reason there occurred an acute contraction of the stricture, which, up to this time, had permitted the free passage of fæces. The possible existence of such a condition supplies another indication for early operation whenever trouble exists in the appendiceal region. Already peritonitis had developed, although the symptoms had existed for so short a time; and had there been a little delay, there would have been scant chance of saving the patient. After the appendix was removed and the pus wiped from the pelvis, the abdominal cavity appeared normal. The right renal pocket was exposed, however, and some dark fluid escaped. A perforation in the ascending colon was then discovered. Where there is a free accumulation of fluid in the region of the appendix, by gravity it will travel down into the right renal fossa. The ascending colon was drawn out and total obstruction was found a short distance above the ileocæcal valve. The lower third of the ascending colon, the cæcum, and a small part of the ileum were removed. An end-to-end union was made on account of lateral tension.

An Experimental Study of the Relation of Cells with Eosinophile Granulation to Infection with an Animal Parasite (Trichina Spiralis).—Eugene L. Opie declares that the administration of trichina spiralis to the guinea-pig causes an increase of the eosinophile leucocytes in the blood, comparable to that which accompanies human infection. There is no constant alteration of the number of these cells until the end of the second week after infection, when their relative and absolute number rapidly increases, and reaches a maximum at the end of the third week. At this time embryonic trichinæ are in process of transmission from the intestinal mucosa by way of the lymphatic vessels and the blood through the lungs to the muscular system. Eosinophile cells accumulate in the mesenteric lymphatic glands and in the lungs and form foci which resemble small abscesses in which polynuclear leucocytes are replaced by eosinophile cells. These cells are provided with polymorphous nuclei and do not differ from the eosinophile leucocytes of the circulating blood. Accumulation of eosinophile cells in the mesenteric lymphatic glands and in the lungs is explained by the transmission of the embryonic parasite through these organs. Increase of eosinophile cells in the blood and in other organs is accompanied by characteristic changes in the bone-marrow. The fat is diminished in amount, and cellular elements replace it. Cells with eosinophile granulation are present in immense number, and particularly numerous are the eosinophile myelocytes, cells peculiar to the bone-marrow, while such cells, undergoing mitotic division, are more numerous than usual. The bone-marrow is the seat of multiplication of the eosinophile leucocytes. The number of eosinophile leucocytes in the blood always diminishes before death, so that the proportion usually becomes less than 1 per cent. Infection with a very large number of trichinæ causes a rapid diminution of the number of eosinophile leucocytes, and is quickly fatal. The eosinophile cells of the bone-marrow exhibit degenerative changes, of which nuclear fragmentation is most characteristic. Similar changes may affect the eosinophile cells of the intestinal mucosa and of the mesenteric lymph glands. Mild infection stimulates the eosinophile cells to active multiplication, but severe infection causes their destruction.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON ORTHOPEDIC SURGERY.

Meeting Held February 19, 1904.

HOMER GIBNEY, M.D., CHAIRMAN.

Arthropathies of Locomotor Ataxia.—Dr. GEORGE R. ELLIOTT presented patients with this condition. In the first patient the left knee was the only joint affected, showing *genu inversum* and not to be confounded with primary *genu valgum*. There was a certain enlargement of the head of the tibia, œdema about the knee-joint, and enlargement of the leg and thigh. The left leg and thigh measured one inch more than the right. The chief subjective symptom was metatarsal pain. Four operations have failed to relieve this troublesome symptom.

The second patient was a man about fifty-seven years old, confined to a wheel chair and bed. The joints involved were the small joints of the fingers, chiefly the first phalangeal joints. These deformities were globular in shape, painless and devoid of swelling, and had been so from the beginning. The patient in his wheel chair with overcoat on, placed the heel of both feet behind his head, demonstrating the muscular hypotonia common in locomotor ataxia.

He further presented a cast of the hand of a third patient who was unable to be moved. The cast showed very marked globular swellings of the phalangeal joints. He also had a very marked arthropathy of the left shoulder, so badly involved that he could dislocate the joint at will. The head of the bone was markedly enlarged, the acetabulum was filled up, and there was destruction of the capsule and ligaments—all painless from the beginning.

Dr. V. P. GIBNEY said he thought the laxity of muscles in case No. 2 very interesting, and wanted to know whether that was a common feature of the disease. He thought it extraordinary to see a patient as old as this man, with ligaments so relaxed as to enable him to put his legs over the back of his neck. In those cases he had seen, the laxity of ligaments was in the ankles and knees. The other case was interesting on account of the neuralgia in the internal plantar, and failure to get relief after section of the nerve, but he presumed that the tabes from which the man suffered, rather ruled it out as a case of metatarsalgia.

Dr. R. SAYRE said in many cases the relaxation affects the joints of knees and ankles as well. He had had many cases in which the patients could walk around comfortably with lateral support on knees, when they were incapable of standing without this support, the ligaments being so relaxed. In these cases the joints were prone to luxate.

Dr. BREWER said he was interested in the case reported. He had treated a similar case: A neurotic boy who complained of pain in the metatarsal joint of the great toe. He could not step or walk. There was an extremely tender point over the joint, which was a little thickened and reddened. He had worn a badly fitting shoe, which perhaps caused slight deviation of the toe. The joint was opened and found to be healthy. A little piece of bone was taken away, and the pain was relieved. A return of acute pain occurred, which was relieved by the application of the cautery. This relief continued for a number of weeks, but the pain returned, so intense the boy could do nothing. He was in an hysterical, nervous state. He was seen by Dr. Blake, who took out about one inch of the internal plantar nerve, affording relief. Three months later he again operated and took out the whole of the nerve, which presented a small neurofibroma near its origin. The pain came back after a while and the boy underwent a fourth operation, this time Dr. Bull operating. In about three months there was a fifth operation, the result of which was unknown. Dr. Brewer would like more light on the subject of these cases. He thought it rather common to find such laxity of the hip ligaments from non-use.

Dr. DANA said he could only confirm Dr. Elliott's statement that there is this relaxation, very marked, in most cases of arthropathies, usually associated with atrophy of the head of the bone. He was interested in hearing the remarks about splints for the joints. He thought it a mistake always to put splints on tabetic joints. He cited a case in illustration.

Dr. SAYRE said that in marked relaxation of ligaments it was sometimes quite possible to slip the femur on the tibia. When the patient was upright and moved in any direction, there was danger of complete luxation of the joint, and possible rupture of the skin as well by constant violent slips. He had seen those who were incapacitated for going about except with two crutches, who, when properly fitted with apparatus, could walk without a cane. There was sufficient muscular power and sufficient coordination of the muscles to move the legs in an anteroposterior direction, if something was put on to limit the lateral deviation.

Scurvy Simulating Pott's Disease.—Dr. HOMER GIBNEY presented a child of twenty months from the Dispensary of New York Hospital referred as case of lumbar Pott's disease. No disease of the spine was, however, found, but a very marked scorbutic condition in addition to a pronounced general rachitis. The scorbutus responded quickly to treatment, and the long posterior rachitic spinal curvature is yielding to a perfectly fitted frame on which the child is placed and mother instructed as to its management.

Acute Infectious Osteomyelitis of the Spine and Acute Suppurative Perimeningitis.—Dr. J. RAMSAY HUNT read this paper. (See p. 641)

Dr. DANA said he had only seen one case such as Dr. Hunt reported, and could add nothing to the subject. He only rose to express his gratification at the clear and convincing way the matter had been presented. He thought Dr. Hunt's view that perimeningitis is always secondary, correct.

Dr. BREWER said he had seen only two such cases, both unrecognized at the time he first saw them. He had been looking for a comprehensive paper giving fuller statistics than could be found in abstracts from foreign literature, and such a paper had been read by Dr. Hunt. He thought it most valuable from a surgical point of view. In each of Dr. Brewer's cases there was a perirenal abscess. The pus was found to issue from diseased vertebral bodies. In both cases there was extreme sepsis. He supposed at first that the trouble came from the kidney. After exploring the kidney and finding it normal, he made a small opening in the psoas, then into the vertebral column and removed the sequestrum. The first patient died in a week or ten days. After death an autopsy revealed a very extensive process. In the second case, a man had chills and fever, and complained of pain in the back, which had been relieved for a number of days before Dr. Brewer saw him; and with the relief of pain, there was the formation of a large lumbar indurated mass. This was opened. At the first operation a quart of pus was evacuated. The septic symptoms abated, but there was no closure of the sinus. A second operation was done to remove a supposed diseased and suppurating kidney. By making a large incision, the region of the kidney was exposed, and found to be normal. The psoas was filled with pus: also a focus in the body of the vertebra. Dr. Brewer said he had another case but was not sure it was primary septic osteomyelitis. It occurred in the arch. It was an old case operated on before Dr. Brewer saw it. He simply provided better drainage. He thought these cases should be diagnosed early, and that we should be on the lookout for them. The rate of mortality was high. The vertebral bodies were inaccessible, and required prompt treatment.

Dr. V. GIBNEY said those who had been handling

vertebræ for a great many years would feel especially in sympathy with a differential diagnosis. In regard to prognosis and analogy of osteomyelitis of the vertebræ and of the hip, when Mr. Smith of London began to report cases, and Mr. McNamara followed, there was frightful mortality. As they were recognized earlier, the mortality was much lessened, because their acute infectious nature was understood and prompt measures were taken to secure relief. In place of dangled hips with a few half-opened abscesses, we now have much better hips, going at once to the focus of disease removing sometimes the head lying loose in the cavity, fixing the limb in good position, draining well and getting prompt relief and pretty stable hips. During the last year or two, when so much had been said and observed about congenital hips, he had found cases said to be such hips, with one or two tell-tale abscesses on the outer side of the thigh with history of acute abscess which had opened, when the child began to walk lame. A patient was brought to him recently from a long distance, said to be suffering from congenital dislocation. The speaker saw a cicatrix on the inner side of the thigh. He was told that at nine months the child had had an acute attack of hip trouble, the abscess opening and soon healing. When the child began to walk, no attention was paid to the hip. There was an inch and a half shortening, and the case was labeled as one of congenital dislocation of the hip. In regard to pachymeningitis, etc., he was reminded of a neurological experience—Dr. Putzell read a paper when we were finding a number of those cases, and the speaker had put on record two or three cases of peripachymeningitis hypertrophica cervicalis not acute. Those cases would now simply be eliminated, if we had to recognize the disease as osteomyelitis. We had stopped talking about acute suppurative periostitis and acute peripheral osteitis. Eight or ten years ago Dr. McNamara showed the speaker specimens in Westminster Hospital, declaring it was general osteomyelitis, and could not fairly be called periostitis.

Dr. SAYRE said he could only add his voice to those who had preceded him. He thought, with Dr. Gibney, that the cases were recognized and operated on promptly now, and compared with the mortality of the past, there was a gratifying number of recoveries. He had had two cases showing acute suppuration, and had opened, drained, and planned—under such treatment the majority of cases recovered as had those he mentioned. The difficulty, however, was in recognizing the cases in which the foci were deep-seated, and operating upon them promptly enough to give relief.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, March 24, 1904.

DR. A. PALMER DUDLEY IN THE CHAIR.

Recurrent Tubal Pregnancy.—Dr. PHILANDER A. HARRIS presented this specimen and reported the case of a negress, twenty-six years old, upon whom he first operated May 20. The abdomen was found to be filled with blood and clots, and from it was removed a fœtus about ten inches in length. Before operation 425 c.c. of normal salt solution was thrown into the veins and, after the operation, 650 c.c. more. The patient made a good recovery and menstruated every four weeks after. It was comparatively painless since recovery from her previous tubal pregnancy, until February 18, when the appearance of blood was attended with severe pains in the hypogastric region, more especially upon the left side. Pains recurred almost daily. On March 22 she was seized with a severe pain in the left lumbar region, and then was sent to the hospital. Physical examination showed the cervix to be rather soft and velvety and the uterus fixed in its position with a tumor above and to its left. On March 23 abdominal section was performed. A pint or more of blood was found in the abdominal cavity, and some clots partly organized and very adherent to the omentum and intestines. The left tube was about 8 inches long, 1¾ inches in diameter, closed at the ostium abdominale, and was believed to contain the product of an interrupted if not progressive pregnancy. The tube was exsected, closing the chasm in the uterus with sutures. The isthmian portion of the tube on the right side was larger, harder, nodulated, and altered in character and appearance since the operation ten months previous. This, too, was exsected. At the last meeting of the Section he stated that he had met with five women in whom tubal pregnancy had recurred. To that he now added another, making altogether six cases of this class.

Hæmatoma of Both Ovaries.—Dr. PHILANDER A. HARRIS presented this specimen, removed from a woman thirty-nine years old. He said that apoplexy or hæmatoma of the ovary of such magnitude as the specimen presented was certainly a very frequent occurrence. It had been asserted that one effect of chronic apoplexy of the ovary was to destroy the stroma of the ovary. The case which he presented had the condition of hæmatoma in both ovaries, and it had probably existed in both ovaries for many years without inducing the menopause. For the past ten years or so the duration of every menstruation had been three or four days, while in her earlier life it lasted a full week. The shell, which was all that remained of her right ovary, had not only been sufficient to insure the continuance of menstruation, but the duration of the flow had been somewhat lengthened and its quantity increased. He had since incised and cauterized its cavity. The left ovary, which had been the seat of a hæmatoma, was removed.

Dermoid Cyst.—Dr. PHILANDER A. HARRIS presented this specimen. The cystic ovarian tumor was on the left side and was found to contain the usual greasy material of dermoid cysts, also a ball of long hair, half as large as one's fist, and one tooth growing from its wall. The ball of hair was threaded through its center by a string of tissue about 2 mms. in diameter, either end of which was attached to opposite sides of the cyst wall.

Extensive Primary Peritoneal Tuberculosis; Tuberculous Omentum, Fallopian Tubes, and Ovaries.—Dr. HERMANN J. BOLDT presented these specimens, which he had removed from a patient forty-two years old. Her present illness began eight months ago with pain in the abdomen and increase in its side. She had very obstinate constipation. She lost much flesh and strength. The abdomen was greatly distended with ascitis. On opening the abdomen a large quantity of dark gray-greenish fluid was evacuated, as well as numerous masses of gelatinous material. A smooth tumor wall presented itself, which was proven to be of pyogenic membrane, enclosing the entire viscera. Upon opening this sac intestines came into view, and they were found to be thickly studded with small tuberculous nodules, and the bowels throughout intimately adherent to each other. These adhesions were broken up and much bleeding occurred. The brittleness of the structures was so that no ligatures could be applied and tight tamponading became necessary. The entire omentum was rolled up in a tumor-like mass above the transverse colon and was amputated with the Paquelin cautery. The patient was making a smooth recovery. No tubercle bacilli were found in the sputum. He said the peritoneum was undoubtedly primarily affected.

Inflammation about a Meckel's Diverticulum Resembling an Appendicitis.—Dr. BOLDT presented this specimen. At operation, when looking for the appendix, there was brought up into the wound what was thought to be an inflamed appendix, but which proved to be a large diverticulum, so closely resembling it that it could not have been distinguished from one had it not been for the small intestine. The appendix itself was found to be normal.

Unusually Large Suppurating Tuberculous Tuboovarian Tumor Removed with the Uterus; Tuberculous Peritonitis; Recovery.—Dr. BOLDT presented these specimens. The

left lower abdomen was more prominent than the opposite side, and was filled with a tumor which reached above the level of the umbilicus. It was very adherent and somewhat sensitive to pressure. Whether the tumor was the primary tuberculous condition, or whether its tuberculous change was secondary to the tuberculous peritonitis was a question not determined. The sac wall measured from 1 to 1½ cms.

Vaginal Hysterectomy for Uncontrollable Uterine Hemorrhage.—Dr. BOLDT reported this case. Extirpation of the organs was resorted to because, with such frequent recurrences of adenomatous proliferation of the endometrium, practical experience had shown that malignant disease was the usual outcome.

Extensive Rupture of a Tubal Pregnancy.—Dr. BOLDT reported the case of a woman, twenty-six years old, who was supposed to be pregnant ten weeks. Rupture took place about five hours after consultation, and she was operated on immediately while pulseless and in collapse. The surgical work required scarcely five minutes and the bleeding tube was secured in a fraction of a minute, but, despite all efforts, she died.

Retroperitoneal Abscess Simulating a Pyonephrosis—Dr. A. STURMDORF presented a kidney removed from a woman twenty-six years old. She had had two severe attacks of suppurative appendicitis, which were treated simply by cutaneous incision by the attending physician. When first seen by him last May there was pain and tenderness in the right inguinal region, and examination showed suppurative disease in the right side of the pelvis. The operation revealed a long sclerosed appendix, whose tip was adherent to the abdominal wall, and there was an abscess involving the right tube and ovary. Some months later she returned in a septic condition, and operation then revealed what was supposed to be a very large suppurating kidney, and then pus appeared in the urine for the first time. The ureter was evidently occluded and could not be made patulous. The functional activity of the other kidney having been determined, the injured kidney was extirpated. What had closely simulated a pyonephrosis proved to be nothing more than a retroperitoneal abscess, surrounding and involving the perirenal connective tissue.

The Treatment of Post-operative Peritonitis.—Dr. EGBERT H. GRANDIN presented this paper. He said that the initial treatment of post-operative peritonitis was summed up in the one word prophylaxis. This prophylactic treatment consisted of attention to the following points: Absolute asepsis in the operating room; the avoidance of germicides, such as bichloride, during the operation; the handling of intestines, and the exposure of omentum as little as possible; the covering of raw surfaces with peritoneal flaps as far as possible, and where this was impossible the protection of such surfaces by sterile gauze.

In any case in which the presence of pus was suspected before operating or in which it seemed probable that pus might form, ten grains of calomel combined with twenty grains of bicarbonate of soda should be administered three hours before operation to provide for catharsis afterward, thus avoiding futile attempts at such administration in the presence of an irritable stomach. If after such precautions peritonitis developed he distinguished three types: The paretic or pseudo-peritonitic; the inflammatory; the septic. Not infrequently after abdominal section, the belly became gradually tympanitic, the stomach rejected food, the pulse and temperature were slightly elevated, and the operator, in despair, proceeded to dose the patient with a multiplicity of drugs, with the result that the patient died. This type of peritonitis, viewed from the standpoint of the clinician, he termed spastic or paretic. In these cases he employed only one drug, either atropine or hydrobromate of hyoscin, in full doses, hypodermically to the physiological extent, with the result that the spasm of the bowel relaxed and the patient recovered.

In the inflammatory type of peritonitis the temperature and pulse began to rise three or four days after an aseptic abdominal section, and this to the vital point. The bowels might or might not respond, the stomach was intolerant of food and medication. Here the operator, who had administered calomel before operating, was fortunate. In such cases we had to differentiate between general and pelvic peritonitis, and if it became apparent that we were dealing with an inflammatory condition of the peritoneum it was evident that what this organ needed was rest, not the spur. To the rest we might add with advantage the ice-bag to the abdomen, washing out the stomach, and rectal feeding. Fordyce Barker taught the free exhibition of codeine under such circumstances, as this drug neither paralyzed peristalsis nor upset the stomach. The case should be carefully watched, and if pus formed locally or in the pelvis it should be attacked under well-recognized surgical rules. In septic peritonitis also that operator was fortunate who had the calomel in the stomach of his patient before the operation. He employed the term septic generically, as the bacteriologist afforded no definite help as to the exact germ or toxin that we were dealing with. This form of peritonitis was characterized by rapid pulse and respiration and low temperature. The belly might or might not be tympanitic, the stomach was apt to be intolerant, the bowels were apt to be loose and the kidneys to be torpid. In these cases we were dealing with a deep toxæmia, and the best we could do was to institute a sustaining treatment, in the hope that Nature might throw off the toxins or the products of the toxins. He suggested toning up the heart's action by means of alcohol and of strychnine. When the kidneys were inefficient he used digitalis. He threw plenty of salt into the circulation by means of the veins or the rectum or through the medium of the skin, taking the hypothetical view that we were thus diluting the toxins. If pus could form in the pelvis or abdomen, open. The injection of formalin into the veins, the insinuation through posterior section of iodine into the system, etc., had yielded no better results than the sustaining methods. In regard to local septic peritonitis he could show as good results from opening the cul-de-sac and impacting plain sterile gauze as those recently heralded from the use of a specially prepared iodoform gauze.

The Treatment of Post-puerperal Peritonitis.—Dr. ROBERT MURRAY said that this, like all forms of peritonitis, was due to sepsis, or the introduction of virulent bacteria at the time of confinement, and should be differentiated from the other attacks of peritonitis. There was not usually one organ involved, but the uterus, the adnexa, the vagina and external parts, all might be involved in the septic process. It was important to note that, in such cases, the condition was not autogenetic, but the poison was introduced by the hands of the surgeon, nurse, or some attendant. The virulence of the course of peritonitis was to be determined by the particular bacteria causing the infection and also, in a measure, by the methods of their entrance into the system.

He said that puerperal peritonitis was only one of the septic puerperal diseases, and yet it was the one which, in greater or less measure, was a complication of all of them. Confining himself to peritonitis, clinically peritonitis in the puerperium, he said it might be local or pelvic peritonitis, or it might be diffuse, and then so severe that the rapidly fatal result left neither time to produce an exudate on the surface of the peritoneum, nor any chance for good to result from treatment, and all depending upon the virulence of the infection. The local variety, or pelvic peritonitis, was often present, the result of leakage from the Fallopian tubes, extension from an inflamed and septic endometrium, from an ovarian abscess, or of ex-

tension through the uterine wall by the lymphatics. An exudate may be formed at the sides of the uterus, circumscribed, and may terminate in suppuration, with the formation of a pelvic abscess involving the tubes and ovaries, or again, after some time, it may become absorbed. Diffuse peritonitis resulted from an extension of a pelvic peritonitis, from tears in the vagina or uterus, from a sloughing uterus or pelvic tumor, or from gonorrhœa.

The treatment was really the prophylactic one; this meant cleanliness. The treatment was considered under the following three heads: (1) To limit or do away with the source of infection; (2) to combat the systemic intoxication by supportive measures; (3) to treat such symptoms as might depreciate the patient's powers of resistance to infection, or themselves cause a fatal result. At the first signs of a peritonitis occurring, the external parts should be most carefully examined; then the uterine cervix should be carefully inspected. Then wash out the uterine cavity, thoroughly clean it, and examine with finger. He had been asked if all cases should be cleaned out, and answered "Yes, if saprophytic." He said that we might determine whether we were dealing with streptococci, staphylococci, pneumococci, or the colon bacilli, yet such information did not give us practical points for working. But if the bacteria found were shown to be streptococci, the uterus should be washed out but not curetted. Clinically and practically all that then could be done was to clean out the uterus thoroughly. Application of the ice-bag was advocated and, if this was not well borne by the patient, the application of heat. If the vagina become boggy open, break up exudate with finger, and pack the part with gauze; the limiting of the exudate will prevent the carrying of infected material into the peritoneum.

Medicinally, supporting measures, the use of large saline enemata after thoroughly emptying the bowels by a dose of calomel followed by saline laxatives, particularly Epsom salts, to prevent the exudation in the peritoneum forming a culture ground for bacteria, should be employed. The bowels are prevented from becoming paralyzed and food is more readily absorbed when such a procedure was followed. Alcohol, strychnine, and the heart tonics should be used, with easily digested nourishing food given frequently. If tympanites was marked with vomiting, lavage of the stomach was of the greatest service. Hypodermoclysis with decinormal salt solution and intravenous injections were often of great service in sustaining the patient and, perhaps, diluted the poison and caused excretion of toxins by the free action of the kidneys. The fever should be controlled by tepid sponging or the ice-bags, and not by the coal-tar products which weaken the heart if used freely. As phagocytic agents, nuclein and albuminose had been used and had certainly seemed to aid, though other agents were employed at the same time. When the uterus was septic, hysterectomy and drainage of the peritoneum had been done. When done early, the uterus might be sacrificed unnecessarily; when done late with diffuse septic peritonitis, the results were fatal; the proper time, if any, to interfere surgically was so hard to determine that, unless the peritonitis was limited when the operation was not called for, the operation was useless.

The Treatment of Gonorrhœal Peritonitis.—Dr. A. Ernest Gallant read this paper. He described the gonococcus and the manner in which it reached the peritoneal cavity. One should endeavor to check its ravages by timely education, timely eradication, and timely enucleation. He urged at length the duty of the profession in instructing the laity in regard to the dangers of infection and their serious consequences. As to eradication, he first considered children. He described the symptoms of gonorrhœa in little girls, and said that while it might involve the tubes, ovaries, and peritoneum, it never involved the uterus. The disease was occasionally, though rarely, seen in the new-born. The prognosis for little girls was good, and the disease usually terminated within three months. In the treatment of these children the vagina was irrigated with warm boric acid solution, and with the same "p" syringe one-half ounce of one-per-cent. silver nitrate solution was injected. This process was repeated every third day. A 10-per-cent. boric-acid ointment was applied twice daily to the vulva, and an alkaline diluent with copious draughts of water were administered internally. He questioned whether the disease was eradicated in these cases and whether the girl at puberty would not show the effects of her early infection. In females, after puberty, the most important indication was to arrest and limit the disease to the vagina and urethra, before the gonococcus found its way into the cervix and uterus, Fallopian tubes and peritoneal cavity. The drugs which had rendered most efficient service were silver nitrate and ichthyol. The introduction of a sound or instrument carrying a drug into the cervix was no longer practised on account of the danger of conveying the gonococci higher up and thereby infecting the uterus. He believed with Neisser that once the gonococci invaded the uterus there was little chance of medical treatment availing; one must never lose sight of the danger of stirring up the enemy and thus facilitating his entrance into the tubes and peritoneum. When the gonococci invaded the peritoneal cavity, pelvic and abdominal pain was incited. There was increased temperature and pulse. As the gonococci did not grow at a temperature lower than 79° F., or above 100.4° F., we might take advantage of this fact and make use of an apparatus suggested by Stroynowski (*Centralblatt für Gynäkologie*, December 13, 1902) for the local application of cold to the female pelvis by a continuous current of hot or cold water within the vagina. In regard to timely enucleation, in a majority of active gonorrhœal infections, uterine, tubal, or peritoneal, one hesitated to bring into play either the curette, or the vaginal or abdominal incision, until after the acute symptoms had subsided, and then only if the general health suffered or local symptoms persisted to such a degree as to disturb menstrual, marital, or maternal functions. He related a case upon which an operation was performed for appendicitis, and upon opening the abdominal cavity gonorrhœal peritonitis was found as well, as an illustration of some of the difficulties that prevented one from making hard and fast rules. He related another case which illustrated the too common course of gonorrhœa, viz.: Early infection, exacerbations, metrorrhagia, pyosalpynx, tuboovarian abscess, ovarian cyst, appendicitis, operation, post-operative neurasthenia.

Dr. S. Marx said that Dr. Grandin's paper was interesting to him and particularly his division of post-operative peritonitis into the paretic or pseudo-peritonitis, the inflammatory and the septic, and also his means of differentiating them. He did not believe the line of demarkation could be so finely drawn as depicted by the author. Some years ago he had used codeine in the treatment of peritonitis, but found that it was not as efficacious as had been claimed for it, and lately he had been using opium in enormous amounts, following out the teachings of his late teacher, Dr. Alonzo Clark. In the inflammatory conditions he attempted to paralyze the patients with opium. Regarding the septic form of peritonitis he advocated radical surgical means, opening the abdomen, washing it out, etc., and then using the antistreptococcic serum. In the puerperal cases laparotomy plus the serum did not yield good results with him. He said that something more radical should be attempted in these cases. He said that Dr. Murray's paper was a very important one from the standpoint of drawing the attention of the members to the treatment of puerperal peritonitis, *i.e.* its septic nature, and to the vast importance of an inspection of the genitals. During the past six weeks he had seen from thirty to thirty-two cases, and in not a single instance did he find it necessary to enter and wash out the uterus. There was found in each instance a local exudate in the

vagina or on the cervix, and this, when thoroughly destroyed, caused a subsidence of the symptoms. These same cases, if seen five or ten years ago, would have been curetted,.and this probably explained why, at that time, his mortality was so high. In not a single instance had he found it necessary lately to introduce the hand into the uterus. He believed that if nothing was in the uterus it was not necessary to use the curette; but if something was there it should be removed. He again emphasized the importance of a careful inspection of the genital tract. In cases of septic peritonitis following labor the results were bad, and in spite of the use of opium and drainage, etc., a large number of these patients died. He had on different occasions been tempted to do a hysterectomy, but did not, and at the post-mortem conditions were present at variance with what were supposed to be there, and he then found that such interference would not have saved the patients and was thankful for his non-interference. To operate early in puerperal peritonitis, *i.e.* hysterectomy, he believed to be a crime and to operate too late was futile. Where, then, is the happy middle ground?

Dr. Hermann J. Boldt, in speaking of the differential diagnosis between the suppurative and the puerperal form of peritonitis, said that symptomatically they were practically identical. In septic peritonitis the temperature always remained low, as a rule, although occasionally one met with exacerbations when it ran up to 105° or thereabouts, and then dropped to 100° or 99°. Usually the abdomen was flat. To illustrate the futility of attempting to make a diagnosis of any particular form of peritonitis and to tell what the real condition was, he reported a case which showed how impossible it was to be guided by any set rule, so far as symptomatology and bacteriology were concerned, and to say what form of treatment should be employed in every case.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, Held January 13, 1904.

Dr. William Hallock Park in the Chair.

Some Observations on Lymphatic Leukæmia.—Dr. L. B. Goldhorn read this paper. He said that during the past years he had had the opportunity of examining the blood of a number of cases of lymphatic leukæmia, and the last one examined had presented such remarkable departures from all the others that he reëxamined many slides and wished to present the inferences that he had drawn.

Morphology of the Blood in Leukæmia.—He said that leaving out the pseudoleukæmia infantum of von Jacksch there were two distinct forms of leukæmia which he called lymphatic leukæmia and myelogenous leukæmia, so omitting the usual addition of "spleno" or "lieno" on account of the not infrequent involvement of the spleen, in the lymphatic variety. From a hæmotological point of view, which he regarded as the only proper one, these two were readily held apart; from a pathological or anatomical point of view that seemed to be impossible. If one divided the leucocytes into two great classes, the hyaline and granular ones, he said that in the myelogenous leukæmia there was an increase in the granular varieties, and in the leukæmic one an increase in the hyaline forms with a probable exception of the mononuclears and transitionals. The myelogenous form was a new growth of the centers of the bone-marrow which gave origin to the granular leucocytes of the blood and the lymphatic form a hyperplasia of those centers which supplied the blood stream with lymphocytes. Both could form metastases like malignant new growths, the pathological changes in the viscera depending upon them. Just as no two cases of carcinoma with metastases were alike, so no two cases of leukæmia were alike. Recognizing that leukæmia was not a disease of the blood proper it was to be expected that the changes in the red blood and the plasma would vary as the nature and seat of the metastases varied. This was the way he had been able to explain to himself the enormous differences in the degree and character of the different cases of leukæmia. So far he had not had any difficulty in telling the two leukæmias apart. In myelogenous leukæmia he looked upon the mast-cells as the sole characteristic cell; their enormous increase formed so constant a feature that they appeared as pathognomonic, for while there were many diseases in which the myelocytes were increased, myelogenous leukæmia seemed to be the only one in which those cells were so abundant as to give a characteristic aspect to the blood picture. This he stated was not usually taught, and the reason seemed to have been inadequate technique in the demonstration of those cells. Before the invention of the Jenner stain the demonstration of the granules of those cells was a difficult as well as a tedious matter. For their rapid demonstration he suggested a saturated solution of a basic dye like methylene blue or Dahlia in ordinary wood-alcohol. Their granules were brilliantly stained by applying this solution to the unfixed blood smear for a few seconds and washing in water. He had been unable so far to obtain a bood smear from a case of undoubted myelogenous leukæmia in which he could not readily in this manner show this cell in enormous numbers. In what had been termed a mixed leukæmia an enormous increase in the various granule-bearing leucocytes was seen, together with what appeared to be large mononuclear hyaline cells; having Ehrlich's classification in mind, this did not seem to him a leukæmia of double, viz., myelogenous and lymphatic. origin, but one of purely myelogenous origin, in which the mononuclear cells were not lymphocytes, but the mononuclear and transitional cells of Ehrlich. A mixed leukæmia would, under these circumstances, appear to be of very rare occurrence, as rare as a carcinoma with a sarcomatous element in it.

A Case of Lymphatic Leukæmia.—The last case he examined was a lady seventy years old, a patient of Dr. Fisk, who furnished him with the following notes on the physical examination: The spleen at present reached down to the umbilicus; in the later part of October it reached only half as far. The leucocyte count then showed 100,000 less cells per cm. than now, but this was probably insignificant, as the leucocytes fluctuated enormously in some cases even during the twenty-four hours. There was no glandular enlargement otherwise, although the liver reached below the free border of the ribs. The patient suffered from diarrhœa, and when this was controlled the patient improved steadily while the splenic tumor increased. He was surprised to find no distinct evidences of anæmia. There were no blasts of any kind, no poikilocytes, no washed-out corpuscles, none of the common degenerations, no increase in blood platelets, but a leucocytosis of 500,000. Ninety-seven per cent. to 98 per cent. of these leucocytes were lymphocytes. Eosinophiles, neutrophiles, and mast-cells were just about normal numerically, *i.e.* per cm. The great majority of the lymphocytes were small lymphocytes, showing but little degeneration. The hæmoglobin was high, giving a high color-index, but it was known that its estimation was not a simple matter in leukæmia. This was about the only condition in which he could recommend the use of Talquist Filterpaper book. He believed this book to be unreliable because it gave in all cases of lessened oxidation of the blood, and markedly in cases of cyanosis, a reading which went eventually much beyond the scale of the color-comparison chart. After comparing the blood findings in this case with other cases he expressed a belief that the prognosis in this case was good, and, to his great satisfaction, Dr. Fisk told him of another case of leukæmia in which the splenic tumor reached to the symphysis pubis and in which there was otherwise no demonstrable infiltration of the lymph nodes. This case ran a very chronic course.

A marked contrast to this case was one which he saw four years ago and which came to autopsy. This patient had a marked lymphæmia and an anæmia of exceptional high degree. He had the pleasure of showing a prepara-

tion of this case to Professor Ewing because he found a number of undoubted megaloblasts besides some myelocytes. There was at the same time a distinct increase in the polynuclears, and many of these showed kariorrhex as Professor Ewing had seen in a similar case before. At the autopsy foci in various stages of breakdown and softening were found in the viscera, and the red marrow shows a picture resembling that seen in cases of pernicious anæmia. In other words, he said the blood picture reflected the condition of the viscera.

Besides these two extremes he said he had preparations from intermediate cases. In one there was before death but little of a splenic tumor, but on the other hand there was much glandular infiltration. Blood smears from this case showed numerous normoblasts; some of these showed exquisite mitoses, and the blood picture was otherwise that of a secondary anæmia of high degree. It was frequently stated that while nucleated red corpuscles were readily found in the myelogenous form they were usually rare in cases of lymphatic leukæmia. This seemed to him to be a mis-statement, the presence of the blasts going simply hand in hand with the nature and degree of the anæmia which might be present. He said it suggested to him the fact that the extent and nature of the anæmia which might be present depended upon the site and nature of the metastases, on the amount of breakdown in such foci, and the consequent absorption of metabolic products from them. At all events it appeared to him that the careful study of the red blood and leucocytes other than the usual lymphocytes was of paramount importance when it was a question of what progress the disease was making, especially also as there did not appear to be any constant relationship between the splenic tumor or the glandular enlargement and the progress of the disease.

Dr. Goldhorn then gave a black-board demonstration of his method of counting blood-cells.

Some Observations on the Thread Reaction.—Dr. E. LIBMAN said that there had been described three forms of reactions which were supposed to be specific—the agglutination reaction, the thread reaction, and the recently described amorphous agglutination reaction of Schmidt. There had not yet been sufficient work done on the thread reaction. The subject was first prominently brought forward by Pfaundler. He had investigated a number of cases of infection by the colon bacillus, and had obtained thread reactions in a number of instances by testing the serum obtained from the patient with the colon bacillus obtained from the infection in the same patient. In non-febrile cases he obtained agglutination reactions. Pfaundler had claimed that the reaction represented more than a specific reaction, viz., an individualistic one, because the serum from a given patient had no effect upon the colon bacilli from other patients, nor was the colon bacillus from a given case affected by sera from other cases. The thread reaction usually appeared after a few hours. Krauss and Loew threw doubt on the claim of Pfaundler because they had found thread reactions occurring both with organisms from a given case and from other cases.

Dr. Libman demonstrated that there were really two forms of thread reaction. In one the organisms grew as a continuous thread; this was often referred to as the "end-to-end" reaction. He has found this reaction often under such conditions that one could be sure that the reaction was not specific. The other form of reaction should properly be called the "chain reaction." In this reaction the organisms were made to grow in threads, but in the threads the organisms appeared to be distinct and looked like streptococci. This reaction when complete, Dr. Libman had found to be more specific than the agglutination reaction. He said that the tests performed in obtaining these reactions must be carefully controlled, for there were a large number of conditions under which bacilli could be made to take on a coccoid form.

Dr. Libman referred to a case in which he found the thread reaction occurring in the human body—in the gall-bladder. He said that in making the tests one must use very thin emulsions of the organism. He referred to the possibility of mistaking coccoid forms of the colon bacillus in urine for streptococci.

Dr. PARK said that in his work the dysentery bacillus he frequently came across thread reactions; in order to have thread reactions one must have growth. Simply by changing the temperature or changing the media one could make the reactions or not make them—for instance, if one used the serum at a dilution of 1 to 500 at a temperature at from 15° to 18° C. there would be no reaction, but if the temperature were raised to 24° or 30° C., there would occur a good reaction. One could make thread reactions at will by remembering that anything which prevented growth would prevent thread reactions.

Dr. Libman said that he would lay stress only on those reactions in which the organism assumed the coccoid form.

Dr. VAN HORN NORRIE asked Dr. Libman regarding the difficulties with the Gram stain for gonococci occurring in the urine.

Dr. Libman answered that if the urine was too acid the Gram positive organism might be decolorized by the Gram procedure, and if the urine was very albuminous and the specimen overheated, organisms which were usually Gram negative might hold the Gram stain.

Comparative Morphology of Vaccine Bodies.—Dr. JAMES EWING presented specimens and drawings of vaccinia of the rabbit's cornea, frog's skin and cornea, and mud-puppy's (*necturus*) skin; diphtherial necroses of the rabbit's cornea, frog's cornea and skin, and salamander's skin; and the skin of a case of measles dying in the full eruptive stage of the disease. The specimens were stained by fuchsin and indigo carmine (Borrel's method).

In describing the specimens the speaker said that in taking up the study of variola in 1901 he had chiefly in mind the hope that the application of Nocht's stain to smears from the lesions of the skin and respiratory mucous membrane might be successful in demonstrating the presence of a protozoon. The results proved negative. Likewise the results of a study of fresh material examined on a warm stage, from variola and vaccinia, were negative not only as to the presence of any recognizable protozoon but as well in regard to the question of amœboid motion of any definite structures in the tissues. The histological study of the tissues while defining a great many structures which suggested a protozoon origin had left him as it had previously left the majority of observers not only in doubt about the origin of many of the suspicious forms, but with the moral certainty that the morphological study of the vaccine body series in variola and vaccinia could hardly be relied upon to yield positive conclusions even to the most experienced observer, while the type of evidence reasonably demanded to convince others of one's conclusions regarding the nature of these bodies seemed much less likely to be obtainable from this line of study. It seemed possible, however, that the study of the changes in the epithelial cells of other classes of animals which might be made to react to vaccine could yield information of value by establishing a comparative morphology of vaccine bodies. The conflicting statements regarding the possibility of producing genuine vaccine bodies by other means than by vaccine also suggested that this subject deserved attention from the same point of view, and would especially assist in separating simple degenerative products from what might prove to be a real protozoon among the host of peculiar structures seen in variolous lesions.

With these objects in view he had compared the changes occurring in the epithelial cells in human variola with those occurring after vaccination in the rabbit, frog, mudpuppy (*necturus*), and salamander; with those resulting from the action of diphtheria toxin, after Sikowsky's method, in

the cornea and skin of the rabbit, frog and mudpuppy; and with those seen in measles.

Among the characteristics of the ordinary vaccine body might be mentioned the perinuclear position, which is not invariable, the clear zone surrounding the body which is probably an artefact but a very constant one with the larger bodies, and the variable staining reaction, some bodies being basophile, others acidophile, while many show both basophile and acidophile portions. The more recently added members of the series, including signet rings, rosettes, crescents, and "encysted" bodies must be regarded at present as of uncertain relation to the simpler bodies first described by Guarnieri.

According to his own observation, the most significant feature of the ordinary vaccine body was the fact that some are basophile, some acidophile, and others possess both basophile and acidophile portions, either compact or granular or vacuolated.

Proceeding to a brief description of the bodies observed apart from variola in man or vaccinia of the rabbit's cornea, may be mentioned first the bodies produced by vaccination of the frog's skin and cornea. Here he had more negative than successful results, and had inoculated many frogs without any definite effect on the epithelial cells. In the best results a localized lesion of the cornea, and a more diffuse lesion from extensive scarification of the skin were observed. In both locations the bodies were much more numerous than in variola, and included many small acidophile and basophile perinuclear forms, some rings, and cysts containing 10–50 homogeneous globules or vacuolated bodies or rings. In the frog's skin the specimen exhibited seemed to show rather clearly that many of the bodies had resulted from the comminution of the nucleus. Others had a different origin, which seemed explicable from the changes produced by diphtheria toxin. In the same locations in the frog diphtheria toxin in twenty-four to forty-eight hours induced cell changes and nuclear and cytoplasmic alterations which seemed to differ from those following vaccination only by their greater intensity. Mechanical influence might have been responsible for some of the changes following vaccination of the frog's skin but not in the cornea, but numerous negative results of vaccination of the frog's skin indicated that the effects of trauma were unimportant. He was inclined to believe that a true progressive vaccine process existed in the skin of the frog in the case exhibited, since this lesion was so extensive.

Comparing the lesions produced by diphtheria toxin with that of vaccine in the rabbit's cornea, there appeared many points of similarity and quite as many differences. The toxin failed, at least in forty-eight hours, to cause the swelling of the cell layer characteristic of vaccine, and the lesion was more intense and the bodies more numerous than with vaccine. Among the changes produced by diphtheria toxin were (1) keratinization of whole cells or of the whole cell layer, the nuclei staining blue after Borrel's stain; (2) keratinization of cell body alone; (3) keratinization of the perinuclear zone of cytoplasm; (4) separation in globular form of keratin masses, which, either in the same or in other cells, assume the perinuclear position and appearance of the vaccine body; (5) transformation of the cell into a cyst containing a great variety of globular, or vacuolated and ring-shaped bodies. Some of these were strikingly geometrical in form and might be described as rosettes. (6) A peculiar series of changes consisted in the formation in the nucleus of one or several large or minute acidophile rings. (7) From the nucleus was sometimes extruded a large strongly acidophile cyst-like body inclosing acidophile granules and minute rings. (8) The peripheral portion of many of the globular bodies broke up into granules, which were often regularly arranged in a fringe about a homogeneous central body which was either acidophile or basophile.

The fate of all that portion of the nucleus, except the nucleolus, was a matter of great interest. Careful study of the specimens seemed to demonstrate that the nuclear material, apart from the nucleolus, did not become incorporated in the fuchsinophile substance, but took the form of the basic-staining vaccine body.

In many nuclei, with or without nucleoli, there appeared a homogeneous basophile substance which sometimes showed convoluted edges, or many regularly placed vacuoles, or became broken up into rings. This substance stained brown or blue with Borrel's method, and black after iron-hematoxylin. Very similar vacuolated nuclear bodies were seen in measles.

Fuchsinophile intranuclear vacuolated bodies and rings were encountered in diphtherial necroses, and in some foci the changes consisted almost exclusively in the formation of intra- and perinuclear acidophile rings. In variola, especially in the trachea, the multiple nucleoli of the epithelial cells could often be seen to increase in size and develop several small or large vacuoles, and to appear as congeries of rings. In general, it might be said that while diphtheria toxin did not reproduce the corneal lesion of vaccinia it produced definitely many of the typical forms of true vaccine bodies. In the rabbit's trachea diphtheria toxin produced a great variety of spheroidal or ring-shaped, or vacuolated intracellular bodies, many of which resembled the bodies seen in the human trachea in variola. In the rabbit's bladder, diphtheria toxin produced the usual changes in the epithelial cells, and here many red blood cells had been extravasated into the epithelial layer, fragmented, and lodged between the epithelial cells or about their nuclei.

In the mudpuppy (*necturus*) the inoculation with vaccine in the skin and cornea produced a good deal of keratinization of cells. This formation of homogeneous acidophile material could be seen very definitely in the very large cells of this animal, as beginning in the cytoplasm near the nucleus and forming an isolated perinuclear mass resembling a huge vaccine body. Yet the resemblance to the vaccine bodies of the rabbit was extremely distant on account of the large size of the cells. The nucleus and body of the pigmented cell of the skin in necturus frequently became fused into a homogeneous mass and assumed a perinuclear position in other cells. Changes in the nucleoli were not observed in necturus.

Inoculation of the skin of the salamander produced much the same lesions as in the frog, but the bodies were much larger and much difficulty was experienced in distinguishing the globules derived from epithelial cells from fragments of red blood cells.

Measles.—In the skin of a case of measles dying in the full eruptive stage of the disease, the epithelial cells in numerous marked foci and diffusely, were found to contain a great variety of intracellular bodies, many of which were identical in appearance with the bodies in variola. In certain foci these bodies were much more numerous than he had ever seen in variola. They presented a greater variety of form, and the same variation between acidophile and basophile staining tendency. Keratinization of complete cells and fragmentation of these cells was frequently encountered. Indeed, the whole process seemed to be a part of the hyperkeratosia which produced the large flakes thrown off in desquamation in this disease. Among the separate bodies were some which might be described as rings, basophile crescents with acidophile nuclei, vacuolated crescents, pyramidal bodies capping cell nuclei, large basophile or acidophile bodies with vacuoles symmetrically arranged, and many other forms shown in the colored sketch. He could find no satisfactory evidence that these bodies had any other origin than from the epithelial cell bodies and nuclei. After Borrel's stain, the resemblance of these bodies to those produced by diphtheria toxin, or to those seen in variola appeared to be distinct. The acidophile forms seemed traceable to nucleoli and keratinized cell bodies, and the basic bodies, blue and brown, appeared to come from the basophile

elements of the nuclei. Nevertheless, the resemblance of many of these bodies to developmental forms of a hypothetical protozoon was admittedly great.

The occurrence of keratinized cells in the epithelial layer had been described and depicted, especially by Bosc in variola (*Centralblatt für Bakteriologie*). This observer correctly stated that whole keratinized cells were readily separated from the "infected" cells in these lesions, but he did not appear to have considered the possibility that these cells might become fragmented and the fragments englobed by healthy cells. Many of the parasitic forms appearing in his sketches were definitely reproduced in the lesions caused by diphtheria toxin.

Foà had recently reported (*Archives de Parasitologie*) that the bodies produced by diphtheria toxin did not resemble true vaccine bodies, which, however, she believed to be degenerative products. No details of this failure to verify Sikowsky's results were given, and this part of her extensive study of vaccine bodies did not appear to have been regarded as of much importance.

The conclusions drawn from this study were as follows: The inoculation of vaccine and diphtheria toxin in various animals produces a peculiar form of coagulation-necrosis, or keratin necrosis, which has been imperfectly recognized and understood, and which results in the formation of homogeneous acidophile material that may be drawn out into fibrils, or broken up into globules, or granules, vacuolated, and englobed by the more healthy epithelial cells in which it appears in the positions occupied by vaccine bodies.

This type of necrosis occurs in variola and measles, and the bodies produced by it are abundantly present in the epithelial lesions of these diseases. Some of these bodies have been included in the cycles of hypothetical protozoa described by many authors in variola.

While forms of a true protozoon may be mixed up with these degenerative products in variola and measles, he was unable to convince himself that any such theory was necessary to account for the suspicious bodies.

Some of the suspicious bodies in variola he had been unable to find fully paralleled in diphtherial necroses, especially the presence within the nuclear membrane of several distinct rings of considerable size, and he intended to repeat the systematic comparison of variolous and diphtherial lesions before concluding definitely that no protozoa can be demonstrated in variola or measles. He was strongly of the opinion, however, that the intranuclear rings were vacuolated fragments of nucleolar and nuclear material.

Demonstration of (1) "Vaccine Bodies" in Monkey's Skin (Prepared by Dr. Flournoy); (2) Smears from Vaccine Vesicles (Wright's Stain).—Dr. A. W. WILLIAMS made these demonstrations and stated that the sections of rabbits' corneas showing in the epithelial cells changes due to diphtheria toxin, as prepared by Dr. Ewing, made her even more inclined to think that most, if not all, of the changes seen in the epithelial cells in the lesions of smallpox and vaccinia were due to degeneration and necrosis of the cell contents. The two smears, one from vaccine vesicles and the other a control, from staphylococcus pustules of the rabbit's skin were brought to show that both had epithelioid cells containing similar vaccine-like bodies, and that both had a large number of granules in and between the cells. These granules were eosinophilic, basophilic, and a mixture of both, and some showed beautiful signet-ring shapes. The granules had been studied because they were able to obtain from rabbits vaccine virus filtered through the thickness of the finest filter paper an almost clear filtrate which was bacteria-free and in which only small granules were seen, but which produced an abundant typical vaccinia when rubbed on freshly-shaved rabbit's skin. She said it had been impossible so far to discover characteristic granules. Among the various stains used Wright's modification of Romanowski's stain had been chosen for the demonstration of those smears because it had been used recently so successfully by Wright for staining the intracellular protozoan causing Delhi boil. Wright's method had also been used for the stained specimen of Trypanosoma Lewisi. This trypanosome, Dr. Park thought, might be of interest because it came from one of Novy and MacNeil's test-tube cultures, the first pure cultures of a protozoan which had been obtained on artifical culture media. The specimen given to Dr. Park about two weeks ago was inoculated into the peritoneal cavity of a white rat and the rat was killed on the eleventh day following, and from the heart's blood there was made the two specimens shown, one a hanging-drop, and the other a dried film. The *trypanosoma Lewisi* was a flagellate found frequently in the blood of rats, but seldom causing the death of the animal. She said this flagellate was also of interest from the fact that it was very similar to the *trypanosoma Brucei*, the cause of the fatal *nagana*, or *tsetse-fly* disease of horses in West Africa, and the *trypanosoma evensi*, the cause of the *surra*, a similar disease met with in India. Since 1901 a number of cases of human infection by an apparently distinct species of trypanosome had been reported.

THE PITTSBURG ACADEMY OF MEDICINE.

At the meeting on March 22, 1904, the president, Dr. Ewing W. Day, being in the chair, Dr. MacFarlane reported a case of a man twenty-four years of age, who in 1898 had an enlargement of the cervical lymphatic glands. Two years later they had developed to an enormous size and were removed by the late Dr. McCann. Six months later the glands again began to enlarge, and now there was a large mass on the right side of the neck, from the auricle to the clavicle, with venous enlargement all over the mass. The question in diagnosis had been between tuberculosis, lymphsarcoma, and Hodgkins' disease. Tuberculosis was excluded. The patellar reflexes were normal; the gait was ataxic, probably due to involvement of the cord; no splenic enlargement; slight apical dulness; leucocyte count, normal. The case was deemed inoperable. A large specimen taken proved on microscopical examination to be lymphosarcoma. Dr. Anderson reported a case of a boy eleven years old, with a mass of glands extending from the ear to the clavicle. Many glands were removed and the disease was diagnosed clinically as lymphadenoma. Dr. Ingram reported the finding of a bacillus in the glandular mass removed. The boy's father had died the year before of some swelling in the neck, thought to be Hodgkins' disease. In the case of the boy the glandular enlargement had recurred in the axilla. Dr. MacFarlane said that the pathologists themselves were unable to distinguish between lymphosarcoma and Hodgkins' disease; clinically the diseases had not been distinctly separated. He thought the special point of interest in the case he reported was the ataxic symptoms which negatived operation, and the absence of respiratory disturbance. Dr. Adolph Koenig read a paper entitled "Notes on Typhoid Fever." He summarized his treatment as follows: (1) Absolute withholding of food, alcohol excepted, during the period of anorexia; (2) the ingestion of large quantities of water —2 to 4 quarts in twenty-four hours; (3) the administration of guaiacol with small quantities of whiskey every two hours; (4) administration of magnesium sulphate sufficient to provoke from one to four movements a day; (5) sponging—cold or tepid—to produce leucocytosis, lower temperature, and quiet the nervous system.

Dr. Litchfield said that during three months' service at the West Penn Hospital in 277 cases treated with acetozone he had a mortality of 9 per cent.; the preceding summer in 228 cases treated with guaiacol the mortality was 11 per cent.

Dr. Simonton reported a case of typhoid fever, Widal reaction positive one to twenty-five. A large enema brought a free bowel movement, followed by complete collapse with rapid, weak pulse, temperature 104°, and

all the symptoms of perforation and peritonitis. The patient was seen by several surgeons, all of whom thought he would not live twelve hours. Three days later he passed flatus, and gradually recovered, notwithstanding an undoubted perforation and peritonitis. Dr. Lichty said that he had never been able to follow any set plan of treatment. He said that he had observed different methods of treatment in the Philadelphia Hospital, all with about the same results. He knew of one case in which the patient had died of hemorrhage thought to be due to tubbing. In about 150 cases in private practice he had two deaths from pneumonia, and one from hemorrhage—a mortality of 2 per cent.

Dr. Koenig called attention to the difference between guaiacol and guaiacol carbonate. He said many patients could not take guaiacol in liquid form; in these cases he gave it in capsule with calcium carbonate. He thought that having in typhoid a specific infection, a specified plan of treatment could be followed, with modifications to suit the case. He relied upon the tongue and not the temperature as a guide to allowing solid food in convalescence.

Dr. W. H. Kirk read a paper on "Retrochoroidal or Intraocular Hemorrhage." He said it was a rare complication in operations about the eye, but one of the most alarming accidents which could confront an operator. He thought that in nine cases out of ten there was an atheromatous condition of all the blood-vessels of the body, and this was the cause of the complication in these cases. He reported a case of a man seventy-six years of age, with glaucomatous condition of the left eye, and senile cataract of the right eye. He operated first on the right eye, using 4 per cent. solution of cocaine as an anæsthetic—making a short flap operation, followed by a small iridectomy. An hour after the operation the patient had a profuse hemorrhage from the eye, lasting ten or fifteen minutes. Three months later the left eye was operated upon under cocaine and adrenalin. Immediately after the incision was made for the flap, the capsule ruptured, the lens escaped, and hemorrhage followed.

Dr. Heckel thought that if the fundus could be examined in cataract cases, many small hemorrhages would be seen in the cases in which post-operative hemorrhage occurred.

Dr. Weisser, a guest, reported a case of cataract with plus tension seen in Wills' Eye Hospital. Dr. Posey had advised against operation, but another surgeon operated with very favorable results.

The Curative Effect of Erysipelas upon Atrophic Rhinitis.—I. Valentine Levi declares that complete cures in cases of atrophic rhinitis are exceptional. He had under his care a patient suffering from this disease. Treatment effected but little improvement till an attack of erysipelas, after which the nasal condition was greatly ameliorated. This attack was followed by two others in quick succession, after which no traces of the atrophic rhinitis remained. But there had been over-reaction, the mucous membrane of the nose was red and congested, and there was hypertrophy of the right middle and lower turbinates. Not a vestige of the original condition remains in the nose. In relation to the effect of the erysipelas on the atrophic rhinitis, the writer suggests the following factors: (1) The pathology of the two diseases is diametrically opposite: in the one there is anæmia and atrophy, in the other hyperæmia and swelling. (2) The action of the bacterial products of erysipelas on certain other diseases, as has been demonstrated. The literature on this subject is scarce.—*The Therapeutic Gazette*, March 15, 1904.

[A specialist who recently saw the case diagnosed the condition as specific. During the existence of the atrophic rhinitis the patient had no specific treatment, and if the atrophic condition depended upon syphilis, it adds interest to the case.]

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending April 16, 1904:

	Cases.	Deaths.
Measles	1416	34
Diphtheria and croup	415	56
Scarlet fever	466	28
Smallpox	1	...
Varicella	73	...
Tuberculosis	481	210
Typhoid fever	16	6
Cerebrospinal meningitis	...	45

Intestinal Perforation in Typhoid Fever.—An elaborate paper on this subject is presented by R. H. Harte and A. P. Cooper. They trace the development of surgical treatment in this condition from the first operation of Mikulicz reported some twenty years ago. Starting from that time they have analyzed three hundred and sixty-two cases of laparotomy for typhoid perforation or for peritonitis without perforation. A tabulation of all these cases is given so that future students of the question will be saved much labor in the matter of investigation of cases. Of the entire three hundred and sixty-two cases the operative mortality was 74.03 per cent. Elaborate analyses are made of the statistical material.—*Annals of Surgery.*

Tetanus and Vaccine Virus.—John H. Huddleston summarizes his conclusions as follows: (1) The fæces of calves fed on hay may contain tetanus germs. (2) Tetanus germs do not develop in glycerinated virus. (3) If any form of vaccine virus, either dry points or tubes of glycerinated virus, is infected with tetanus, it may convey it. (4) Small amounts of the tetanus infection easily fail of demonstration both by animal and by cultural tests. (5) If tetanus germs are applied in quantity to the inoculated areas of a calf at any time during the period of vaccine production, the tetanus may be present in the vaccine virus collected. (6) Inoculation by scarification is a possible method of inducing tetanus in susceptible animals. (7) It is probable that precaution against the issue of infected vaccine virus consists less in tests of the virus than in care taken during production, and especially in the cleanliness of the methods in use in the stables and in the laboratory.—*Pediatrics*, February, 1904.

Sanitary Problems at Panama.—In an article, recently published in the *Chicago Record-Herald*, Dr. G. Frank Lydston, the author of "Panama and the Sierras," has the following to say regarding the problems of sanitation at Panama: "In Panama and Colon there are a few underground channels and cesspools, but in general the sanitary provision is *nil*. Like all Latin-Americans, the natives gave it no thought. Sewage out of sight is out of mind. To correct this is a comparatively easy engineering problem, and need not worry a department that has cleansed Havana and Manila. It is the drainage of the swamps that will tax American ingenuity and patience. I cannot believe that any system will be able to carry away four feet of rainfall every year so thoroughly that the marshes will be dry and the soil not soggy. Perhaps the necessity may be relieved somewhat by establishing camps for the workmen in the temperate latitudes of the Cordilleras, which form the backbone of the Isthmus. The Isthmus is so narrow that the distances from the camps to the scene of work would not be prohibitive. In fact, the men would not have to travel further to go to their day's work than a great many laborers go to and fro every day in America. I am convinced that any other plan to overcome climatic obstacles will cost more than all the other expenses of construction combined. Surely something must be done, or the Panama Canal will die of Chagres fever. Medical science cannot save it against the forces of nature."

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Original Articles.

SOME OBSERVATIONS ON THE SURGERY OF THE COMMON DUCT OF THE LIVER.

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IT is at least a fascinating theory, and while not proven it can be said to be altogether probable that the gall-bladder is infected through the bile in the large majority of cases and not by way of the common duct and duodenum. Undoubtedly this latter route of bacterial invasion takes place, especially in the more serious grades of infections and often without stones.

The early experiments, which showed the normal bile to be sterile, have proved untrue, and we must look upon the biliary secretion as containing a few bacteria which can be detected if a sufficiently large quantity be examined. In the formation of stones, the necessary attenuation of the infective agents is obtained by passage through the liver under conditions which have proved most difficult to duplicate in an artificial manner, hence the few examples of true stone formation which have followed experimentation. The result is usually a more severe and non-calculus form of infection.

A gall-bladder once infected remains infected, needing only a disturbing element to reproduce its original intensity. Given an infected gall-bladder, containing stones which cause mechanical irritation, and we have the most favorable conditions for frequent bacterial excursions into the common duct, and should this be accompanied by calculi which fail to pass the duodenal orifice, we have all the conditions favorable for the development of cholangitis, pancreatitis, and so forth.

At least 90 per cent. of all of the cases of common duct disease upon which we are called to operate, arise in this way.

The primary importance of the gall-bladder must be recognized in the etiology of these infections, and operation projected at a time when the infection and stones are still in their originating viscus.

The cystic duct and its patency is a most important element in the problem, and the question of treatment is to a large extent based upon its condition. If the cystic duct is closed mechanically, either by stone, kink or stricture, a diseased gall-bladder results, which is better out than in. The infection has confined its ravages to the organ itself, and we find a cystic gall-bladder with impacted stones, thick walls, and, above all, with an obstructed cystic duct. Such organs are functionless, and if drained and left, a possible source of future troubles, among which may be mentioned reinfection, mucous fistula or colics due to failure to drain its secretions down through the common duct, and cancer. The key-note to the diagnosis of this condition is found in the fact that the gall-bladder contains no bile. Not all cystic gall-bladders require removal, as a large stone in the pelvis of the gall-bladder may block without injury to the duct—after removal of the stone bile at once appears.

In these cases, if there is no evidence of a cholangitis, there is no need of bile drainage to the surface, and the duct can be permanently occluded by ligation. Cholecystectomy is easily performed from below upward, the cystic duct and vessels are caught with forceps, a second forceps on the gall-bladder side prevents leakage and enables division of the cystic duct and vessels. The gall-bladder can be readily separated from below upward without hemorrhage or trouble. When the dissection has progressed a short distance the forceps on the deep end of the duct and cystic vessels are removed after ligature with catgut, to which latter a light gauze drain is attached to prevent displacement. This guard against leakage should always be taken.

The above method of removal enables careful ligation of the deep parts and bloodless separation from the liver, whereas, if the gall-bladder is removed from above downward the same vessels are cut over and over again, obscuring the deep field with blood.

If the gall-bladder contains bile we have an entirely different condition to deal with. Free communication through an open cystic duct means a possible infection of the common duct, and if the infection is at all marked, provision must be made for bile drainage to the surface. This can be accomplished best by cholecystostomy and draining through natural channels. Should it be deemed wise to remove the gall-bladder in such cases, we have practised in many instances amputation of the fundus, retaining the base to form a pocket from which the mucous membrane is removed, and into which the drainage tube can be securely fastened to the cut end of the cystic duct. This gives temporary bile drainage with the permanent benefits of a cholecystectomy.

The foregoing procedure is also very useful in some cases of cholecystectomy in which deep adhesions render the typical operation fraught with peril to the liver, duodenum, and deep vessels. There have been some purely theoretical objections advanced to this device and it is not ideal; but the fact remains that in a very large number of cases, it has proved both safe and curative.

Many most excellent surgeons believe that the gall-bladder should be removed in every case. In simple cases of stones with latent infections and the gall-bladder in good condition, no harm results from ligation of the cystic duct, even if patent, which is shown by the presence of bile; but in such cases, cholecystostomy gives permanent results which fully equal cholecystectomy, and has the advantage of less manipulation. It also leaves the gall-bladder which, while a vestigial remnant and probably of no value, we are by no means sure should be sacrificed unnecessarily. Time, however, may prove the radical course the proper one to pursue in all cases. Certainly in our experience, cholecystectomy has had a rapidly growing field of usefulness.

We hear much about hepaticus drainage—that is, the opening of the common duct and introduction of a tube drain into the hepatic duct; but we must

not forget that the cystic duct is an offshoot of the common duct and, if patent, furnishes natural drainage to the surface. In many cases, however, direct tube drainage from the main ducts is life-saving. Bile drainage through an open cystic duct amounts to identically the same thing, differing only in degree, and the question to be decided is as to when it will not be sufficient. We have usually found it efficient, and unless the common duct has been opened for the removal of stones, natural drainage by way of the cystic duct and gall-bladder furnishes results which, when compared with indescriminate opening and tubage of the common and hepatic ducts, proves the former method both safe and easy, and greatly lessens the disability.

In a few cases the cystic duct has not been sufficient for this purpose. We have then removed the gall-bladder and split the cystic duct down into the common duct and drained the deep ducts.

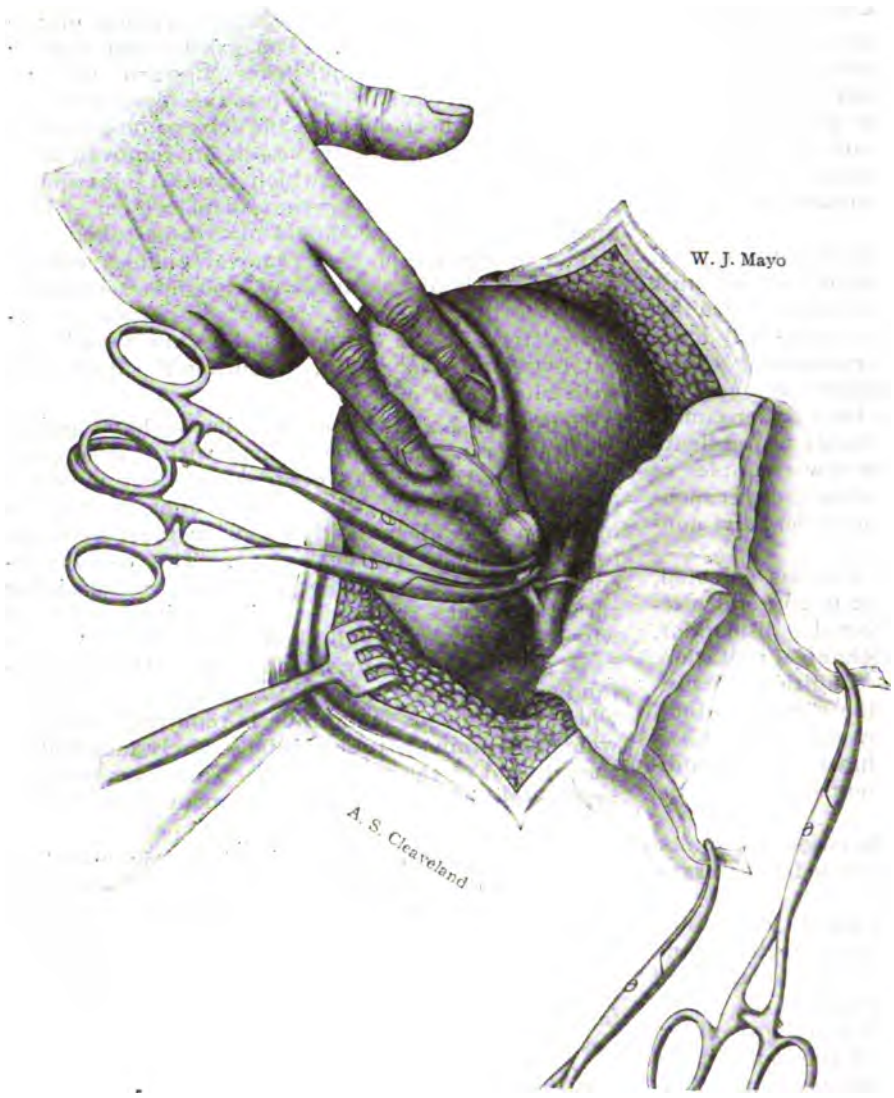

FIG. 1. Cholecystectomy, showing clamps applied to cystic duct and cystic vessels.

Stones in the common and hepatic ducts require removal and drainage. In a considerable number of cases, stones in the deep ducts may be latent, giving no symptoms and especially without jaundice. Therefore, it behooves us to examine carefully the ducts for stones in all cases, even if we have no special reasons to anticipate their presence beyond the fact that the gall-bladder contains calculi.

For all operations on the ducts, Robson's technique should be employed, the sand-bag under the back, longitudinal incision of the right rectus muscle, with division of its inner half at the curved margin of the costal arch up to the ensiform cartilage (Bevan). In two of our cases, at the extreme upper limit of this incision, the anterior mediastinum has been opened, allowing air to suck back and forth. This is rather startling, and makes one think the pleura has been accidentally injured. A few catgut sutures close the rent and no harm results.

If the common duct contains stones, one is seized between the left forefinger and thumb, and, using the stone as a guide (Elliot), two lateral mattress sutures are placed, leaving a free space between for longitudinal incision of the duct in its visible portion between the cystic duct entrance and the duodenum. These two threads with long ends act as tractors, and after removal of stones may be crossed to unite the duct margins, always leaving a little chance for drainage at the ends of the incision. In the majority of cases, unless the cystic duct is freely open for drainage through a cholecystostomy, it is better practice to leave the incision open, either completely or in part, and use the threads to fasten the drains in position. Fixing the drains prevents floating by biliary escape or derangement by diaphragmatic action exerted upon the liver. The gauze is surrounded on its inner and lower surface by rubber tissue to prevent peritoneal adhesions.

In septic cases a rubber tube ½ to ⅓ inches in diameter is cut fish-tailed and introduced into the dilated duct, and with a needle the tube is secured in position by the original catgut thread on each side. The outer end of the tube can be placed in a flattened flask, which is held in the dressing. A light gauze pack is placed about the tube and fastened with the same thread. The notch cut in each side of the deep end of the tube permits bile to pass on and out through the papilla at any time, and yet furnishes just as complete drainage.

In removing stones from the common duct the finger is the only reliable guide, and without it one cannot be sure that no calculi have been missed. The bile pressure will cause an *obstructed* common duct to distend to a size sufficient to admit a medium forefinger of the left hand. Stones cannot be definately located by probes or scoops, they may be but not with certainty. I have time and again removed stones until the duct appeared to be free, then with scoop and probe failed to locate more, after this Dr. C. H. Mayo has tried and failed, and lastly my first assistant, whose delicacy of touch is unexcelled. After all were convinced that the duct was free, the finger located further calculi with ease. If we have the duct open we should get all the stones. We still occasionally miss stones in the common duct because the symptoms were not sufficient to warrant incising it and palpation proved inefficient; but in all cases in which the duct is dilated and jaundice is present, if no adequate cause for the condition can be detected, we should open and explore. I would not be understood as saying that it is always possible

to put the finger into the common duct. It presupposes a dilated duct from obstruction.

As to danger of hemorrhage from the portal vein and hepatic artery in a well-conducted operation for common-duct stones, these structures are never seen. The cystic artery frequently comes off from the superior pancreato-duodenal (Brewer), and if cut, bleeds sharply and a large vein may cross the duct, and if wounded, will cause the field to fill with blood, leading to erroneous belief as to origin. These vessels are easily caught and tied.

It sometimes happens that no stone can be felt, yet from the symptoms we are morally certain they are in the common duct, while the parts are adherent, with the anatomy so disturbed that nothing, not even the duct itself can be recognized. To find and open the common duct in such cases, split the gall-bladder from top to bottom and extend the incision the entire length of the cystic duct, and from this point into the common duct. The adhesions are left intact to act as barriers to infection. After completing the common-duct work, the cystic duct is cut across near the common duct and the gall-bladder removed from below upward. Or in some cases the mucous membrane is detached as previously described. Such cases are in this way quickly and safely disposed of.

In this connection it may be well to speak of chronic pancreatitis. We have had twenty-six cases. In some of these calculi were present in the duct; but in most of them no stones were found, and either cholecystostomy or cholecystenterostomy was performed. All recovered. Four of these cases have already returned to us with renewal of previous symptoms. In each instance no stones were detected by palpation at the first operation, and in only one at the second, seven months to a year after the first, yet upon opening the common duct and exploring with the finger, a small stone was found in the ampulla in each case. The head of the pancreas at the second operation was much reduced from its former size. In two cases since that time, of apparently typical chronic pancreatitis, a small stone has been removed from the diverticulum of Vater, and in none of these cases could the stone be discovered by palpation, probing through the incised duct, and so forth. It amounts to this, that before one can be sure that chronic pancreatitis and nothing else causes the common-duct obstruction, one must open the common duct and explore with the finger. I do not wish to intimate that this is true of all cases of common-duct obstruction from interstitial pancreatitis, as we have had a number of typical examples shown by enlargement of the head of the organ, jaundice, and so forth, in whom the future history pointed to perfect recovery over an extended period. The greatly enlarged head of the pancreas, with its hard nodules in the above cases, prevented anything approaching accurate palpation of the ampulla in which the stones were contained.

It was interesting to note that in the two cases of cholecystduodenostomy the fistula had completely closed in six months to a year. The movable stone permitted escape of bile at intervals, by the duodenal end, and nature promptly closed the unnecessary opening. On the contrary, experience in a number of cases in which the obstruction has been permanent, showed a patulous opening after years had elapsed.

In operating on the common duct, we have frequently found the small flattened and dark-colored (disk-shaped) stones originating in the hepatic ducts; but invariably there has been a larger stone at the papilla. Thus showing that with an obstruction to free drainage sufficient to cause dilatation of the ducts and in the presence of infected bile, conditions are developed favorable to the formation of duct stones, but always secondary to an original blocking stone derived from the gall-bladder. It is possible that duct stones may arise primarily, but the writer has not personally observed a case.

The reparative power of the common duct is not exceeded by any mucous lined channel in the human body. One not infrequently encounters cases in which this channel after operation looks very badly with widely separated and ragged walls, and one fears that union will not take place, yet healing almost invariably occurs, whether the duct is sutured or not. During 1904 the following three cases, illustrating the reparative power of the common duct, occurred in St. Mary's Hospital. The first, a female patient, age twenty-two, with acute infectious cholecystitis and cholangitis, with stones in gall-bladder. In emptying the gall-bladder much putty-like material was forced into the deep ducts. To enable removal of this substance and proper drainage, it was necessary to split the hepatic and common ducts from the liver to the shelter of the duodenum, the gall-bladder was also removed. The margins of the common duct were approximated in three places by catgut sutures, the balance being left open for drainage. Patient left the hospital in twenty days with a healed wound, no bile was discharged after fourteen days.

The second patient was a female of thirty-four years.

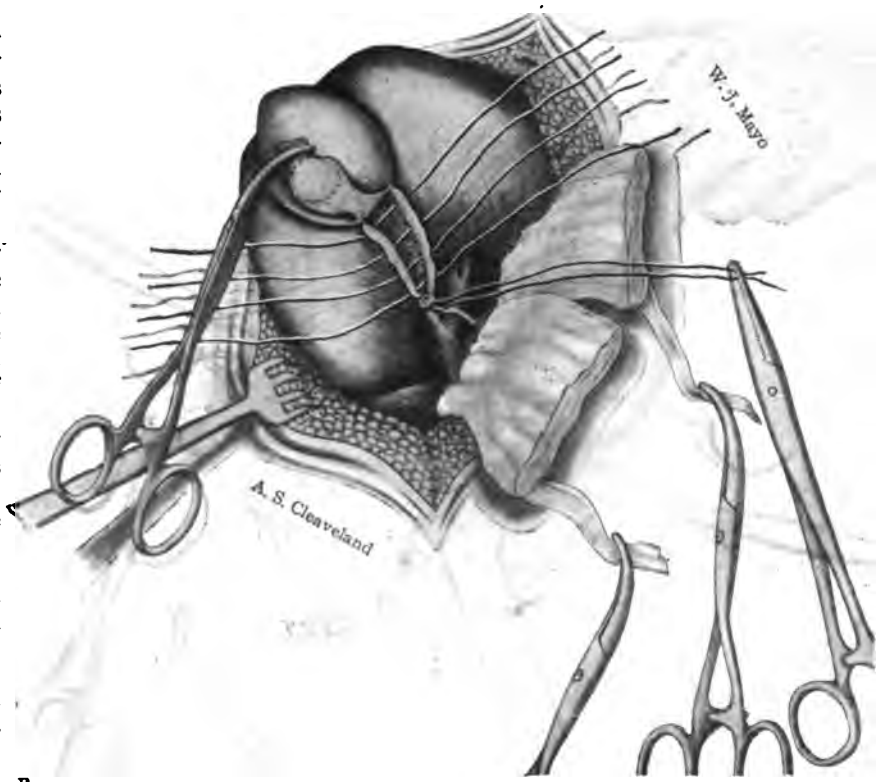

FIG. 2. Cholecystectomy, showing cystic duct and vessels ligated. Gall-bladder partially separated and sutures in position to cover the exposed liver substance.

In removing a gall-bladder which was very adherent the common duct was completely severed and the ends separated to such an extent that it was difficult to locate the distal fragment. The proximal end was made manifest by escape of bile. The severed duct was sutured end to end in three-fourths of its circumference with interrupted fine catgut sutures, through all the coats but avoiding the mucous membrane, excepting at its margin. The sheath was treated in a similar manner. It was not possible to introduce more than five to six sutures in all. One-fourth of the severed duct was left open to avoid tension and secure free drainage. Bile ceased escaping from the wound on the sixteenth day, patient left the hospital on the twenty-second day.

The third case was most interesting. A female, fifty years of age, with stones in gall-bladder and common duct. Gall-bladder malignant, involving

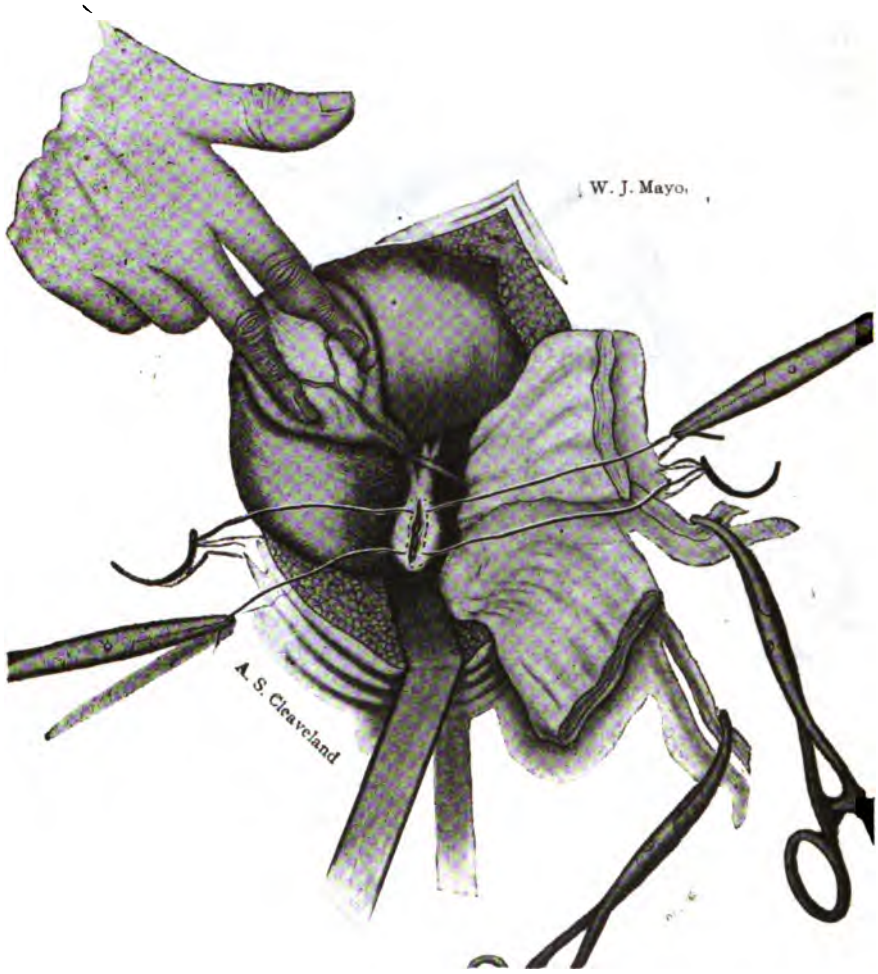

FIG. 3. Chol edochotomy, showing method of placing working sutures in common duct.

cystic duct and extending laterally upon common duct. Gall-bladder, cystic duct, and one inch of common duct excised. The duodenum and head of pancreas were liberated by incising the peritoneum and loosening the cellular attachments. This enabled the distal end of common duct, which barely projected beyond the duodenal shelter, to be brought to the short end of the hepatic duct. The duodenum was secured in this situation by sutures posteriorly. The common duct, which was dilated to the size of a lead pencil, was sutured as in the case just described. One-fourth was left open for drainage. This patient was discharged in nineteen days with a healed wound. She remained well for seven months, but now has return of the malignant disease shown by nodular tumors of the liver.

In two additional cases the common duct was excised for malignant disease. In the first the proximal end of the duct was united to the duodenum by a new opening. The third, a malignant tumor of the common duct, was excised with end-to-end suture. Death followed from shock.

In removing stones impacted in the duodenal end of the common duct, great difficulty may be encountered, and in three of our cases it became necessary to open the duodenum (McBurney), for the purpose of extracting the stone. It was only by means of this double operation that the duct could be properly cleared. The duodenum was sutured and the common duct drained in the usual manner. In a fourth case the duodenum was opened for the removal of a cancer of the ampulla and papilla. All of these cases recovered. I cannot too strongly urge the complete removal of all stones at one sitting, if the patient can bear the operation, and in our experience it has been safer than half-way measures, followed by unavailing irrigations, probing, etc., and in the large majority of cases a secondary operation of greater magnitude than the first.

Cholecystenterostomy, while not an operation upon the common duct, is indicated by disease of this channel and may be classed with it. We have only resorted to it for benign but inoperable obstruction and malignant disease. The bowel selected should be the duodenum, but in five cases this was impossible, and the anastomosis was made to the transverse colon with the Murphy button. Theoretically, this seems a dangerous practice, but in every case the result was just as satisfactory as when the duodenum was used. There were no late infections of the bile tract from colonic bacteria, and one patient lived six years, dying from a independent disease. A second is alive and well at the present time, four years later.

It is usually possible to attach to the duodenum, but until further experience has shown that it is harmful we will, in the few cases necessary, use the transverse colon rather than the stomach (Kehr) or a loop of jejunum (Mikulicz) for the purpose, especially in malignant disease.

Appended will be found a table of 107 operations upon the common duct which occurred in 728 operations upon the gall-bladder and bile passages which have been operated upon by Dr. Charles H. Mayo and myself.

BENIGN.	Total.	Recovered.	Deaths
Choledochotomy for stones in common duct	83	75	8
Duodenocholedochotomy, stones in ampulla	3	3	-
Cholecystenterostomy	6	6	-
	92	84	8
CANCER.			
Duodenocholedochotomy tumor papilla	1	1	-
Cholecystenterostomy	7	6	1
Cholecystostomy, tumor common duct	5	3	2
Common duct resection for tumor	2	1	1
	15	11	4

Compound Fracture.—Reduce and dress by pouring Balsam of Peru and covering with gauze saturated with it. The fracture is then reduced, and immobilized in plaster cast for three weeks.—VAN STOCKUM, in *Presse Médicale*.

APPENDICITIS IN CHILDREN.*

By JOHN W. BRANNAN, M.D.,
NEW YORK.

The subject I have selected for this paper was chosen chiefly for the purpose of narrating the history of a case illustrating the insidious character of appendicitis in children, in the hope that others may profit by my experience, if not by my example. Appendicitis in adults has often been considered in this society, but so far as I know its special features as seen in children have not been presented as a topic for discussion.

The case I have to relate is that of a boy six years of age, to whom I was called in the evening of November 16, 1903. The nurse stated that he had complained of pain in the stomach after his supper, and had vomited a mass of curdled milk as large as an egg. With the exception of a tendency to constipation, there was nothing of importance in the previous history. On examination I found no tenderness in any part of the abdomen, though the boy complained of a little epigastric pain. The pulse was 80 and temperature 98.5°. I ordered milk and lime water, āā 3i every half hour, to be given to the patient while awake or until the vomiting ceased. In the morning of the 17th I was informed that there had been no vomiting after 3 P.M., but that the boy had been rather restless during the night. The pulse was, however, 120, and the temperature had risen to 100.5°. During the day the bowels moved slightly, and in the evening the pulse was again 120 with a temperature of 100.7°. There was no localized pain or tenderness and the abdomen was flat and soft. Calomel, in divided doses, was ordered, followed by a laxative. The patient had four movements during the night and was restless until 3 A.M. of the 18th. Then slept quietly until 7 o'clock. There had now been no vomiting for over forty-eight hours, but the pulse was 126 and the temperature 100.6°. During the day there was gradually increasing pain with tenderness, entirely confined to the *left* side of the abdomen, and in the evening the temperature was 101.2°, with pulse of 126. The patient was delirious throughout the following night, and in the morning of the 19th there was marked rigidity of the abdomen with general tenderness most marked in the left iliac region. At no time was there any special pain or tenderness in the region of the appendix. Dr. L. Emmett Holt and Dr. Andrew J. McCosh were now called in consultation and it was agreed that peritonitis was present, probably due to appendicitis, in spite of the unusual localization of the symptoms. During the day the boy twice vomited a small quantity of very dark fluid. Laparotomy was performed in the evening and a general peritonitis was found, and after some search a ruptured suppurating appendix was discovered lying deep in the pelvis near the median line. The appendix was ligated and removed, the neighboring parts cleansed and a drainage tube inserted, but the general peritoneal cavity was not washed out, as the condition of the patient did not warrant any procedures not absolutely called for. The boy recovered fairly well from the operation, the temperature falling to normal and the pulse to 110. A few hours later, however, the vomiting returned, the vomitus consisting of the same dark liquid that had been observed before the operation. On analysis this fluid proved to be composed principally of decomposed blood. The patient was fed with nutritive enemata, and for several days held his own and even improved, so that at one time it was thought that he might recover. The pulse was of good quality, varying from 100 to 110 per minute. The temperature was but little above the normal, and considerable gas with a little fecal matter was expelled from the bowel. The vomiting continued, however, at intervals of two or three hours, in spite of daily washing of the stomach, and on the fourth day after the operation the patient complained of pain in the region of the umbilicus, which gradually grew in intensity. The abdomen became distended and all the signs pointed to some obstruction of the bowels. On the 26th a secondary operation was decided upon as the only chance of saving the patient.

On opening the abdomen the omentum was seen wrapped around a coil of the small intestine in the region above the umbilicus, and low down on the left side of the abdominal cavity was a collection of pus. After free irrigation, drainage tubes were inserted into both abscess cavities, the patient being at the same time transfused with hot saline solution and stimulated in the usual manner. He, however, did not rally from the operation and died early on the following morning.

The unfortunate issue in this case made a profound impression upon me, it being my first case of the kind in so young a patient, and I have been at some pains to learn the experience of others and to consult the literature of the subject. In talking with other physicians I have found a number, even of large general practice, who have not met with a single case in young children in which an operation was called for. Other practitioners, particularly surgeons, report that such cases are not uncommon, though by no means so frequent as in adults. In a service of several years in the First Medical Division of Bellevue Hospital, I do not now recall any cases requiring surgical treatment. It is possible that patients with symptoms suggesting appendicitis are at once admitted to the surgical wards in Bellevue, for on searching the records of the Third Surgical Division for the last five years nine cases of appendicitis were found, all of which underwent operation. Apparently the admitting staff of the hospital regard appendicitis as a surgical disease, as it is claimed to be by the surgeons.

The literature of the subject is rather scanty. In a search of the journals of the last fifteen years I found but twenty-five cases, recorded by ten different observers, and in several of these the diagnosis must be considered as doubtful, the cases not having come to operation. It would seem, therefore, that appendicitis in children is not regarded as calling for especial report, for there must be many surgeons in this country who have had more than twenty-five cases in their own individual experience. Of the nine Bellevue Hospital cases referred to above four were operated upon by one surgeon, a member of this society. I have found but four published papers on the general subject, one by Deaver of Philadelphia, written in 1893, one by Manley of New York, in 1901, one by Churchill of Chicago, written last year, the fourth by Riva-Rocci, also written last year. Deaver, as might be expected from his attitude on appendicitis in adults, advocates the removal of the appendix in acute primary attacks as soon as the disease is recognized, unless there has been a decided response to judicious medical treatment, and between attacks in all recurrent cases. Churchill, on the other hand, appears to represent the conservative medical view of the management of appendicitis. Of the six personally observed cases included in his report all but two were conducted to a successful issue without operation. One of the two cases in which laparotomy was performed recovered, the other died of cerebral meningitis two days after the operation, cultures from the brain showing the presence of the colon bacillus and the pneumococcus.

*Read at the Practitioners' Society, March 4, 1904.

The youngest cases reported are one of sixteen months, by Hauck of St. Louis, and one of twenty-two months by J. E. Summers, Jr. In the second case the symptoms were thought to be due to intestinal obstruction. In both a suppurating appendix was found and removed, with ultimate recovery of the patient. In an interesting case reported by Royal Whitman, spontaneous evacuation of an appendical abscess into the rectum took place on the seventh day of the attack, following an enema given by the mother during the absence of the attending physician. As the symptoms persisted, laparotomy was performed, and the child was up and about the house on the fifth day after the operation.

F. Martin reports four cases, in two of which he opened and drained the abscess through the rectum, a tumor having been felt by the examining finger. Recovery ensued in both. One case was at first diagnosticated as empyema, later as hepatic abscess. Pus obtained by hypodermic needle passed through the seventh intercostal space in the right nipple line; a drainage tube was then inserted through one of the lower intercostal spaces behind, but with negative result. The patient died in the seventh week of illness, and on autopsy the appendix was found obliterated and the neighboring parts of bowel gangrenous. An old track of pus could be traced up behind the colon, behind and up over the right lobe of the liver to a depression the size of a hen's egg upon its upper surface. Half a gallon of pus was found free in the abdominal cavity.

In a case seen by Allingham two days after a fall out of a "go-cart," the diagnosis of intussusception or volvulus was made. The symptoms (pain in stomach and nausea) came on soon after the accident. The patient had vomited five times, and lay on the back with legs drawn up, face flushed, expression anxious, tongue dry and red, pulse rapid and hard, the abdomen generally swollen, with some soreness in median line, extremely tender to touch and slightly tympanitic. The temperature was 103°. The abdomen was opened in the median line, but nothing wrong was found until in the region of the cæcum a hardness was felt, which proved to be the cæcum covered with lymph. The appendix was distended and burst and discharged an ounce of fetid pus. The appendix was removed, the abdomen sponged out and closed with silkworm gut sutures. Recovery was complete in fourteen days. A fecal concretion the size of a cherry stone was found in the appendix.

The remaining cases do not present sufficient points of interest to repay detailed analysis. The low mortality is noteworthy. Of twenty cases in which the termination is given, only five died, or 25 per cent., whereas in one hundred and twelve cases collected by Holt, there were fifty deaths, a mortality of 45 per cent.

A few words as to diagnosis and treatment. When we have the classical symptoms of sudden and severe pain in the right iliac fossa with localized tenderness and vomiting, there is not much doubt with what we have to deal. But all writers agree that these symptoms, with the exception of vomiting, are much less constant in children than in adults, especially the localization of the pain and tenderness at the site of the appendix. According to Deaver, the pain is referred to this region in 54 per cent. of all cases, as the attack progresses, though in the beginning it is usually placed in the umbilical or epigastric regions. The location of the tenderness is much more to be depended upon, being an objective rather than a subjective symptom. In the great majority of cases the patient will wince upon pressure at or near McBurney's point. As stated by Churchill, more importance is to be attached to what children *look* than to what they *say*. In six of the Bellevue cases in which the history was obtained, there was tenderness in the right iliac fossa in all, whereas pain was referred to that region in only three. When a tumor is present or a resisting mass is felt, or there is rigidity of the right rectus muscle with flexure of the right thigh, there can be no further room for doubt.

When the diagnosis is once made, the treatment in my opinion, becomes surgical. This does not mean that laparotomy should be at once performed, but that a competent surgeon should be called in to watch the case and determine whether or not and when to operate. I have never seen a case in which operation was performed too early, but I can recall several, though my experience has not been large, in which it was resorted to too late. While the diagnosis is still in doubt or when the case first comes under observation, there is general agreement as to the course to pursue, except as concerns the administration of laxatives and of opium. Holt and Rotch both oppose the use of cathartics but endeavor to keep the colon empty by the daily use of large enemata. Deaver, on the other hand, advocates the early administration of small and repeated doses of salines, or of calomel if the stomach is not tolerant of salines. He believes that free evacuation of the bowels serves the purpose of clearing the alimentary canal of all foreign and irritating substances, relieves the congested blood-vessels, thus modifying the degree of the subsequent inflammation, and fulfils an important indication in having the bowels in the most favorable condition for operation in the event of its necessity. As regards the use of opium, the medical man and the surgeon are again opposed. Holt and Rotch agree in giving morphine in sufficient quantities to relieve pain. Deaver regards the use of morphine as bad practice because it tends to obscure the symptoms and to produce a paretic condition of the bowel, thus favoring distention. He prefers the employment of hot fomentations externally, with perhaps the internal administration of spirits of chloroform, carminatives, or extract of belladonna. I fancy that surgeons generally will agree with Deaver. They are usually called to see appendicitis after a medical man has seen it, and, after satisfying himself of the diagnosis, has given a hypodermic of morphine, and thus changed the picture in perhaps its most important feature. Probably most of us employ both laxatives and opium, according to the case. There are times when pain must be relieved and only opium will do it. In other cases, especially those seen early, a saline or calomel, in divided doses, produces the best results.

11 West Twelfth Street.

The Treatment of Chronic Middle-ear Deafness by Ozone.—George Stoker in this paper refers to that affection known as "chronic dry catarrh of the middle ear." It is generally believed to be due to stenosis of the Eustachian tube. The effect of oxygen, and more particularly of its allopathic form, ozone, in restoring a healthy condition to diseased nasal mucous membrane, and in purifying the secretions, suggested a trial of the latter in chronic progressive deafness. The ozone is generated by means of an electric current acting on a Ruhmkorff coil, to which the ozonizing tube is attached. The ozone is passed in a gentle current through a Eustachian catheter into the middle ear for about four minutes at a time, the op ration being repeated several times a week, daily, if possible. The writer then gives notes of cases. In some instances the progress has been remarkable. One favorable effect of this treatment is the disappearance of the distressing tinnitus that nearly always exists. The two results achieved by the use of ozone are—the improvement of the hearing, and the prevention of the progression of the deafness.—*Medical Press and Circular*, March 16, 1904.

URIC ACID AND ITS RELATION TO THE CLINICAL MANIFESTATIONS OF GOUT AND LITHÆMIA.*

By EGBERT LE FEVRE, M.D.,
NEW YORK.

To discuss the relation of uric acid to the clinical manifestations of gout and lithæmia is a more embarrassing task than appears on the surface, as our knowledge of uric acid is far from definite.

Uric acid as a cause of disease has been given by some writers such an exalted position in human symptomatology and pathology, that they would lead us to believe that "it really dominates the function, nutrition, and structure of the human body to an extent which has never yet been dreamed of in our philosophy, and in place of affecting the structure of a few comparatively insignificant fibrous tissues in which it is found after death, it may really direct the development, life history, and final decay and dissolution of every tissue, from the most important nerve centers and the most active glands, to the matrix of the nails and the structure of the skin and hair." (Haig.)

If one reads this same author's list of uric-acid diseases, including gout and rheumatism; the inflammatory cardiac diseases; the local inflammations of all the fibrous structures from the brain and meninges to the covering of the teeth; the functional and organic diseases of every organ and structure in the body from itch to epilepsy and pneumonia, one has an epitome of all the ills flesh is heir to. As an excepted cause of disease it is especially in evidence at the present time. It is so closely related to that aristocratic malady, gout, that those who cannot show its crest are satisfied with claiming acquaintance with its near relative, uric acid, and many symptoms that would otherwise be considered distressing are endured cheerfully. We all know with what willingness patients settle the diagnosis for us when we begin to question them by saying that they have "uric acid." Its popularity among the medical profession as an all-sufficient diagnosis is shown by the profusion with which journals devoted to uric acid and samples of medicine guarantee to eradicate it are showered upon us.

It is the limbo to which all obscure symptoms and indefinite maladies are relegated if the patient confesses to have had an ancestor—no matter how remote—who once had a pain in his big toe. As a comprehensive diagnosis it has supplanted chronic malaria, autointoxication, biliousness, and a host of others.

I do not mean to convey the impression that uric acid is not a potent cause of disease, but I do wish to emphasize that much harm is done by accepting it as the primary cause of all obscure symptoms and treating the case as if our sole object was to increase the elimination of uric acid from the body or decrease the amount found in the urine.

I also desire to call attention to the fact that precipitation of uric acid from the urine and even its accumulation in the urinary tract as calculi or gravel is not a sign of excessive uric-acid production.

Two groups of symptoms are attributed to uric acid.

First: That due to the precipitation of uric acid in the body, as occurs in acute gout with its classical localization in the big toe and other of the small joints, or in the chronic deformities of massive uratic deposits about the joints and the production of calculi in the kidneys and bladder.

Second: The other includes that large group of symptoms that are usually described as "lithæmia." The symptoms of lithæmia may be identical with those which for some days or weeks precede or follow a typical attack of gout, but which in the patients who are simply lithæmic show no connection with any gouty stigmata but which are inferred to be gouty, from their otherwise obscure nature, or from the fact that there is a more or less gouty family history.

Much confusion has resulted from the use of the word "lithæmia," as its derivation links it so closely with uric acid. Most writers have employed it as synonymous with gouty diathesis, latent gout, aberrant gout, etc., and still further fixed in minds of both physicians and laymen that all the symptoms and conditions described under lithæmia are due to an excess of uric acid in the body.

In this paper, for want of a better term and for the purpose of discussing its relation to uric acid, the word will be used in the sense that the symptoms described as lithæmic are not due to an absolutely gouty condition, although in some cases they may be associated with true gout. Gout of the gouty state (whether as articular gout, chronic gout, aberrant gout, etc.) is limited to those cases in which there are or have been deposits of uric acid in the tissues.

Lithæmia may manifest itself by merely functional disturbance or by organic and progressive lesions affecting the various structures of the body.

In some cases the condition is disturbed digestion, loss of appetite, bitter taste in the mouth, acid eructation and heartburn, bowels costive with pasty colored stools, flatulency, hemorrhoids, some dingyness of conjunctivæ and sallowness of skin. Associated with these may be mental and physical lethargy, drowsiness after meals and depression of the spirits. This condition has also been ascribed to "torpor of the liver."

In other cases the disturbance affects more particularly the nervous system. There is recurrent headache and at times symptoms of chronic meningeal irritation; neuralgias, which may involve one nerve or plexus; or may be more widespread; sensory disturbance of the abdominal viscera; cramps in the muscles, especially in the calves of the legs; vertigo, melancholia, or nervous irritability. These nerve disturbances may appear as storms and be associated with intense vomiting, diarrhœa, etc., or in the truly gouty be followed by an acute attack of gout after which the patient returns to a normal condition.

Again: the chief manifestation may be in the skin, nails, hair, or mucous membrane.

The skin in the young and well-nourished is thick, glistening, and oily. In later stages, with impaired nutrition, dry, wrinkled, and parchment-like. The skin diseases that are most common in the gouty are eczema, acne, psoriasis, urticaria, and erythema, with characteristic attacks of intense itching and congestion associated with other gouty manifestations.

The nails have fine longitudinal marking, showing their origin from the agglutination of hairs. Each gouty attack may record itself on the nails by a transverse groove.

The hair may become grayer during an attack and with the disappearance of the gouty state regain much of its normal color. The mucous membranes are frequently affected. Children with marked heredity suffer from frequent catarrhal affections of the upper respiratory passages. In adults there is frequently a chronic pharyngitis, with copious secretion and annoying cough. Spasmodic bronchitis may alternate with a true arthritic

*Read before the Medical Society of the County of New York, March 28, 1904.

attack. Acute cystitis often occurs in women and non-specific urethritis in both sexes.

The urine will vary according as the condition is acute or chronic. During the acute stage the urine is high colored and scanty, and on standing shows a deposit of abundant sediment of urates. The condition of the urine at this stage is not peculiar, but is characteristic of febrile urine. In the more chronic stages, when the kidneys have undergone organic change, the urine becomes lighter and the amount of uric acid or urates is diminished as a rule, being increased only at times when they occur as showers. The deposit of urates does not indicate an excessive secretion of uric acid, but may occur when the percentage of uric acid is below the normal, its precipitation being caused by some change in the physical condition of the urine which allows of their more rapid separation.

The symptoms referable to the circulatory system are (1) function disturbances; (2) high blood-pressure; (3) on account of the high blood-pressure changes in the blood-vessels and heart and subsequent changes in other organs.

(1) Palpitation, irregularity with a peculiar faltering, a condition described as "runaway heart," in which there are attacks of excessive rapidity, during which patients fear they are about to faint and then suddenly, with a peculiar jerk in the cardiac region, the heart resumes its normal frequency or may be even slower than normal. In other cases the disturbance takes the form of false angina pectoris.

(2) The most constant cardiovascular condition of both the lithæmic state and the true gouty condition is high blood-pressure. In lithæmia at first the high pressure may be short and coincide with the gastrointestinal or nervous symptoms, but later on it becomes permanent and is associated with cardiac hypertrophy and increased rigidity of the vessel walls, a condition giving the definite pathological entity known as arteriosclerosis.

(3) When this stage is reached the subsequent course of the patient, both from a pathological and clinical view, varies according to the organs principally affected or the functions most disturbed, so that it is possible to recognize definite types.

In the cardiac type the hypertrophy keeps pace, for a time, with progressive changes in the blood-vessels and the patient feels in perfect health except for some slight disturbance after overeating. Sooner or later he becomes conscious of an indefinite sensation of distress in the cardiac region after unusual exertion, extreme excitement, and especially on going up stairs and walking to business immediately after eating. Later he has transient attacks of faintness without cause. Examination of the heart may show either a powerfully acting heart, which seems more than sufficient until its power has been tested by the patient being compelled to climb a flight of stairs or to perform some light calisthenic movements, when all the symptoms of insufficiency of the cardiac muscle to overcome the obstruction in the blood-vessels are induced, or in other cases a harsh systolic murmur is heard over the base of the heart, due to thickening of the aortic valve from atheroma. Whether at the base of the valves there is first inflammation and then deposits of salts, or *vice versa*, is still a matter of doubt, but the cause is the traumatism due to the high blood-pressure and the increasing rigidity of the aorta.

When either of the above conditions is reached, the nutrition of the heart becomes insufficient and there is gradual dilatation with regurgitations at the mitral valve, and the case ends as in chronic valvular disease, or life is terminated suddenly by acute dilatation induced by over-exertion or the increased high tension of an acute attack of indigestion, etc.

In the arterial type (*a*) degenerative changes cause the vessel walls to become weakened and unable to withstand the high pressure in them during the stage of compensating cardiac hypertrophy and aneurysmal dilatation of the large and small vessels, or rupture occurs most commonly in the brain (apoplexy); or (*b*) when cardiac powers fail and the current through the narrowed and roughened vessels is slow and feeble, there is clotting (thrombosis) with attending paralysis.

In the renal type coincident with the cardiovascular change there is increase in the urinary water, the specific gravity of the urine is low, but the excretory function is within physiological limits. Later the changes in the blood-vessels of the kidneys progress more rapidly than elsewhere, and the fibrous structure of the kidney participates in the process and the case terminates as one of chronic interstitial nephritis.

The hepatic type presents itself in two forms: (1) in which cirrhosis is part of the general fibrotic process; (2) in which there is disturbance of function, and glycosuria, at first intermittent, becomes the determining cause of death.

The arthritic or true gouty type may show itself in various forms. Those with marked heredity may, during early life, be subject to sick-headaches which in early adult life become less frequent and are replaced by attacks of acute gout. The attacks of gout become more frequent and gradually involve a greater number of joints, and a characteristic feature is, that although a joint may have been affected repeatedly, there is very little deformity. Sooner or later attacks are almost continuous, but milder or subacute in character. The inflammatory process passes from one joint to another during each attack until all the joints of the body, which have been "gouty" in any other attack, are involved. The involvement of a number of joints in rapid succession has caused this form of gout to be associated with rheumatism under the term rheumatic gout.

In other forms the articular symptoms are complicated with deposits of the biurate, forming massive tophi and marked deformity. In the arthritic type the changes in the heart, blood-vessels, kidneys, or liver may progress relatively very slowly, but life is generally terminated by changes in these organs, and not by the uric acid deposits.

Which one of the above types will be the terminal stage is determined in each individual by habits, mode of life, heredity, intercurrent diseases and toxæmias.

As practising physicians the questions that are of vital interest to us are:

What is the origin of uric acid?

What is the relation of uric acid to the symptoms of gout and lithæmia?

In what way do food, habits of life, and heredity act as etiological factors?

The theories concerning the origin of uric acid and its relation to gout and lithæmia are many and have changed from time to time with the advances in physiology and physiological chemistry.

Until recent years uric acid was believed to be a result of metabolism of all the proteids and an intermediate product in the end production of urea.

Haig and his followers believe that uric acid is introduced as such with the proteids of animal food and that little, if any, is elaborated during metabo-

lism and that its presence in the blood produces many manifestations.

Lately, with the advance in physiological chemistry, the subject has been studied anew and a much clearer insight gained, although many points are still obscure. The present generally accepted theory is that uric acid is derived from substances in the nuclei of the cells—the nucleoproteids—which by successive cleavage (decomposition) break up into albumin and nuclein, nucleinic acid and the xanthin bases, also called purin or alloxuric bases. The possible end oxidation product or one of the end products of these bases is uric acid.

The nucleoproteids that produce uric acid may come from two sources, first that due to the breaking down of the cells or cell nuclei of the organism itself. The uric acid resulting from metabolism of the tissues of the body has been called endogenous. It has been found that when all nucleoproteids are excluded from the diet—that is, a person is on a nuclein free diet—the output of uric acid falls to much below the normal and remains stationary at that point, although the diet may be rich in proteids that do not contain cells or their derivatives, the purin bases.

It has also been found that the amount of endogenous uric acid that is secreted on a nuclein free diet varies with individual. This indicates that the rate of cell destruction and the resulting output of uric acid is an individual factor in metabolism and varies according to the amount of exercise or rest, but is constant for that person under varying conditions of life, even though the patient is not in a condition of nitrogen equilibrium and the amount of nitrogen taken into the body varies greatly. In a normal individual the endogenous uric acid is not influenced by general metabolism.

The other source of the nucleoproteids is from the nuclein or purin bases taken with the food, especially those articles which are composed of the glandular organs, etc. The uric acid formed from nucleoproteids of this source is called exogenous uric acid.

Of the nitrogen of the purin bases, whether in the form of hypoxanthin of calve's liver, of guanin of the pancreas or the adenin of the thymus, approximately 50 per cent. appears in the urine as uric acid. The trimethyl xanthin or caffeine and the dimethyl xanthin or theobromin cause no increase of uric acid but appear in the urine as such or as purin derivatives.

What becomes of the other 50 per cent. of the nitrogen contained in the purin bases is not known, although it is generally believed that the major part is converted into urea. It has been found that the liver of dogs can convert uric acid into urea. The kidney and muscles of herbivora have the same power, and Mendel has found that in dogs it is converted into a higher oxidation product known as allantoin. Where the purin bases are decomposed or oxidized and what are the successive products between these bases and the final result, uric acid, is still a matter of conjecture.

Experiments seem to prove that the liver is the organ chiefly concerned in the elaboration of the purin bases and also in the further oxidizing of uric acid to urea. Almost equal power has been conceded to the spleen, while the same processes may occur in the thymus and the voluntary muscles. It also seems that when one organ, as the liver, becomes, for any reason, incapacitated for this work, the other organs mentioned, and possibly some others, are able to do extra duty. It has even been claimed that the decomposition to uric acid is not completed in these organs but the intermediate products of the purin bases are brought by the blood to the kidney and there synthetized into uric acid and in certain diseased conditions this ultimate stage can occur in other portions of the body and produce uratic deposits.

These facts have important bearing on the pathology of uric acid, for they show that uric acid is not an absolutely end product of the nucleoproteids, and that a large amount—50 per cent. for the exogenous purin bases and probably an equal amount for the endogenous—is converted in the organism into urea or some product more highly oxidized than uric acid.

In any theory put forth to explain the accumulation of uric acid in the body and the production of gouty condition, the fate of this unaccounted for purin base-nitrogen must be taken into account. For it has been found that when uric acid is injected subcutaneously in man, only 50 per cent. is eliminated in urine. In testing the urine to determine the amount of purin gases eliminated, the uric acid alone cannot be taken as the index; for purin bases themselves or their derivatives may be present in the urine. Uric acid should always be considered in connection with the amount of these substances in the urine.

In order to explain fully the relation of uric acid and its increase formation or retention in the body to the symptoms of gout and lithæmia, it is necessary to have more definite knowledge on, First: the physiological and pathological conditions which may increase the production of endogenous nucleo-proteids from increased tissue metabolism. Second: All the forms in which the nucleoproteids are introduced with the food. Third: The power of the tissues to decompose the purin bases into uric acid or still further change them into urea or some form beyond uric acid. Fourth: The effect of the purin bases or the products intermediate between them and uric acid, on physiological and pathological processes. Fifth: The factors that cause its accumulation in the tissue in the form of urate of sodium and the production of the gouty condition. Sixth: The factors that prevent the elimination of uric acid in normal amounts. Seventh: The factors that cause separation of uric acid from the urine in the kidneys and bladder.

With regard to the symptoms that attend an attack of gout the "mechanical" theory offers a sufficiently satisfactory explanation. In brief, this theory is that the local manifestations of gout are due to the precipitation of fine, needle-like, crystals of biurate of sodium in the fibrous and cartilaginous structures in and about the joints. These crystals cause irritation in the same manner that any foreign body of a similar form, as, for instance, fine spun glass would if injected or showered into these same structures. The intensity of the inflammation, pain, and swelling are in proportion to the amount of precipitation, the density of the structure of the tissues involved, and the effect of the inflammatory swelling.

What the local conditions are that cause the precipitation of the crystals of biurate of sodium, and what is the form and what the combination of uric acid prior to crystalization, is a mystery, although numerous theories have been brought forth to account for it.

Garrod believed that it was due to lessened alkalinity of the blood and inability to hold uric acid in solution.

Haig claims that gouty deposits and symptoms of lithæmia depend on varying alkalinity of blood.

Roberts holds uric acid circulates in blood as quadriurate, and as such is voided by kidneys. In the gouty state there is an accumulation in blood either from defective elimination by the kidneys or

excessive introduction of urates in the blood. In those portions of the body where fluids are rich in sodium carbonate, the quadriurate is precipitated as biurate, first in a hydrated or gelatinous form, which later passes into crystalline condition, and that the precipitation is influenced by (*a*) temperature, (*b*) quantity of uric acid in solution, (*c*) saline substances.

Ebstein thinks there is first a nutritive tissue disturbance which leads to necrosis, and in the affected areas the urates are deposited.

As the exact seat of the formation of uric acid is still undetermined, it is a question if uric acid cannot be synthetized in the tissues where it is found precipitated, as it is conceded that it can be oxidized in various tissues and organs of the body.

The "mechanical" theory has also been deemed sufficient to explain many of the symptoms of lithæmia, especially the neuralgias and some of the effects on the blood-vessels. It has been claimed that in the nerve structures and blood-vessels there are slight precipitations or showers of uric-acid crystals which produce the varying type of pain and reaction. This theory is insufficient to explain all the conditions of acute and chronic lithæmia.

Other investigators claim that the diverse symptoms of lithæmia are due to toxæmia. That uric acid is not found as such in circulating blood and lymph, and that in the form of biurate of sodium it is found only in certain structures of the body where precipitation has occurred.

Are there any facts to substantiate the theory of toxæmia, and do the recent investigations of the physiological chemist throw any light upon the subject?

The fact that uric acid is derived from nucleoproteids only, and is not an intermediate product between all forms of proteid and urea, has limited the part it plays in general metabolism.

The relation of uric acid output to the occurrence of leucocytosis has raised the question whether the factors that increase the activity of the lymphatic tissue (organs) might lead to the accumulation of nuclein, which sometimes results in the increased production of leucocytes, and at other times only in an increased production of alloxuric bodies through their cleavage or oxidation.

That alloxuric bases when taken as food or when injected into the body subcutaneously can produce symptoms, is proven by the experiments of Berian and Schur. Arthur R. Mandel, in a recent communication (The Alloxuric Bases in Aseptic Fever, *American Journal of Physiology*, Vol. X, No. VII), has shown the relation of the increase of the alloxuric bases and decrease of uric acid in the urine to the leucocytosis and temperature range in aseptic fever. He also showed the influence of subcutaneous injection of xanthin on the monkey, and of taking by mouth of large doses of xanthin base in the form of caffeine on the human subject.

While we know that the xanthin bases are the anticedents of uric acid, the physiological chemist has not been able to trace all the changes that occur between them and uric acid; and we have no knowledge of the physiological and pathological effects of the intermediate products when they occur during normal or abnormal metabolism or when they are retained in the body.

Everyone concedes that food, habits of life, and heredity have an important bearing upon the production of gout and lithæmia. Two or more of these factors may be necessary to induce them in some cases; in others only one is present. The articles of diet that have the greatest influence in producing the clinical manifestations of gout and lithæmia are the animal proteids and alcoholic beverages. In meat the nucleoproteids are the only source of exogenous uric acid, as very little free uric acid is found in the meat itself. The fermented liquors also introduce a certain amount of xanthin bases. The most marked influence of these articles of food and drink is the production of endogenous uric acid from tissue change. The examination of the urine shows that, after a meal, the height of uric-acid secretion precedes that of urea, and the amount of uric acid bears a definite relation to the degree of digestive leucocytosis. Whenever the amount of food, of whatever nature, overtaxes the digestive capacity of the individual it is apt to produce definite gastrointestinal disturbances, as nausea, vomiting, or diarrhœa, which are self-curative. When, however, this excessive alimentation does not produce these symptoms, the effects may fall upon other structures, overtaxing their functional capacity and influencing the processes of metabolism and producing a definite toxæmia, which may or may not be attended with leucocytosis, and the symptoms of this condition are very similar to that of acute lithæmia.

We are all familiar with the fact that habits of life have an important influence on the production of gout and lithæmia. With an outdoor life and free muscular exercise, immense quantities of animal food and even alcohol can be taken without causing a corresponding increase in the amount of uric-acid secretion, and this same mode of life is frequently sufficient to remove the symptoms of lithæmia. It has been proven that only about 3 per cent. of the nitrogen of the nucleoproteid appears in the urine as uric acid, and that the remaining 50 per cent. is probably oxidized into urea or some other product. When the processes of metabolism are normal and sufficient to elaborate all the food taken with an outdoor life and free muscular exercise the oxidation of the purin bases both exogenous and endogenous, probably occurs not only in the liver and spleen but also in the muscle tissue, although this fact has not been absolutely proved.

Heredity is a most important factor in the occurrence of gouty condition. More than 50 per cent. of all cases showing these symptoms give a family history of gout. As I have stated elsewhere family resemblance or likeness is not limited to outward forms and features alone, but every tissue of the body bears the impress, and the nutritive processes follow the groove worn deep by preceding generations, and family tendency (heredity) shows itself earlier in each succeeding generation, unless checked by treatment or modified by the introduction of new tendencies. The special family weakness may be an inactive liver, kidneys unable to adapt themselves to the extra demands of a particular mode of life, a digestive apparatus that while it tolerates an overabundance of food is unable to elaborate it fully, an irritable sympathetic nervous system that responds inordinately to slight disturbing causes. The tendency of the vital processes to be disturbed by the ordinary wear and tear of life, or to be influenced unduly by accidental circumstances, acute disease or toxic agents, early causes disturbance of the cardiovascular system. The increased arterial tension and the pathological changes of arteriocapillary fibrosis that frequently occur early in life as the result of many infectious processes and at other times by alcohol and lead, would indicate the existence of some toxic agent in the blood as the primary cause in all cases.

Just what this toxæmia is we cannot at the present say, for it is impossible to follow all the steps of constructive and destructive metabolism, but certainly we have no right to decide that it is due to uric acid circulating in the blood.

What we do know from clinical experience is that it is dependent on a want of balance between the amount of food taken and the powers of metabolism to elaborate and oxidize it in a normal manner.

Lithæmia should be considered an expression of more or less profound disturbance of the metabolism, and our aim should be to find out at what point the disturbance occurs and what has induced it. Uric acid over-production, its retention in the body, its precipitation in the tissue, and the secondary pathological changes induced by it, are merely incidents in the course of this disorder of metabolism and nutrition.

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INSUFFICIENTIA PYLORI.*

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Too long has the unfortunate opinion prevailed that a chronic dyspeptic is doomed to lifelong misery, if not, indeed, to suicide, which, quite often, is the finale to a tragic existence. The recognition of insufficientia pylori as one of the causes of chronic dyspepsia is of paramount importance, as it leads to almost miraculously quick improvement. This is my opinion, based on over fifty consecutive and successful cases.

One hour after Ewald's test-breakfast (I shall use here test-meal and test-breakfast as synonyms) the healthy stomach should yield from 30 to 50 c.c. of chyme, the solid part of which should be well pulverized and the fluid part should be quite thin. The chyme should readily filter. Not always, however, do we meet such conditions. There are pathological variations on either side of the normal, both as to quality and quantity.

Insufficientia pylori is the condition in which nothing or possibly but 1 or 2 c.c. of chyme are aspirated one hour after the test-meal, this, because the pylorus either does not close at any time or does so insufficiently for a shorter period than is normal. I shall beg your indulgence if I begin with the cause of the physiological, clonic closing of the pylorus on introducing anything into the gastric cavity.

The presence of matter in the stomach causes its muscular fibers to contract; the degree of such contraction being in direct relation to the degree of the irritant. Normally, the exciting cause is not so great as to throw at once the entire stomach into one convulsive contraction, but the contraction begins at the fundus and travels toward the pylorus. Whilst the band of muscle fibers "B" contracts, the band "A" begins to relax. These successive contractions we call peristalsis. Let me say here, in parenthesis, that respiration has a decided influence upon peristalsis; inspiration aids the motility of the stomach. When the peristaltic waves finally reach the end of the stomach, the pylorus, this likewise contracts, the same way as does the stomach. But, although the cause and the mechanism are identically the same, the effect upon the pylorus is different from that upon the stomach in general. The same cause and the same degree of contraction which produces in the stomach cavity but a diminution of its diameter, causes in the pylorus its entire occlusion. This is very readily explained by the difference between the diameter of the stomach cavity and the narrow lumen of the pylorus. The pylorus having a very small diameter needs but little contraction to occlude its entire lumen. No difference of force, cause, or mechanism is required to explain the physiological, clonic closure of the pylorus during gastric digestion. What produces general gastric peristalsis also produces closure of the pylorus; the closing of the pylorus must not be regarded as anything else than ordinary peristaltic contraction. Starting from these normal physiological premises we can reason that what will cause greater general contraction of the stomach will so much more intensify the closure of the pylorus. But as the general stomach cavity has a considerable lumen to contract upon, whilst the same aggravated contraction reaching the pylorus, has nothing more to contract upon than its own anatomical structures, it is evident that such anatomical structures will suffer the consequences of such repeated and spastic contractions. Our knowledge of inflammation, its causes and its manifestations, would at once make us anticipate inflammatory changes of the pylorus under the conditions just mentioned. But besides this, which I might call intrinsic cause, there is the additional element of the violent impact of the chyme which is thrown against a closed pylorus by the aggravated contractions of the muscle fibers of the stomach. Thus, we see two forcible factors for the production of inflammation of the pyloric portion. This explains the fact why autopsies show, in by far the largest majority of cases, only the pyloric portion to be the seat of lesion. In fact, I believe we should be justified in discarding the name of gastritis in the majority of instances and substitute the name of pyloritis instead.

The muscularis of the stomach, naturally, has a muscular, hence a dynamic function, and, in accordance with the work to be performed, varies its development. In the grain-eating birds, for instance, the muscular layer of the stomach is enormously developed, because the grains have first to be crushed before they can be acted on, chemically, by the digestive secretions. Likewise in man does the stomach complete the grinding, begun by the teeth. This is a fact which is attested by the very finely pulverized chyme, so often aspirated from the stomach. But, is this very finely pulverized chyme really the result of only dynamic, of only muscular activity? Yes. And this affirmative answer can be verified by both direct and indirect ways. I have many times experimented with artificial digestion and, although I did obtain all the chemical results, I never did get the solid part finely pulverized until it was thoroughly stirred up with a clean glass rod. The clinical proof presented itself to me in a case of pyloric stenosis in which I first ascertained that the stomach was empty before I gave the ordinary test-meal. One hour after it I aspirated the entire ingested meal and, notwithstanding that the general acidity was as low as 18 (even dimethyl scarcely reacted), the ingested roll was recovered in a very finely pulverized form. On the other hand there are abundant clinical instances in which the chyme is coarse, although there are sufficient acid values. These facts I consider beyond doubt to be entirely conclusive, that finely pulverized chyme is the result of mechanical crushing. Crushing implies that the object to be crushed must come between two opposing forces—the driving and the resisting force. In the stomach the contracting muscle fibers represents the driving and the closed pylorus the resisting force. The stronger these two forces act

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upon another, or the longer the grinding continues, the finer pulverized will be the crushed product. Again, the finer the pulverization the longer or the stronger was the muscular contraction and the longer did the pylorus offer resistance. We therefore must admit that to obtain a very finely pulverized chyme the ingesta must be subjected to the action of the forces mentioned, sufficiently long, which means that the ingesta must remain in the stomach long enough to be acted upon, dynamically, by the muscular contraction of the stomach. In the same manner the aspiration of a chyme which presents the very fine pulverization, termed by me the "floury layer," attests the existence of at least normal, if not hypermotility of the stomach, and this irrespective of the quantity aspirated. Nay, as it needs a prolonged contraction of muscle fibers also of the pylorus, as it needs a longer closing of the pylorus to produce the "floury layer," it is evident that the closed pylorus also prevents the passing of chyme into the intestine; hence a larger quantity will be aspirated. The larger the quantity and the finer the pulverization the longer did the pylorus offer resistance, the longer was the pylorus closed. Since, however, a protracted closure of the pylorus could not exist without active peristalsis (as explained above), and since a prolonged closure of the pylorus obstructs the escape of chyme and hence leaves more chyme to be aspirated, it follows that the aspiration of a large quantity in which the "floury layer" is present signifies that in such a stomach peristalsis was very active. This is a view diametrically the reverse of what is at present recognized. We are taught that a stomach which yields a large quantity of chyme after the test-breakfast is atonic. We have been made to believe that the presence of a large quantity of chyme after the test-meal incriminates the integrity of the muscular power of the stomach; it is being assumed that because the ingesta did not pass the pylorus in sufficient quantities in the given time it is ample proof that the stomach wall, for some reason or other, has not attempted to expel its contents. With the same propriety we might accuse the prisoner of not attempting to come out of his cell. Supposing the cell is locked and bolted and all efforts of its inmate to get out of the cell are frustrated because of the door being locked? The tonus of muscular fibers is judged by its respective power. But, when we aspirate a "floury layer" such facts prove muscular activity. To accuse a stomach, which yields after a test-breakfast a large quantity of chyme of which the solid part is very finely pulverized, of atony is a crime. Such stomachs are not only not atonic, but the very contrary, they are *hypertonic*. The large quantities aspirated in such cases is due to the stenotic condition of the pylorus. This stenosis is, most usually, due to a pathologico-chemical condition, and which I described as "stenosis pylori ab irritatione." It is peculiar and possibly significant that both, Boas and myself, have independently worked on the same theory at the same time. Boas, in article on "Magensteifung" (*Deutsche medizinische Wochenschrift*, March 6, 1902), also refutes the present assumption that the aspiration of a large quantity of chyme after the test-breakfast signifies atony. He also acknowledges a stenosis pylori as the cause of the large aspirated quantity. I again wish to impress that quantity does not impugn the integrity of the muscular coat of the stomach one way or the other; quantity is dependent upon the respective condition of the pylorus. A prolonged contraction of the pylorus offers prolonged resistance to the escape of chyme from the stomach, hence a larger quantity will be aspirated. A pylorus, the contraction of which is lessened or entirely abolished offers little or no resistance at all to the exit of the chyme, hence a much larger quantity of the ingesta will pass the portals of the intestines unmolested, unchecked, and hence little or no chyme at all will be obtained on aspiration. There is no increase of motility in this condition, as there is no impairment of the muscular activity when a large quantity is aspirated. *The absence of chyme one hour after the test-breakfast cannot be ascribed to hypermotility*, as hypermotility means hyperactivity, which is synonymous with hypercontraction, and hypercontraction, as explained above, must produce more spastic contraction of the pylorus. Hypermotility of the stomach, therefore, effects larger quantities to be retained in the stomach. *The presence of a large quantity of chyme after the test-meal means stenosis, the absence of chyme denotes "insufficientia" pylori.* But very little peristalsis is necessary to bring ingesta past an open pylorus, mere gravity will do it. Furthermore, the absence of pyloric resistance has a decided negative effect upon the grinding up of the ingesta. Because of the absence of one of the two forces mentioned above as necessary for the grinding, because of the absence of pyloric resistance by reason of its non-closure or insufficient closure, the ingesta cannot be acted on dynamically, and therefore it is that whatever little is aspirated in the first stages of insufficientia is coarse.

Insufficientia pylori presents itself in several stages. It begins with a simple weakness, if I may use this expression, when possibly yet 1 or 2 c.c. of coarse chyme are aspirated and ends with its complete inability to contract. In this last stage the ingested food rushes immediately past the pylorus, the patient practically has no stomach. Between these extremes there are many gradations. We may not find any chyme at the end of one hour, but there may be some, three-quarters, or half, or one-quarter of an hour after ingestion, and it is our duty to absolutely ascertain the exact condition.

Etiology.—Insufficientia pylori is the natural and logical successor to stenosis pylori (I am not speaking here of the stenosis of an organic nature). It is but a question of time when the pylorus, too long insulted by spastic contractions and by the violent impact of food, together with other, chemical causes will succumb to such maltreatment with the inevitable inflammation as the result. And once this is chronically established, we can easily foresee the consequences. That finally, in the very last stage, anadenia gastrica should result need no surprise. Very seldom is insufficientia pylori the sequel of a retrograded neoplasm as described by Ebstein (*Deutsches Archiv für klinische Medizin*, Vol 26). Directly, insufficientia pylori is caused by a chronic pyloritis. As remote causes are organacidia gastrica (MEDICAL RECORD, September 6, 1902) chronic alcoholism, loss of teeth, and gulping down of food.

Symptoms.—*Per se* insufficientia pylori gives no symptoms, and it may exist for a long time without the patient being aware of it. What the patient complain of is due to faulty intestinal digestion. And, usually, the patients do not seek medical advice before the intestinal functions are interfered with. The most predominant and the most constant symptoms are due to gas formation in the bowels. This is variously interpreted by the patient as boiling, running around, shaking, heaviness, tension, sensation of bearing down, sensation of insufficient defecation. A woman about the climacterium

thought she positively felt "quickening" notwithstanding her menstruation having been regular up to the time of her consultation. The appetite is variable and may be good or absent, but there are definite causes for each. When the gases formed in the intestines are not irritant then the distension causes anorexia. When the gases are volatile fatty acids, then the attendant contractions of the upper part of the intestine due to the presence of such volatile acids, give the sensation of hunger. In the prevailing of the latter contingency, besides the very good appetite, will be diarrhœa, cramps, and rectal tenesmus, and, if the volatile fatty acids make their way through the upper passage, there will be burning along the route and thirst. Constipation is not infrequent, and, I am now inclined to believe, is due to distension of the bowel by non-irritating gases. Often constipation alternates with diarrhœa, the diarrhœa being subsequent to and caused by the constipation. The stagnating fæces finally undergo putrefactive changes with the evolution of irritating gases which then irritate the bowel, thus bringing on peristalsis. Headaches may or may not be present, but as yet I have not been able to ascertain the exact cause of each. The dictum that constipation and headaches invariably go together I cannot corroborate, although it holds good in most instances. Flashes of heat and cold are very common, especially in the evening, after the somewhat heartier meal, which the insulted intestines struggle to digest. It can safely be assumed that one who abused his stomach will also abuse his bowels, if not warned in time. But, often, patients are not aware of serious gastric trouble or of any digestive interference. Occasional "spells" they take very lightly, often as a matter of course. In illustration of this I will cite one instance: A young man, twenty-eight, a travelling salesman, had been coughing for some three years, during which time he consulted several general practitioners without being helped. Finally, alarmed about this cough, he went to a prominent lung specialist, who, after the third visit, came to the conclusion that most likely the cough was caused by some disorder in digestion. The patient then came to me, rather surprised at the lung specialist's finding, as he could not remember any serious attacks of indigestion. That patient's stomach had already advanced to the condition of insufficientia pylori. His cough stopped permanently after the sixth day (he came for treatment every day). Vomiting may or may not be present. Besides those there may also be other symptoms.

Diagnosis.—Insufficientia pylori cannot be diagnosed without a test-meal—nay, several test-meal examinations, one to follow the other one day after the other. Absence of chyme one hour after the test-breakfast or at most 1 or 2 c.c. of coarse particles is the diagnostic criterion. The diagnosis should be corroborated by another test-meal the very following day. In a tentative way the diagnosis may be assumed in cases of chronic alcoholism or in patients with few or no teeth. Neither sex nor age gives any clue. The diagnosis of insufficientia pylori having been made, it becomes our duty to ascertain exactly the patient's condition. The question, and a very important one, is, how soon is the stomach empty? Does the stomach functionate at any time or has the patient practically no stomach? These questions are answered by aspirating the stomach at various times after the test-breakfast is given. If the stomach prove to have no chyme one hour after the test-breakfast, we, next day, aspirate three-quarters of an hour after the ingestion, or thirty, or even fifteen, minutes after the eating. Upon this exact knowledge is based the successful treatment. When the case is properly explained to the patient, he will usually corroborate with the physician. If we can manage it, all real medications should be stopped for a few days before our examinations. Of the physical examination only gastric inflation may be of some avail. In the last stages of insufficiency the stomach cannot be inflated by any means. But one must be careful not to mistake a dilated stomach for insufficientia pylori should he choose for inflation CO_2 developed in the stomach. The usual doses for inflating a stomach are half a teaspoonful each of bicarbonate of soda and of tartaric acid, each to be taken separately and in immediate succession with about two ounces of water. If these do not inflate we need not yet conclude upon insufficiency.

Prognosis.—If not attended by too severe complications, insufficientia pylori has an excellent prognosis, no matter how old the patient is or how long the disease had existed. I have seen the cases in my own practice and in consultation, in which the conditions prompted the gravest diagnoses and in which improvement had been despaired of, respond almost miraculously to the proper treatment. A marked turn for the better is positively seen in a very few days, often even within a day or two after treatment has been begun. Patients who have suffered for years from chronic dyspepsia get well, gain flesh and change their melancholy into buoyancy and optimism in a very short time. Thus I had among my patients a colleague about fifty years of age, who until recently taught diseases of the stomach and who had to give up his position because of ill health, greet me on the twelfth day after the test-meal examinations with a hearty handshake, a broad and cheerfully smiling "How do you do" and a slap on my shoulders. This greeting needed little interpretation. My esteemed colleague had not a trace of chyme even half an hour after his test-breakfast. The usual average for the treatment has proved to be about three months. Often the patients are inclined to overbear, exhilarated by the rapid success, and are tempted to do a little experimenting themselves. Against this the physician must guard. A return of the pylorus to the normal can only be expected in the young; I have seen this several times.

Treatment.—As everywhere else, the etiological moment must be kept in mind. Alcoholism and gulping down of food will, naturally, be interdicted. It is much better to go without food than swallow it down unmasticated. If circumstances do not allow the patient sufficient time for his meal then let him have such food that needs no mastication. Mastication must at all times be complete. Loss of teeth must be supplanted by artificial ones. Especially to the poor must we explain the necessity of thorough mastication. But as they cannot always get a set of good artificial teeth we must advise them to have the mastication done artificially. All cereals and vegetables should be well boiled and eaten in the form of puree. As to meat, my advice is to prepare it in any way they like, and after it is done to cut it up into very small pieces, which is best done by a meat-grinding machine, which is very cheap.

The dietetic treatment is of chief importance. The object is, not to introduce any acid food nor food which develops gases. Let us also remember that sweets very quickly form acids in the digestive canal, consequently, also, these will be omitted from the dietary. Coffee, tea, spirits, fermented liquors, CO_2 containing waters, too much milk, cabbages, peas, beans, radishes, turnips, spices, salads, fruits, especially grapes, peaches, plums, and prunes should

be forbidden. Excluding these, the patient has a free choice of food but not of drink. Clean, filtered water and milk are about all the patient can have. Of mechanical treatment only lavage is to be mentioned if mucus is present; I have as yet not tried electricity.

The medicinal treatment must be directed to help the intestine, but at the same time not to interfere with any gastric digestion, which may still be present. It is for this reason that several test-meal examinations are necessary. We must know whether the stomach does have some digestion, and if so, we surely must not interfere with it by giving the alkalies too soon. Bicarbonate of soda, magnesia, and the rhubarb and soda mixture are usually sufficient and to be given after meals, the time to be determined by the test-meal examination. So, for instance, if there is no chyme, even fifteen minutes after ingestion of the test-meal, then the alkalies should be given immediately after meals. If there is some gastric digestion yet half hour after the test-breakfast then the alkalies will be given between half an hour and one hour after meals. If there is some gastric digestion still present the alkalies should be given somewhat later when meat is eaten. Pancreatin and papain are very valuable, but we must be sure to get the fresh products; stale products are very apt to be decomposed and cause pain, colics, and diarrhœas. Strychnine is the drug never to be left out, but it must not be given in small doses. I never begin with less than one-twenty-fifth of a grain. Especially in the chronic diarrhœas has the strychnine a magic effect. Cases in which there were daily ten to twenty watery discharges and which have lasted for years, in one case over eight years, have yielded entirely and permanently to strychnine in from three to four weeks. But in these cases the strychnine must be given in rapidly advancing doses; I repeatedly gave one-seventh of a grain three times daily.

For constipation sodium sulfate and liberal quantities of water are of most benefit. The sodium sulphate should be begun with one-half teaspoonful doses in a glassful of hot water half hour before meals; this dose should be diminished gradually according to requirements. When the drinking of large quantities of water is desired it is best not to tell this plainly to the patient, as he will usually disobey. Any sort of drugs, and by far the best impressive, are bitter drugs, can be given in drop doses every two hours in a tumblerful of water.

In conclusion, I want to refer to my previous articles on insufficientia pylori in the *Philadelphia Medical Journal*, May 24, 1902, and in the *New York Medical Journal*, October 4, 1902.

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HEMORRHAGE AFTER TONSILLOTOMY; ITS GENERAL CONSIDERATION.*

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When we consider the blood supply of the tonsils, their close proximity to large blood-vessels, and the frequency with which the operation of tonsillotomy is performed, we must wonder at the small number of mishaps reported.

A review of the past sixty-one years, that is accepting Dr. Damiano's statement,[1] and bringing the account to date, places the number of post-operative hemorrhages reported at one hundred and seventy-five. A systematic search reveals two authentic fatal cases in which the operation was performed according to modern technique. One was Damianos' own patient, age twenty-three years, who died sixteen days after the operation from repeated hemorrhages and an abscess resulting from subcutaneous injection of gelatin, probably a hæmophiliac.

Barkan[2] reports a fatal secondary hemorrhage in a six-year-old boy after using tonsillotome and Gottstein curette for the tonsils and adenoids. The bleeding had stopped, and recommenced two and a half hours later when the child began to cough and scream. Clots were vomited. Ether was then administered and the whole parts cauterized. On awakening, slight bleeding from the nose appeared. An attempt to open the mouth for examination caused the child to struggle, scream, a fresh hemorrhage, and sudden death of the boy. There are other cases[3] related, resulting from operative interference in other conditions, but the paper only deals with the chronic hypertrophic faucial tonsils. During my practice of the past seventeen years, I have had and seen several cases which were controlled. These I shall relate in various parts of this paper.

To avoid and arrest these hemorrhages we must first examine the causation, secondly, select the best method of operating, and, thirdly, know how to control them.

1. The causes of the bleeding are (1) hæmophilia, (2) fibroid tonsils, (3) laceration of blood-vessels, (4) anomalous arteries, (5) wounding of the anterior pillars, (6) ulceration.

1. In *hæmophiliacs* we all know what may happen, and so I invariably ask before operation whether such a condition exists; always framing the question so as not to alarm the patient or friends. I think we are justified in refusing to operate on these patients unless in extreme emergency. However, at times the fact will be concealed,[4] as the following case illustrates: A young man, aged twenty-one, whose tonsils I removed under anæsthesia, remained at my office until the bleeding stopped. Five hours later I was called to his house. He was almost exsanguinated, bleeding, and vomiting, and withal so nervous that he presented a sorry plight. With a good illumination I inspected and cleaned the parts and found a general oozing. To this I applied pressure with a pad of sterilized gauze on the end of a forceps. In about twenty minutes the bleeding stopped; and, after remaining one-half hour longer, I returned home. I left instruction with the brother—an experienced druggist—to reapply the pad, soaked in adrenalin if necessary. Four hours later I was summoned again, the hemorrhage being uncontrollable. This time I applied the Stoerck-Mikulicz tonsil hæmostat. As there was no recurrence, I removed the instrument the next day. Many months elapsed ere the young man regained his normal condition. Although I inquired carefully, yet I did not learn that he was a hæmophiliac until after the operation.

2. *Fibrous tonsils.*—We can safely regard it as a good rule that after the eighteenth year the hyperplastic changes that have taken place in a tonsil that has been the seat of repeated inflammation cause the interstitial fibrous tissue to increase and prevent the retraction of the blood-vessels. This explains why hemorrhages rarely occur in children.

3. *Laceration of Blood-vessels.*—When the vessel has not been clearly divided while operating, the contractile power of its coats is interfered with. This is well shown in the following case: I was called by the family physician to see a girl, aged ten, who had been bleeding intermittently for a number of hours after a double tonsillotomy. He informed me that the right side caused no trouble, and that he had used various astringents, including persulphate

*Read before the Harlem Medical Association.

of iron, without permanent effect. On examination I found the right tonsil to have been completely excised; but the left one, after clearing away the grumous mass caused by the iron and blood, only partially removed. From the upper surface I noticed a spurting blood-vessel cut slantingly. This I twisted with a long narrow forceps and the bleeding ceased. Fortunately, the patient was very tractible and so the task was comparatively easy.

4. *Anomalous Arteries.*—While these cannot be foretold, yet an examination of the removed tonsil may show the position of a large artery, and proper treatment may be given immediately.

5. *Wounding of the Anterior Pillars.*—This can always be avoided by separating them from the tonsil by means of a blunt hook, or by a knife specially made for that purpose. The bleeding from wounding the pillars is slight, but usually persistent. I have had two cases referred to me. These I controlled with the galvanocautery. This accident invariably intensifies the feeling of sore throat which exists after tonsillotomy.

6. *Ulceration* is usually the cause of secondary hemorrhages. After operation the parts should be sprayed with some mild solution, as, Seiler's, Dobell's, glyco-thymoline, boracic acid, etc. The feeding is very important; nothing should be taken that will scratch the wounded surface or that is in any way difficult of digestion and liable to produce vomiting, thus perhaps reopening the closed vessels.

The best method of operating in any given case will naturally lessen the chances of hemorrhage. Let us briefly mention the various methods: (1) The bistoury. (2) Laying open crypts with a sickle-shaped knife, and either destroying the parts with chemicals or excising with the tonsil punch. (3) The tonsillotome, either with or without the fork, to draw out the tonsil. (4) The cold snare. (5) The galvanic écraseur, the galvanocautery and Paquelin's cautery.

1. With the bistoury and tenaculum method I have no experience; but it seems to me that it would be very liable to injure the pillars and the tongue. A number of accidents have been reported from its use. I do not think it is much used in this country.

2. Laying open crypts and destroying with chemicals or tonsil punch. This is sometimes satisfactory where the crypts are exceedingly large and filled with secretion or calcareous particles.

3. Amputation with the tonsillotome is certainly the humane method of operating, and is especially applicable to children, who form the mass of our patients.

4. The use of the cold snare is excellent for fibrous tonsils.

5. The galvanic écraseur, as well as the galvanocautery and the Paquelin cautery, can also be used for fibrous tonsils, but one or the other is always indicated when a hæmophiliac is operated upon, and tonsillectomy is performed.

After all methods of operating, cases of bleeding are reported. Thus Roy[6] reports a secondary hemorrhage in a child aged four—McKenzie's tonsillotome having been used—and S. J. Knapp[7] of Indiana reports one in a child aged twelve—tonsillotome having been used. Gradle[8] reports a case in a gentleman aged thirty after hot snare. Ryan[9] reports two severe cases after McKenzie's tonsillotome and the cold snare, in young adults. Ingalls[8] also reports one after cold snare in a child and Bosworth[9] one after the galvanocautery.

I herewith report a case after the use of the Mathieu tonsillotome. A girl, aged seventeen, was operated upon under anæsthesia at the Sydenham Hospital. One, a buried or so-called submerged, tonsil was removed, as well as some adenoid tissue from the pharynx. She remained in bed at the hospital for a number of hours; then, feeling well and not bleeding, returned home. Early next morning I was called in a hurry and found that she had been bleeding the evening before and vomiting clots of blood, until she arose to walk across the floor, when she fainted and the bleeding stopped. Upon inspection, I found a large, firm clot at the side of the tonsil. No hemorrhage seemed to have taken place from the vault of the pharynx. As there was no bleeding, I did not disturb the clot. I ordered the patient to remain in bed, fluid diet, quiet, and to avoid clearing of the throat. On examination, two days later, I found long strings of the clot hanging in the pharynx and causing irritation. These I cut from the main clot but there was no oozing. On the sixth day there was a slight recurrence of the bleeding and on the eighth the clot separated. Undoubtedly the bleeding was venous—from an injury to the plexus of veins at the base of the tonsil.

H. M. Thomas[10] reports similar case of hemorrhage seventy hours after operation.

Another case, a mild one, occurred in a physician aged twenty-two from whom I removed the left tonsil at my office. Adenectomy had been performed on a previous occasion without any annoyance. No local hæmostatic was used. He remained until the bleeding ceased. About six hours later I was informed that he had been bleeding for two hours and was quite weak and faint. Gargling with ice-water and peroxide of hydrogen was ordered and controlled the bleeding. There was a recurrence for two hours the next day.

Control of the Bleeding.—The bleeding ceases usually spontaneously in a few minutes after the operation. If it continues, it must be stopped. In every case, even if an anæsthetic be required, the parts should be cleaned and a good view obtained, separating the pillars with a bent probe. This informs us of the character of the bleeding, as to whether it is a capillary, venous, or arterial, and measures can be adopted accordingly. Locally, for mild cases, ice, a paste of tannic and gallic acids, a saturated solution of adrenalin may be used. The perchloride of iron makes such a thick black mass, that I do not favor its use. Internally, suprarenal extract, ergot, or gallic acid can be employed. If the bleeding is severe in an unmanageable patient, a hypodermic of morphine acts often like a charm. If one or two vessels cause the trouble, they should be seized with a forceps or a tenaculum and twisted. If the bleeding is from the whole surface of the tonsil or venous oozing, the Paquelin or the galvanocautery should be applied. Sometimes direct pressure with gauze-wrapped thumbs for about half an hour will stop the mischief. With some patients, highly excitable, vomiting, bleeding, it is very difficult to do anything—but here nature helps us—for, as soon as fainting takes place, the hemorrhage ceases. So, at times, it may be good to promote syncope, having the patient sit or stand. Sometimes the remaining stump can be drawn forward and encircled by a ligature, using a transfixion needle if necessary —or passing a purse-string[11] suture around and drawing it together. A good method is to pass two ligatures from the posterior pillars, through the anterior ones, and tying each so that the tonsil is folded on itself or else makes a good recess in which to pack gauze. The tonsil hæmostat is an excellent instrument by which pressure can be made over the tonsil with one part and the other at the angle of the jaw by means of a screw and then left *in situ*.

Ligature has been applied to the common internal and external carotid with varying success. Which

vessel should be tied is a question that may occur. Each tonsil is separated by the superior constrictor of the pharynx and its aponeurosis from the internal carotid and the ascending pharyngeal branch of the external carotid. The latter is very close to the tonsil, but the internal carotid is really out of the way from danger of being wounded with a tonsillotome.

The external carotid artery is not far from the outer surface of the tonsil, and the facial is almost always in close connection with its front border, where it furnishes the tonsillar branch, which is the vessel most apt to give rise to troublesome hemorrhages. It would seem that the external carotid, whose branches supply the part, would be the one to tie.

Burkhardt[12] recommends, as a last resort, in the rare cases in which everything has proved ineffectual, to cut down on the tonsil through an external incision and secure the bleeding points. This, I should judge, is a rather complicated procedure.

In concluding this paper, I would draw attention to the following:

1. That troublesome hemorrhages occur in children.
2. That they happen very frequently in adults, in proportion to the number operated upon.
3. In case of bleeding, use a good light and clean the parts to ascertain the cause.
4. Anæsthetize or use morphine, if necessary, to quiet the patient.
5. Never operate without being prepared to cope with a hemorrhage.

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115 WEST ONE HUNDRED AND TWENTY-FIRST STREET.

The Etiology of Rickets.—In summarizing the results of some experimental work, R. G. Freeman states that experiments on animals would seem to indicate that unsuitable food is capable of producing rachitis and that possibly certain bacteria or intestinal toxins may produce a similar result. His clinical observations are too limited for any positive deductions, but are interesting inasmuch as they indicate less rachitis in the tenement than in the institution children fed on modified milk, and the greatest amount of rachitis in institution babies fed on breast milk with auxiliary feedings of condensed milk.—*Archives of Pediatrics.*

Gymnastics in Paralysis Agitans.—R. Friedlander reports the results of his endeavors to apply certain gymnastic methods to the treatment of this affection which have met with a considerable degree of success in alleviating the symptoms of this disease and checking to a certain extent its course. Any exercise which calls for muscular exertion must be avoided just as in tabes or any other disease in which it is necessary to develop the movements of coördination. Only slight demands must be made on the patient's strength, the periods of exercising must be short and alternated with frequent periods of rest. With these precautions it is possible by means of passive gymnastics to improve the hypertonic condition of the muscles. The movements should be executed very slowly and only sufficient force used to overcome the muscular rigidity. The smaller muscular groups in the hands and feet are first taken up and then the larger ones included. The patient is directed to relax completely, and the part not included in the movements must be supported and held at rest. As the rigidity is usually localized in the flexor muscles, passive extension must be employed to overcome the same. As soon as the rigidity disappears, the tremors are also observed to subside. In addition to these passive exercises, the author also recommends careful massage of the skin and muscles, supplemented in selected cases by more active movements. It is found that when the disease is not too far advanced, the patient can, by an effort of the will, inhibit the tremors and overcome the rigidity temporarily. There is a possibility, however, and on this the author's claims depend, to develop and perfect the power to correct these motor disturbances by strengthened cerebral impulses by means of graduated exercises, guided by the patient's mental efforts. By concentrating his mind and attention on the subject the subject is directed to control the tremor in some particular part, such as the hand, until this can be done without effort. These exercises are then extended to all parts, including correct posture of the trunk and head. In order to increase the effect on the extensor muscles, slight amounts of resistance may be interposed, preferably by means of suitable apparatus, so that the exact degree of resistance may be measured. Whenever the pulse becomes accelerated, the exercise must be stopped until the normal rate is reëstablished. Regular attempts at walking must be made also, with especial attention to the anomalies in posture of the limbs and the head. Giving a normal swing to the arm from the shoulder is usually a difficult thing to accomplish successfully, as is also the proper action of the foot. A slow heel and toe gait, with steps of varying length, must be practised, until the patient can do this without any mental effort. Attempts at walking backward and sideways should also be encouraged. The author has had some clinical experience with this method, and believes that in most cases an improvement in the motor disturbance can be brought about. The treatment should be carried out under the personal supervision of the physician and requires a great deal of patience and endurance. It should be kept up for several weeks in a systematic manner, or until definite results are evident—*Zeitschrift für diätetische und physikalische Therapie*, Vol. 7, No. 12.

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THE PSYCHOLOGY OF LYNCHING.

THE practice of lynching was most justly stigmatized by the members of a religious conference recently held in this city. And it was unanimously agreed that our Federal and State governments be called upon to bring "the incitors of mobs for any cause whatever to swift and impartial justice." Such sentiments as these are certainly appropriate; but they do not go very far. No plan for the suppression of lynching will be effective that does not take into consideration fundamental human instincts. Simply to memorialize governments is not enough; for a government itself is only effective in so far as it represents the spirit of its respective community.

Almost daily the lay press describes how human beings, generally negroes, are hanged or burned. Many of these killings are attended with dreadful atrocities. Last year, in this country, 118 negroes were lynched, of whom 37 per cent. were charged (probably not all justifiably) with crime against women.

Let us note the incipiency of such lynchings. First, there was perpetrated by negroes the horrible crime against defenseless womanhood, which on the instant wrought up bodies of white men to perfectly natural frenzy. So that lynching under such circumstances might well have been condoned, even though the machinery of the law were altogether adequate for the certain and speedy punishment for such assault. In the course of time, however, these lynchings have come to be perpetrated for other, sometimes extraordinarily petty, reasons, or really, in certain cases, for practically no reason whatever. It really seems that on occasion something of the British sentiment, "It's a fine day; let's go out and kill something," has been emulated.

Down South, the crime against womanhood is now only occasionally put forth to excuse a lynching. It has from time to time been reported that not only adult negroes, but old men and boys and negro women, indeed, have been slain for the most trivial offences. A suspicion, however puerile, has in many cases served; in many no trouble has been taken to fasten an alleged crime definitely upon any one negro. And some of these killings are reported to have been done most horribly—in one case the liver of the victim having been cut into small pieces and distributed among the crowd, to be kept as souvenirs of the occasion. If we look back, from the very beginning of history, we will find it difficult, indeed, to recall any period in which the present-day barbarities perpetrated against the negro in this country have been exceeded.

Human civilization is an evolution from savagery. Slowly and painfully we have risen to our present lofty plane from the condition, æons ago, when our ancestors, in order to sustain life, had to fight other animals only a little lower in the scale of development. The civilized man of to-day represents the latest step in evolution. In him the higher brain centers—those concerned with memory, association, ideation, reason, intellect, and the like, are most developed, and it is they which ordinarily dominate his life and his conduct. Such a man has passed upward and beyond the evolutionary stages represented by the savage. The latter is practically incapable of abstract thought, in him the higher brain centers are undeveloped. His conduct is dominated by lower and more primitive centers; it is unreasoning, passionate, impulsive, imitative, and instinctive; uncontrolled emotion characterizes it.

The changes produced in an intelligent individual by hypnosis illustrate well these different states. Before hypnosis one is in full possession of all his faculties; he is "king of all that is under his own hat." But by hypnosis higher brain-centers are inhibited; they are for the time being out of the circuit. The hypnotized may then be influenced through his lower, less developed, and more primitive centers. According as the hypnotizer directs him, he expresses the basal emotions of fear, hate, rage; he exhibits the primitive instincts of cruelty and the desire to kill; he has lost all power of reason and of self-restraint.

There are certain factors in ordinary life which produce in the individual the same results as hypnotism does—such are imitation, suggestion, and the contagion inherent in social excitements. These are at the bottom of most of the crimes with which the pages of history teem—the St. Bartholomew massacre, Jew persecutions, witch killings, the French Revolution, and so on. And it is important in connection with these factors to recall *Le Bon's* dictum, that "The quality of the individual in the crowd is without importance. From the moment they are in the crowd the ignorant and the learned are equally incapable of observation."

It is thus that our fellow citizens in the South have come, in moments of excitement, to have their reasoning powers and their better sensibilities blunted. Of course to kill negroes indiscriminately is not their normal attitude; for a naturally kindlier or more humane people does not exist.

These negro murders, indeed, are not by any means confined to our Southern States. Some time ago a negro shot a policeman who tried to arrest him. His having to pay the full penalty for this deed was as absolutely certain as any human event could be. Nevertheless, that night there was a race riot. Quite harmless, industrious, law-abiding negroes were struck with deadly weapons, stamped upon; and innocent colored women returning from their work were shamefully attacked. Street cars on crowded thoroughfares

were stopped, and inoffending negro men and women were dragged from their seats over the laps of other people, and were all but murdered by brutal mobs. Next morning these whites, upon calm reflection, must have wondered how they had come to be seized with such insensate frenzy. And this happened, not in any one of our Southern States, but in New York, the city most advanced and most representative of civilization in the Western hemisphere. It has, indeed, taken many centuries for humankind to have become civilized; it is a matter of daily observation, however, that relapses to complete barbarism are practically instantaneous.

What is the remedy? Human progress has been achieved mainly through the efforts of individual men, isolated altruists, in whom the *wille zum guten*, the striving after the ideal, has risen above the merely animal will-to-live, no matter at what cost to other creations. And negro slaughter will cease only when individual men of courage and character, who are able to withstand the hypnosis that has seized upon their fellows, can influence them effectively upon altruistic and religious lines.

AS TO EATING.

It is generally believed that the ordinary individual eats more than is necessary—in fact, that the amount of food consumed is, as a rule, calculated to do more harm than good. While this belief is to some extent warranted, it has been by no means clearly proved that the majority of mankind eat to excess; indeed it is quite as likely that the reverse is the case.

A series of experiments have recently been concluded under the auspices of the Sheffield Scientific School of Yale to determine the point as to whether the average human being does not eat too much. Prof. Russell H. Chittenden, the director of the school, who conducted the experiments, read a paper on the subject before the National Academy of Sciences at Washington on April 20, in which he stated that, as a result of the investigations, the conclusion had been reached that the average healthy man eats from two to three times as much as he needs to keep him in perfect physical health and vigor. The experiments were made on three classes of men, several professors of the school, some students, and a squad of United States soldiers. In nearly all the tests, meat was gradually reduced, with little if any increase in starch and other foods. No fixed regimen was required in any case, the endeavor being to satisfy the appetite of each subject. The experiments, which lasted a period of from six months to nearly a year, ended a short time ago, when, according to Professor Chittenden, all his subjects were in the best of health. Their weight in some cases was almost exactly the same as when the experiments were begun, and in some slightly lower. Their bodily vigor was greater and their strength was much greater, partially owing to their regular physical exercises during the experiments, and partially due, Professor Chittenden believes, to the smaller amount of food eaten. The daily consumption of food at the close of the experiments was much less than the recognized standard, and from a third to a half as much as the average man eats.

It is undoubtedly true that overeating is distinctly harmful to health. Some hold that more persons are injured by overfeeding than by overindulgence in alcoholic stimulants. Further, the statement is incontrovertible that a certain class of the population of the world eat in a manner which is decidedly prejudicial to their physical and mental well-being. In the higher or richer classes such an individual is termed a gourmand, while in the more vulgar language of the working classes the gross feeder is styled a glutton. The ordinary healthy person may, also, eat in excess of his real need, and would probably do equally as well if he curbed his appetite for food within more stringently narrow limits. Such instances, however, occur mainly among those who can afford to eat whatever they may desire. Their number, however, is not so large as some would have us believe, even in these days of vaunted prosperity. Overeating is principally prevalent among that class who have the money to spend on self-indulgence and who frequently fall into the habit of literally gorging themselves. The majority of the inhabitants of the world who earn their bread by the sweat of their brow, cannot spare out of their wages sufficient to enable them to gratify their eating propensities, but are compelled to live frugally. Many of these do not consume enough nourishing food, and it would be to their physical and mental advantage if they partook of a more generous diet.

Again good cooking, suitable food, and avoidance of monotony in diet are just as important factors in the preservation of "the sound mind in the sound body" as is the quantity of food consumed. Variety is the spice of life and without the savor of change, food does not work the good expected of it. At the same time the diet should be wholesome and plain, and the canned and preserved foods, which are so prominent features in the cuisine of modern civilization, should be avoided as far as is possible. In the United States and in Great Britain the population do not require to be warned so much against the ill effects of overeating, as against nonnutritive and deleterious food and bad cooking.

The conclusions reached by Professor Chittenden are interesting, but prove nothing definitely. If he is of the opinion that the deductions to be drawn from the investigations are that the daily rations of the average person should be cut down, experience would seem to be against his point of view. Underfed nations have never been in the forefront of civilization, but have always been the easy prey of those peoples who have been able to satisfy thoroughly the cravings of their stomachs. The matter is of little concern to the average person, but touches closely the well-to-do individual.

The problem of what to eat and how to cook food is of greater moment than the question of overeating. An editorial in the *British Medical Journal* of a recent date states the situation aptly in the following words: "What to eat and what to drink will always be decided by national custom and individual preference, so far as the public is concerned, but both may be influenced in the right direction by the guidance of skilled medical opinion."

THE CONDITIONS IN BELLEVUE HOSPITAL.

The existing state of affairs in Bellevue Hospital point a moral and tend to drive home the oft-repeated truth that the city of New York needs a municipal hospital properly constructed and of a size sufficient to accommodate its indigent patients and its medical and nursing staff. Attention has been so frequently drawn to the fact, that its reiteration is almost tiresome, of the inadequacy and unfitness of the ramshackle collection of buildings known as Bellevue Hospital. But now that plans have been drawn for the construction of a new Bellevue, too much emphasis cannot be laid on the necessity of building on a large and generous scale. The plans call for an outlay of $11,000,000, an immense sum, but, when everything is taken into consideration, not an excessive one. In such a matter parsimony is out of place. The hospital as it is now is objectionable in most of its features, and injurious to health in others.

Not the least obvious fault in the construction of the present Bellevue is the lack of space for the accommodation of the resident medical staff. The sleeping quarters of the house physicians and surgeons and medical assistants is limited to an absurd degree, three and four, and even more, of these being compelled to sleep in one small room. Owing to the crowded condition of the hospital during the past few months, the physicians have been greatly overworked, in consequence of which and of the manner in which they have had to live generally, some have broken down in health under the strain. Two of the resident staff are said to be suffering from tuberculosis, a question deserving of close scrutiny in view of the different opinions regarding the infectiousness of that disease. It must, however, be borne in mind that a physician is as liable to contract the disease as a layman if he is predisposed to it and lives under conditions which tend to sap his vital powers. The doctor is not immune to tuberculosis, and the reason why he does not contract the malady so frequently as the layman is that, as a rule, he leads a healthy life, with plenty of out-of-door exercise. In the case of the Bellevue physicians, all the conditions under which they lived were of a nature to render them susceptible to disease. Through the strain of overwork they were physically and mentally run down, and in addition lived in an insanitary way. Thus the soil was ready, the seed fell upon fruitful ground, and tuberculosis was the result.

The plans for the new buildings provide for fresh air and plenty of it. Ample quarters will be prepared for 125 doctors, so that they will be not huddled together in unwholesome, ill-ventilated rooms, in which facilities for speading tuberculosis are abundant. The nurses also will be well cared for.

There can be no doubt that the public conscience has been aroused with regard to Bellevue and its allied city hospitals, and that in the course of time fine hospitals worthy of New York will be erected in their stead. This desirable consummation will not be reached for many years, and in the meantime steps should be taken at once in the behoof of the resident staff, and especially with respect to their sleeping accommodations. Temporary buildings might be erected for this purpose, or even tents would serve this object in the summer. At any rate, no efforts should be spared to remedy existing conditions.

The Cure of Insomnia.

Sir James Sawyer of Birmingham, England, in the revised edition of "Contributions to Practical Medicine," recently published, discusses this matter. He says there is no "rule of thumb" cure for this condition, but each case must be separately studied, and the details of its cure can only be decided under competent medical advice. After referring to the various hypnotic drugs used to induce sleep, the writer utters a serious warning with regard to the risks which attach to the administration of powerful hypnotic drugs. "All drugs," he says, "which produce sleep as a physiological effect, and the relief of insomnia as a therapeutic action, with the exception, perhaps, of the bromides, produce stupor rather than sleep in overdoses, which deepens into the sleep which knows no waking when they are ingested or injected in larger doses still. So never allow a patient to drug himself with hypnotics." In fact these should never be used but as temporary remedies, when it is necessary to secure at once a fair amount of sleep. Nevertheless, Sir James Sawyer is of the opinion that although change of air and surroundings will often do much to cure, yet in many cases of psychic insomnia drugs cannot be dispensed with. In such cases and in well-nourished patients, potassium bromide should be given in full doses; after getting into bed, from 30 to 60 grs., dissolved in water, should be given. When a sleepless patient is anæmic his diet should be generous, and iron and arsenic should be administered, while as a hypnotic alcohol is often useful.

Daily bodily exercise is a necessity for those who suffer from insomnia, and sunshine is a natural tonic and calmative. In order to promote the sleep of a person in bed, the bed clothing should be sufficient but not excessive. At a temperature of 44° F., the upper bed clothing should consist of a sheet, three blankets, a light counterpane, and a light small blanket; at a temperature of 70° F. it should be a sheet only. Between these extremes of temperature the changes in the thickness of the covering bed clothes should be gradual. In all cases the bedroom window should be open all night, and all the year round. In some cases the writer recommends that a little food be taken just at the time for sleeping. In the toxic kinds of insomnia, the maxim, "*Cessante causâ cessat et effectus*," must be followed. The consumption of tobacco, alcohol, tea, etc., must be stopped or lessened. The question in cases of this nature is not what the patient must do, but rather what the patient must not do.

The Army Medical Officer as a Sanitarian.

The duties of the military medical officer are various—it might almost be said multifarious. He may be termed, without much exaggeration, a medical "jack of all trades." His knowledge of medicine and surgery must be accurate and wide, and he should be acquainted with all the modern methods of his profession. The competent army medical officer must moreover possess a good knowledge of sanitary affairs. This is perhaps the most essential part of his medical mental equipment. It falls within the scope of his duties to prevent disease. In order to effect this object he must supervise to a great extent the mode of life of the soldier.

The *Journal of the British Royal Army Medical Corps* is publishing letters from the late Sir Thomas Longmore written during the Crimean War. In one of these letters he says: "There is another point of view from which the military medical officer should be regarded. He is a veritable sanitary commissioner. His province is as much to prevent disease as to cure it. He has to search out and neutralize its sources, to arrest its progress when an outbreak occurs. In civil life the surgeon or physician treats the cases in which his advice may be asked; it is the duty of others to perform the offices I have just mentioned. Soldiers require constant watching, for their own sakes as well as for that of the country at whose cost they are maintained. Few of them have the necessary knowledge or care, even of self-preservation, beyond the common animal instincts; none of them has any knowledge of the many essentials to be attended to in order to ensure a general safety when they are herded together in masses. Even intelligent military officers who have not thought on this particular subject, often hold very limited or mistaken ideas respecting it, and I believe it would be for the benefit of the medical officers if they had more direct influence than they have in matters of sanitary influence."

Although Sir Thomas Longmore wrote nearly fifty years ago, his words are almost as applicable to the state of sanitary affairs in armies to-day as in 1856.

Whenever a war is in progress its continuance is but brief ere disease breaks out, usually in the form of typhoid fever. There would seem to be no doubt that the maladies incidental to armies in the field might be prevented to a great extent by the enforcement of strict sanitary regulations. To bring this about, however, medical officers must be trained in sanitary matters, and must be allowed a freer hand than is at present the case.

Peculiar Forms of Hand Infection.

Two cases of a peculiar form of hand infection, due to an organism resembling the Koch-Weeks bacillus, have been recently reported by Dr. John R. McDill, Manila, and Dr. William B. Wherry, Bacteriologist, Biological Laboratory, Manila. The first case occurred in a hospital surgeon, who had been treating cases of acute suppurating conjunctivitis and one case of leg infection which ended in septicæmia. Soon after, a small, painful, reddish papule was noticed on the tip of the right forefinger, which gradually increased in size. The papule was twice lanced, no pus being found, but the nurse who lanced the finger on the second occasion pricked her own finger during the operation. After about five weeks of severe suffering the finger of the hospital surgeon gradually returned to its normal condition. The case, however, of the nurse was far more serious, resulting eventually in gangrene of all tissues of the finger implicated and necessitating amputation. In the remarks upon these cases the writers draw attention to the fact that surgeons treat all these inflammatory processes, usually described as panaris or panaritium, as if a disease of one causative origin, and direct all efforts to preserve the functional uses of hand and fingers. "It may be questioned," say the authors, "if this is in accord with the present state of our knowledge of these conditions; but actual results bear out the general practice in a striking way, and will continue to do so until specific agents have been produced with which one can more successfully combat the special pathogenic microbes of these inflammations."

Koch's culture experiments have shown that in every case, one kind of germ or another, or several together, can be found in the inflammatory exudate, and they are usually briefly described as pyogenic bacteria. Streptococci, staphylococci, and, in rare exceptions, bacilli such as the Proteus and Coli Communis have been found, and the clinical course of all seems much alike and to be modified similarly by the anatomical peculiarities of the part first affected. The writers state that the usual history of extension of the destructive processes along the paths of least resistance has given rise to the imperative therapeutic law—incision, disinfection, and drainage as soon as possible, and let the cuts be made too soon and too deep and long rather than too late.

Notwithstanding the difficulty experienced in obtaining the first culture, the bacillus adapted itself to a saprophytic existence and grew readily upon the "ordinary" media.

There were several cases of acute contagious conjunctivitis in the hospital at the time when the above-mentioned infections occurred. The bacilli in the cover-slip preparations from these cases corresponded in their morphology, size, and staining reactions with those in the preparations from the fingers of the hospital surgeon and nurse. They also corresponded in their morphology, distribution, and staining reactions with the descriptions of the Koch-Weeks bacillus. The authors concluded that the organism isolated from the cases described above was the Koch-Weeks bacillus itself, or a closely related "type."

Primitive Types among Italian Emigrants.

In the annual report of the Surgeon-General of the Public Health and Marine-Hospital Service for 1902, Dr. J. M. Eager discusses the types of Italian immigrants as observed at the ports of Naples and Palermo.

The writer was struck by the fact that, besides the ordinary deformities, there are also very frequently seen at the inspection many slight deviations from the normal physique, interesting in themselves, but not grave enough to warrant rejection. Among the most striking of these departures from the ordinary human type are those marks of inferiority which have been so thoroughly studied, especially in Italy, in their relation to crime. Mongolian and negroid types are common enough, and heads are often seen reminding one of those skulls of primitive man that have been found preserved in caves in France, Belgium, and England. Frequently an undersized peasant is seen with the abnormal skull, the hollow forehead, the somewhat oblique eyes, the deformed and displaced ears, the flattened nose, the great prominence in the masseteric region, the prognathism, and other stigmata so much dwelt upon by Lombroso in his anthropological studies.

Referring to the immigration laws of the United States as they bear upon this question, Dr. Eager says:

"In observing these inferior types, one is tempted to hazard a conjecture as to the usefulness of such material for the formation of the future American. It is generally admitted that primitiveness is conducive to disease. Inferior types of men are more prone than advanced types to disease when surrounded by the whirl of modern social life. Then, too, there is the question of delinquency. The view is generally accepted that men of the primitive type have a special criminal tendency, manifested particularly when they are brought into a highly organized society. . . . Under the immigration laws of the United States all persons are excluded who are likely to become public charges. It would be interesting to know

what proportion of these retarded people develop, in the land of their adoption, those latent propensities which are attributed to them in their own mind. It is taught that primitive types in Italy are on the borderland of delinquency, and that they show, among other physical defects, a jealousy for their women; a lack of confidence in the action of organized justice; a tendency to do for themselves, regardless of the common practices, customs, and laws of the country; the love of revenge, and the transmission of the vendetta from father to son. Though not necessarily effective delinquents, it seems to be admitted that these backward people possess those moral qualities that under suitable environments develop into criminality, and that their lack of physical stamina means proneness to disease."

An undesirable class of immigrant is flocking to this country Undesirable from many points of view, not only does the alien bring in dirty and contagious diseases, such as trachoma, but he is, as Dr. Eager points out, frequently defective both mentally and physically.

This is true of other immigrants besides those of Italian birth. The rush of immigration into the United States, for a variety of causes, will probably be greater this year than ever before, and it is a question if the laws regulating immigration should not be made more stringent.

A French Preventive of Race Suicide.

An institution was founded some years ago in Paris, by Drs. Budin and Variot, in the attempt to arrest the decreasing population in France. This institution is known by the name "The Drop of Milk," and is intended for the maintenance of children during the first six months of their lives, in order that they may receive the proper nourishment until they have safely passed the dangers of early infancy.

The *American Review of Reviews*, April, referring to the work of this institution, says: "The children, mostly of the laboring classes, are brought to the institution upon stated days for examination, and the mothers receive a card of admission entitling them to a certain number of bottles of sterilized milk. This is to be given at home in accordance with the directions given by the physician at the institution. In general, the infants are left with their parents, but the conditions require that the mother bring the child regularly—first, to have it weighed, that the effect of the alimentation may be ascertained; second, that the mother may take part in the school of instruction; and third, for the regular distribution of the milk. Infants of all classes, rich and poor, are admitted. There is a pay section, a reduced rate section, and a free section." Gustave Lejeal, describing the work of the institution in the *Revue Universelle*, says: "Of the 850,000 children who are born every year in Paris, at least 78,000 die before completing their first year; that is, at the rate of 16 per 100, for almost half of the total mortality of the first year occurs in the first two months It is, therefore, especially during the first two months, that the infant needs to be carefully nourished. From these figures one can judge of the important influence this "Drop of Milk" will have on future generations, and it is not an exaggeration to characterize the work of Dr. Variot as an important contribution to social progress."

The question of preventing the decreasing birth rate and the mortality among infants, is one that is greatly exercising the minds of thoughtful men in many of the European countries.

France is the most conspicuous example in the world of a steadily diminishing population, but other countries, notably Great Britain, have to deplore the fact that their population show signs of a marked decrease. The native born inhabitants of the United States do not produce children as formerly, while in the large cities of this country the infant mortality is very large. Steps have been taken in many of the centers of population here to save the lives of infants by proper care and nourishment, but much more can be done in this direction.

The Need of Covering Filter Beds.

There has been ample evidence both in Europe and on a smaller scale in this country, that the most efficient means of filtering water for domestic use, and of banishing therefrom the germs of certain diseases, is by the adoption of slow sand filters. These filters were first introduced about the year 1829, and their agency in diminishing the prevalence of typhoid fever, cholera, and other affections of a diarrhœal nature is a matter which admits of no question. Excellent, however, as are sand filters, it has been found that they will not do their work properly unless covered.

An example in point, which goes to show the relative inefficiency of uncovered filters, is that of Poughkeepsie. Typhoid fever has for the past few winters been unduly prevalent in that town. Albany, using the Hudson River water taken from a more polluted source than Poughkeepsie, had only four cases of typhoid fever reported in January, 1904, while Poughkeepsie, during the same period, had fourteen cases reported. Albany up to the time of the construction of its new covered filtered beds was notorious for the number of cases of typhoid fever which occurred there, the decrease of that disease having been remarkable since the opening of the new filter system.

The *Poughkeepsie Daily Eagle*, March 21, 1904, contained an article by Dr. Frederick J. Mann on the subject, in which the true situation at Poughkeepsie with regard to its filtration plant is stated. The opinions of Mr. Allen Hazen in support of the argument urging the need of covered filters is given. The above mentioned authority, in his book on the subject, says "that north of a line, starting on the Atlantic Coast between New York and Philadelphia and then running West and passing just a little south of Pittsburgh, covered filters are needed. Places north of this line have average January temperature below freezing." It is generally admitted that wherever a mean normal January temperature below 30° F. prevails, covers for filters are necessary, as otherwise an inferior efficiency of filtration results.

From a financial point of view the use of covered filters is an economical measure. The expense of maintenance is so considerably lessened, that the primary cost is soon saved. It is a curious circumstance that the United States, in many respects the most progressive of nations, should lag so far in the rear of European countries in all that concerns a pure water supply. One would imagine that pride alone would have sufficient influence upon municipalities to induce their members to compete with European cities in everything appertaining to the welfare of the community.

There are signs that a clearer comprehension of their duties and responsibilities is beginning to percolate through the brains of civic authorities, but this feeling must be constantly aroused, or they will again sink into the state of lethargy to which they have been so long accustomed.

Plague in South Africa.

Bubonic plague has broken out in South Africa on more than one occasion during the past few years. In Cape Town itself the efforts to extirpate the disease, which at one time threatened to assume the proportions of an epidemic, were completely successful, the only case on record, it is said, in which the malady was effectively nipped in the bud. For some considerable period, however, rumors, as to the existence of plague in various parts of South Africa, have been prevalent. Not unnaturally the authorities have done their utmost to prevent such reports from being made widely public, trusting that the spread of the disease might be checked by energetic measures. Notwithstanding these efforts, plague would seem to have gained a firm foothold in Johannisberg, and the fact has been recognized that it would be useless to further ignore its presence.

Sir Walter Foster, one of the few British medical men who are members of Parliament, recently wrote to the *London Times* with reference to the report of a commission which, during the latter part of 1903, inquired into the condition of affairs in Johannisberg. This report not only conclusively proved that plague existed in that city on a somewhat large scale, but that the type of the disease was of a particularly deadly nature. The connection of rats with plague was also shown with more or less definiteness. Rats dying and dead had been found in large numbers in different parts of the city before the malady became of frequent occurrence, but as the bacteriological examinations of some of these dead rodents exhibited no positive evidence that they had died of plague, little notice was taken of the matter.

Johannisberg is, unfortunately, a town in which the plague is apt to spread luxuriantly. In the locality in which the disease has appeared all the conditions are favorable to its dissemination. "The Coolie section consists," to use the words of a witness before the commission, of "a congeries of narrow court-yards, containing dilapidated and dirty tin huts, without adequate means of lighting or ventilation, huddled on a small area and constructed without any regard to sanitary considerations of any kind." The location is densely populated, and the witness considered its existence and continuance as fraught with the gravest danger to Johannisberg, and further stated that it surpassed all insanitary spots he had seen in his previous experience. The condition of Johannisberg appears to resemble in some features that of San Francisco. The Coolie quarter of the Transvaal city may be compared to Chinatown in San Francisco, but that the former is a more unsavory spot than the latter is undoubtedly the case. At any rate, it is a disgrace to the civilization of the United States and Great Britain that such pest holes should be allowed to remain. Both the Coolie section of Johannisberg and the Chinese quarter of San Francisco should be obliterated.

A Case of Papilloma of the Bladder Successfully Operated on, with Histological Examination.—Rosario Cascino reports a case of papilloma of the bladder in an infant of three years. The urine was interrupted at the end of urination, this being followed by the passage of a small amount of blood, and accompanied by severe pain. On passing a catheter, as it entered the bladder there was a sensation of passing some obstacle, after which the catheter passed freely into the bladder. No cystoscope could be used on account of the smallness of the urethra. An epicystotomy was done, and a small tumor was removed.—*Giornale Internazionale delle Scienze Mediche*, March 15, 1904.

News of the Week.

Civil-service Examinations for the State and County Service.—The State Civil-service Commission announces general examinations to be held May 21, 1904, including the following positions: Apothecaries in State hospitals and institutions; resident physician and superintendent of nurses at the State hospital for tuberculosis; physicians in State hospitals and institutions of both regular and homœopathic schools. Applications for these examinations must be made on or before May 7. Full particulars of the examinations and blank applications may be obtained by addressing the Chief Examiner of the Commission at Albany.

The Association of Assistant Physicians of State Hospitals held a meeting in Gallipolis, Ohio, this week. Papers were read by Dr. Geo. R. Love of Toledo and Dr. Paul W. Tappan of Dayton, Ohio.

Addition to Medical Staff of World's Fair.—Dr. A. Wall, Jr., of St. Louis was appointed a member of the medical staff of World's Fair, which now numbers four physicians besides the Medical Director Dr. L. Laidley. The corps now occupies the Emergency Hospital near the *Press* Building. The uniform will be white duck trousers and coat, the latter buttoned up close to the throat like a military tunic. A gold shield with the Exposition colors and the Red Cross will also distinguish them. The staff is now treating an average of fifty cases a day. Since the organization of the medical department a total of 5,673 cases have been treated, most of which were surgical, due to accidents on the ground.

The Unauthorized Use of a Name.—The use of the name of Dr. Willy Meyer by one of the leading drug firms to advertise one of their products has entirely anauthorized has been discontinued at the urgent suggestion of the apparent abbettor of the fraud. It is a comfort to know that sometimes an innocent medical man can protect his good name when he adopts the proper method to do so.

Experiments as to the Amount of Food Necessary to Sustain Human Life in Good Health.—The chief paper read before the National Academy of Sciences on April 20 was a description of a series of experiments recently carried out by the Sheffield Scientific School of Yale to determine whether the average human being does not eat too much. Prof. Russell H. Chittenden, the director of the school, and who read the paper, said three classes of men were experimented on—several professors at the school, several students, and a squad of United States soldiers. There was a gradual reduction of meat and other proteid foods, with little if any, increase in starch and other foods in nearly all the tests. No fixed regimen was required in any case, the endeavor being to satisfy the appetite of each subject. At the end of the experiments, which lasted for six months, all the men experimented upon were in the best of health. Their weight in some cases was almost exactly the same as when the experiments were begun, and in some slightly lower. Their bodily vigor was greater and their strength was much increased, partly owing to their regular physical exercises, and partially owing, Professor Chittenden believes, to the smaller amount of food eaten. As a result of the experiments, Professor Chittenden concludes that the ordinary individual eats far more than is required to keep him in good physical and mental health and vigor.

Dr. Conrad Gets Certificate of Reasonable Doubt. Justice Davis, in Special Term, Part I, of the Supreme Court, on April 20, granted to Dr. Edw

Conrad, who was recently convicted on a charge malpractice, and sentenced to two and a half s imprisonment, a certificate of reasonable t. The ground upon which the stay and cer- te of reasonable doubt was obtained was that d not been established by the evidence that alleged act had been actually committed by ad, and that Recorder Goff, before whom ad was tried, had expressed a doubt on the tion, and said that the point raised should be nted to the Appellate Division of the Supreme t.

mmissioner on the Health Conditions of the ma Canal Route.—Mr. Parsons, a member of Panama Commission, who has recently returned his country, speaks as follows concerning the nus of Panama: "As to the health conditions, the present death rate on the Isthmus is derably higher than the death rate in the ed States and is also considerably higher than death rate should be on the Isthmus, I am dent that, with a supply of good water furnished to Colon and Panama and with a complete m of sewers, supported by proper sanitary ations vigorously enforced, both of these cities be made healthful places of residence. At nt neither city has made any attempt to e drainage nor any system of water supply, pt such as is furnished by cesspools for the er and by cisterns or wagons bringing in water the surrounding country for the latter, steps taken before I left Panama to begin investiga- for the selection of a proper supply of water oth Colon and Panama."

vel Practical Joke.—A boy, eighteen years of named Greenberger, was charged, a few days with representing himself as a health officer, demanding to vaccinate children.

ns for New Bellevue Hospital.—The plans for new Bellevue Hospital were on exhibition at mbia University on April 21. The architects Messrs. McKim, Mead & White. The sum of oo was appropriated some time ago to pay expenses of drawing the plans. The sum of ,000 has been asked for from the Board of mate for the first pavilion; and now that the s are completed no considerable delay is cted.

dium as a Pain-killer.—Richard Guenther, the ul-General of the United States at Frankfort, many, has reported to the State Department a case of cancer of the face had been rendered less through application of radium by Dr. rier of Paris. He also states that similar results ve been obtained by other noted experts. He ys that Dr. Darier has also found quick and ain-killing effects of radium in certain diseases the eye. This doctor considers the influence of dium upon the motor nerve centers of still greater portance. In two cases of nervous spasms, hich occurred three or four times a week, weak dium preparations were applied to the temples r two or three days, when the spasms ceased. a case also of presumptive inability of motion, used by nervous debility, radium effected a mplete cure within three days—probably, how- ver, through suggestion. In acute facial paralysis entirely new origin the same doctor states that cure was effected by radium in one day.—*New York Times.*

Benefit for St. John's Hospital.—Under the auspices of the Sisters of St. Joseph, a benefit to aid St. John's Hospital, L. I., was given on the after- noon of April 21 in the Knickerbocker Theatre. The play was the "Shepherd King," and the receipts from the tickets sold by the Sisters themselves aggregated nearly $5,000.

Physician Arrested for Alleged Illegal Operation.—Coroners' Physician O'Hanlon, after performing an autopsy on the body of Loretta Young, an actress, on April 21, announced that the case called for police action. The physician who is said to have performed an operation on the deceased and the nurse were at once arrested. Coroner Scholer, at the West One Hundredth Street Station, held the physician under $5,000 bail pending the inquest, while the nurse was sent to the House of Detention as a witness.

American Climatological Association. — The twenty-first annual meeting of the association will be held in the banquet room of the Aldine hotel, Chestnut street, above Nineteenth, Philadelphia, on June 2, 3, and 4, 1904.

Medical Society of the Missouri Valley.—The spring meeting of this society was held at the Lindell Hotel, Lincoln, Neb., on March 24, Dr. A. D. Wilkinson, presiding. An interesting feature of the program was a symposium on pneumonia. The annual meeting will be held at Council Bluffs, August 25. Dr. Donald McCrae was appointed chairman of the committee on arrangements.

To Prosecute Illegal Practitioners of Medicine.—At the business meeting of the Philadelphia County Medical Society, held April 20, it was decided to raise at once a fund to be used in the prosecution of illegal practitioners of medicine. A motion was adopted also for the appointment of a committee to coöperate with the coroner, the district-attorney, and the director of public safety, in obtaining evidence against persons engaged in malpractice, and in prosecuting them.

County Medical Association.—At the regular monthly meeting of the County Medical Association of the City of New York, held at the Academy of Medicine April 18, 1904, the following officers were elected for the coming year: *President*, Dr. Francis J. Quinlan; *First Vice-President*, Dr. H. A. Dodin; *Second Vice-President*, Dr. S. B. Allen; *Secretary*, Dr. W. R. Stone; *Corresponding Secretary*, Dr. J. J. Nutt; *Treasurer*, Dr. C. E. Dennison; *Member of Executive Committee for three years*, Dr. Alexander Lambert; *Member of Nominating Committee, Fifth District Branch*, Dr. F. W. Loughran.

The Orange County Medical Society of California, on April 6, elected the following officers: *President*, Dr. Foster E. Wilson of Westminster; *Vice-President*, Dr. R. A. Cushman of Santa Ana; *Secretary*, Dr. H. S. Gordon of Santa Ana; *Treasurer*, Dr. James R. Medlock of Santa Ana

Injured in Street-car Accident.—Dr. Rosa H. Engert of Chicago was one of a large number of persons injured in a street-car accident at Santa Barbara, Cal., on April 10. She is reported to have sustained a fracture of the skull, but her recovery is considered probable.

Medical Examination of School Children.—The San Francisco Board of Health has inaugurated the systematic examination of school children. The first examination was made, on April 12, by a volunteer corps of fifty physicians.

The Tri-State Medical Society of Iowa, Illinois, and Missouri will meet in St. Louis, June 15, 16, and 17.

Reported Cure of Lepers.—Dr. Isadore Dyer, physician of the Lepers' Home of Louisiana, in a lecture delivered in New Orleans on April 23, said that there were 3,000,000 lepers in existence, or

Colonel in 1889. He was for many years medical officer to the military prison at Dublin.

Captain Henry Evered Haymes, also of the Royal Army Medical Corps, has died at the early age of thirty-two. He studied at St. Thomas' Hospital, took the London double qualification in 1896 and afterward occupied resident posts at the Royal Berkshire Hospital and the Eastern Counties Asylum. He joined the Royal Army Medical Corps in 1899, and was gazetted captain in 1902. He was wounded in Egypt while serving in the Bahr-el-Ghazal. He held the Medjidie.

THE BILL TO INCREASE THE EFFICIENCY OF THE MEDICAL DEPARTMENT OF THE ARMY.

To the Editor of the Medical Record:

Sir: The new "bill" to increase the efficiency of the Medical Department of the U. S. Army is now being earnestly pressed by the Surgeon-General, and is of the most important interest to the medical profession at large, whence the new material must come.

This "bill" is simply an act of justice, as well as the entering wedge to shelve, forever, the impossible "Contract Surgeon" system as it now exists; and to increase the Medical Corps by a trained set of surgeons, who have already served from the first call for help, and to place it in the first class as to efficiency and service.

The main feature, as restricted to a short article, consists of a positive rank as first lieutenant—longevity of service—the privilege of quarters—allowances—etc. —of the officer of the same rank in the regular corps. These features are good, but they do not go far enough. To these should be added "retirement" for long and faithful service—which is but placing it on a par with the other staff departments.

In brief, this bill for the "Medical Reserve Corps" allows for past service as a volunteer medical officer, or for service in the "reserves," and in case the medical reserve officer desires to take the examination for the regular corps, and provided he has three or more years of service, he is, if passed, made a captain at once, and not, as a former correspondent stated, have to wait for from five to eight years for a captaincy.

Better than all else this bill will do away with the impossible contract system entirely, and in its place there will be organized a commissioned force of experienced medical officers (reserve) with actual rank and its privileges, and in number no more than are now serving under the present *régime*, for the surgeon-general will not recommend any officer for appointment who has not passed a satisfactory examination, and whose services have not been of the highest character as to efficiency and professional ability.

There are several changes that would make this bill as nearly perfect as possible—one of which is the question of relative rank. The new bill states that the officer entering the "reserves" must take rank next after all other lieutenants of the line or staff. Far better would be the plan that worked so smoothly in the Volunteer Medical Corps during the campaigns in Cuba and the Philippines—that of taking rank according to date of commission—but in the bill, as it is now, those who served since the first call, would have to come in after the recent graduate, who has had no service at all.

As a class we are much pleased to see the interest taken in this bill by the different societies at large, and resolutions are looked for from the national associations urging their representatives to take this matter up with the Committee on Legislation, and the added influence of personal adherents on the floor of the House and the Senate.

We also owe much to the brilliant ex-Governor of the Philippines—now the Honorable—the Secretary of War—who has been in constant contact with the medical officers, constituting the contract surgeons of the U. S. Army in the Philippines, and who has favorably endorsed this bill on account of his personal knowledge of the difficulties under which the contract system worked.

To the present Surgeon General of the U. S. Army, for his earnest efforts in the passage of this bill, and for his sense of respect and courtesy due the contract surgeons as professional men, and universal kindness to us as a class, Surgeon General O'Reilly has earned the undying gratitude, the sincere respect, admiration, and esteem of every member of the Medical Corps, who has gone into the army as a contract surgeon, or who has served under him in the Volunteer Medical Corps.

Speaking as a member of the late Volunteer Medical Corps, and as a contract surgeon, who has the best interests of this bill at heart, and who, from personal observation, having served in both capacities, is familiar with the sacrifices made and the injustice of the present system, earnestly solicit the power and influence of your pen in securing the favorable consideration of this bill by the Senate and the House, and also to further the adoption of the "retirement" clause as well as the actual rank from the date of commission.

By so doing you would be conferring an incalculable favor to the medical men who are now serving as contract-surgeons in the U. S. Army.

Late Captain Assistant Surgeon, U. S. Vols.
Contract Surgeon, U. S. Army,
Fort McDowell, Angel Island, Cal., Depot of Recruits and Casuals.

April 15, 1904.

THE PSYCHICAL RELATIONS OF TUBERCULOSIS.

To the Editor of the Medical Record:

Sir: Some months ago when I read my paper "A Plea for Justice to the Consumptive," before the Society of Medical Jurisprudence, which paper was published in the Medical Record of January 2, 1904, I invited Dr. G. A. De Santos Saxe, the author of an article which I considered would tend to increase phthisiophobia, to be present in order to discuss my paper, and to defend, if he chose to do so, his theories. For reasons best known to himself, Dr. Saxe did not appear, but he published a lengthy letter in the Medical Record of January 23, virtually accusing me of making misrepresentations by quoting him. In the Medical Record of February 13, I replied by referring to pages and lines of his article in the *New York Medical Journal*, reiterating what he himself has said in his "Analysis of the Average Consumptive's Mental Peculiarities" (*New York Medical Journal*, p. 264, col. 1, line 13). I quoted a few more of his statements; I certainly could not quote the whole article.

Dr. Saxe was not satisfied, and in a letter which appeared in the Medical Record of March 26 he again accuses me of going to great length to extract a desired meaning out of his article. What object could I possibly have to wish to distort Dr. Saxe's meaning? I am not collecting samples of phthisiophobia, as he seems to think. My sole object was to correct the impression which I thought, and still think, his article produces, that is, that the consumptive class as a whole are more prone to selfishness and crime than others. That this could best be done by refuting his statements did not seem to me illogical. If he is not a phthisiophobe I am very glad, but in spite of the explanations of his meaning in the letter, I still think that the perusal of his article would have the tendency to increase unnecessarily the prejudice against the consumptive, and against this I reiterate my protest.

To show how well justified I was in protesting against Dr. Saxe's statements, I will reproduce here his Summary and Conclusions, as they appear at the end of his article (*New York Medical Journal*, August 6, 1903, page 265). They read as follows:

"Conclusion 1. The consumptive exhibits in the average case traits of mind and temperament that have been made use of by some of the best writers of fiction in describing the characters of tuberculous persons—traits that are well worth studying, inasmuch as they are directly connected with the disease, although not specifically characteristic of tuberculosis.

"Conclusion 2. The psychical and temperamental traits of the average consumptive have not been studied by medical men with the attention which they deserve.

"Conclusion 3. The only probable theory thus far advanced as to the causes of the mental and moral degeneration of the consumptive, leading even to criminal tendencies, is that of toxic poisoning of the central nervous system by the products of the tubercle bacillus, resulting in neurasthenia, psychastenia, hysteria, and insanity.

"Conclusion 4. The fundamental factors in the psychical make-up of the typical consumptive are the loss of self-control, the rise of brute selfishness, the increase of susceptibility to suggestion, to emotion, and to nervous irritation, and the tendency to rapid nervous and psychical fatigue.

"Conclusion 7. The criminal tendencies of consumptives have been observed with sufficient frequency to justify an investigation into the medicolegal question of restricting the responsibility of a criminal on the ground that he is tuberculous. Mental and physical degeneration, together with the tuberculous intoxication already referred to, are the chief factors in the make-up of the tuberculous criminal."

Concerning conclusion 1, I wish to say that I deny that the average case of consumption presents any particular trait of mind or of temperament. My original article showed that this view is not held by myself alone, but has been very strongly substantiated by Prof. Wm. Osler and Dr. Edw. L. Trudeau, whom I quoted.

To answer conclusion 2, I may be permitted to requote the expressions of the following three authorities:

"It is to be remembered that criminals and the insane are prone to be victims of tuberculosis, and hence someone who studied this class of people would be liable to form very unjust views about the consumptive class as a whole." PROF. EDW. G. JANEWAY.

"There is no special form of insanity due to tuberculosis. Tuberculosis is more common in the insane as a result of the lowered vital conditions than as a cause of mental disease." PROF. EDW. D. FISHER.

"In my estimation it is a great mistake to use such instances as cited by Dr. Saxe, for artificial construction of a consumptive type. There is no such thing as a specific psychopathology of tuberculosis."

DR. ARNOLD C. KLEBS.

Concerning conclusions 3 and 4 I wish to say that it is absolutely unscientific, unjust, and inhumane to speak of a "mental and moral degeneration of the consumptive," or to say that "the fundamental factors of the psychical make-up of the typical consumptive are the loss of self-control, the rise of brute selfishness, etc." In this opinion I have been upheld by Drs. Hern, M. Biggs, Sherman C. Bonney, Vincent V. Bowditch, Lawrence F. Flick, Edw. G. Janeway, Wm. Osler, and E. L. Trudeau. Those who wish to read the eloquent and forcible expressions of these gentlemen I beg to refer to my original article, which appeared in the MEDICAL RECORD of January 2, 1904.

In answer to conclusion 7 I have only this to say: Although the meaning of Dr. Saxe's Summary and Conclusions should be evident to any one who reads them carefully, in his letters in the MEDICAL RECORD of January 23 and March 26 he denies having stated that any greater tendency to crime may be noted among consumptives than among normal individuals; but if this is so why should he have raised the question at all as to the "necessity of exercising clemency in consumptive criminals"? Surely, a greater tendency to crime must be observed among consumptives in order to "justify an investigation into the medicolegal question of restricting the responsibility of a criminal on the ground that he is consumptive"? I venture to say that the 500,000 to 750,000 consumptives now living in the United States would themselves protest against being considered legally a class apart, and any attempt at restricting their responsibility would be met with a just and decided protest.

Conclusion 5 speaks of sexual functions and does not enter into the present consideration; neither does conclusion 6, which speaks of tuberculous insanity, and has been already replied to by my answer to conclusion 2.

As has been said, Dr. Saxe accuses me of having misconstrued his meaning to suit my purpose. Those who may have honored me by reading my "Plea for Justice to the Consumptive" will know my purpose. Had Dr. Saxe's article not reached the lay press with the consequent nefarious results, of which I have had ample proof, I would have ignored Dr. Saxe's article; had he assumed frankly the responsibility of his conclusions, instead of denying them, I would not have inflicted this letter upon the readers of the MEDICAL RECORD. But I believe I have written on behalf of a good cause, and in the interest of men and women who, though afflicted with a chronic and severe disease, should be considered our equals mentally and morally. S. A. KNOPF, M.D.

CONCERNING THE UNRESTRAINED USE OF THE LIBRARY OF THE NEW YORK ACADEMY OF MEDICINE BY NON-MEMBERS.

AN ANSWER TO DR. TRACY'S CLAIM.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: I am authorized to ask you to print, for the information of whom it may concern, the following communication from the Counsel of the New York Academy of Medicine, dated December 29, 1903, and April 23, 1904:

35 WALL STREET, N. Y., December 29, 1903.

John H. Huddleston, M.D., Secretary, N. Y. Academy of Medicine:

DEAR SIR: On December 28 I received your letter of the 26th instant. Prior to the act of 1896, known as the Tax Law, the Academy of Medicine claimed exemption from taxation under provision of the Revised Statutes, exempting from taxation the real and personal property of every public library.

The Tax Law repealed the provisions above referred to, but exempts from taxation the real property of every corporation *organized exclusively* for educational, scientific, literary or library purposes and *used exclusively* for carrying out thereon one or more of such purposes, and the personal property of any such corporation.

Under the Tax Law, the exemption of the Academy from taxation must rest upon proof that it is a corporation organized exclusively for scientific purposes and that its property is used exclusively for carrying out such purposes. It can no longer claim exemption upon the ground that it maintains a free public library, open at all times to the public. In its relation to the tax question, the maintenance of the library is important merely in so far as it is one of the means employed by the Academy for carrying out the scientific purposes of its corporation. The Academy was not organized for library purposes, but for the purpose of promoting the advancement of medical science by such means as to them (the incorporators and their successors) shall appear expedient and proper. It would appear that, under the Tax Law, the employment of the property of the Academy in any other means for the advancement of medical science would be as valid a ground for exemption, as the maintenance of a library, and that the library may be closed to the public, without impairment of the claim to exemption from taxation.

In answer to your letter I therefore advise you that there are no legal requirements bearing upon the number of hours which the library of the Academy of Medicine shall be kept open to the public, and that the number of hours during which it shall be kept open, has no relation to the question of the taxation of the Academy.

Yours very truly,

HOWARD VAN SINDEREN.

35 WALL STREET, N. Y., April 23, 1904.

John H. Huddleston, M.D.:

DEAR SIR: In reading over my opinion rendered under date of December 29, 1903, it seems to me to be free from ambiguity, but to prevent the possibility of misunderstanding it should be amended, if it is to be published, so that the final paragraph shall read as follows

"In answer to your letter I therefore advise you that there are no legal requirements bearing upon the number of hours which the library of the Academy of Medicine shall be kept open to the public, and that the number of hours during which it shall be kept open, has no relation to the question of the taxation of the Academy, unless the invitation to the public to use the library may properly be regarded as a means employed for the advancement of medical science. Whether such is the purpose and effect of the public use of the library is not a question of law but a question of fact, upon which I express no opinion.

"Very truly yours,

"HOWARD VAN SINDEREN."

You will notice, Mr. Editor, that the above is not controverted, but is confirmed by a correspondent who copies (page 666, of the MEDICAL RECORD) from a letter to him by "the Tax Commissioner" the following:

"In 1901 . . . at this time the commissioners made an exhaustive examination, and decided that because this property was owned by a corporation organized exclusively for the mental improvement of men and women for educational, scientific, and library purposes . . . it was still entitled to exemption."

JOHN H. HUDDLESTON, M.D.,
Secretary, The New York Academy of Medicine.

APRIL 26, 1904.

EYE-STRAIN AND EPILEPSY.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: Will you not kindly do me the favor to correct a mistake in your issue of April 16, 1904, page 629, in your review of my article published in *American Medicine* of April 5, 1904, on "The Non-operative Relief of Eye-strain for the Possible Cure of Epilepsy, as Tested in Sixty-eight Cases at the Craig Colony."

Your review makes it appear that I favor the treatment of epilepsy through the use of glasses for the correction of eye-strain. The forepart of the article in question was written by myself; the addendum by Dr. Gould.

In the review his statements are mixed with my own.

Dr. Gould believes epilepsy can be cured through the relief of eye-strain.

I do not share his views.

I have never seen such a cure. In one of the sixty-eight cases that Dr. Gould put glasses on at the Colony, the patient went fourteen months without an attack. Then they recurred as bad as ever. None of the sixty-eight cases Dr. Gould endeavored to cure with glasses were cured.

Under other forms of treatment in vogue at the Craig Colony, I have witnessed recoveries in over 5 per cent. of chronic cases. (Less than 1½ per cent. of the epileptics the Colony receives have had the disease for less than a year when they are admitted.) Practically one-half of them are beyond cure at the time of their admission.

I would esteem it a favor if you will kindly let this appear in your valuable Journal.

W. P. SPRATLING, M.D.

SONYEA, N. Y., April 18, 1904.

Progress of Medical Science.

The Boston Medical and Surgical Journal, April 24, 1904.

Some Clinical Observations on the Care of Septic Wounds.—Arthur L. Chute states that in a septic wound the organisms which are actually doing the damage are in the tissues, and the application of an antiseptic, particularly one like corrosive sublimate, which is precipitated by albuminous substances, has little chance of reaching them. Various clinical phenomena, the writer believes, give reasonable ground for doubting the penetrating power of antiseptics when applied to septic wounds. The wall surrounding a focus of suppuration becomes, as soon as it is opened, an excreting rather than an absorbing surface. Another point against the absorption, or if there is absorption, against the efficacy of antiseptics in these wounds is the fact that the signs of infection first disappear in the periphery of the red, indurated area surrounding a septic wound. If antiseptics had any considerable influence on this process, it would seem that the area nearest the wound would be the first to clear up, as it is most intimately in contact with the antiseptic. The writer has observed that septic wounds treated aseptically clear up quite as soon as when treated antiseptically. He believes that the antiseptic dressing, when applied to septic wounds, fails in the only advantage which in theory it possesses over the aseptic dressing, and that it exerts no appreciable bactericidal action. A dressing for a septic wound should secure three things: It should give protection from infection from without; it should drain the wound well; it should stimulate, as far as possible, the proliferation of healthy granulations. As far as protection is concerned, both the moist and the sterile dressing are efficient. Neither has any great advantage over the other. But the dry dressing drains the septic cavity much better than does the moist dressing. The granulations from the use of dry dressings are more healthy and vigorous than when moist dressings are used. The writer concludes that dry sterile gauze dressings are far preferable for the dressing of septic wounds for the reasons already mentioned, while moist dressings and antiseptic baths and irrigating fluids have a depressing effect on the granulations; moist dressings are, however, indicated when one cannot obtain sterile dressings or cannot depend upon the aseptic skill of the persons who are to apply the dressings. "Antiseptic poultices" are not to be preferred to sterile dressings, and there is at times a danger in their use; in case irrigating fluids are necessary, when from some unusual reason we are unable to make a wound of such shape that it can be properly dressed, sterile salt solution should be the irrigating fluid used. Peroxide of hydrogen should be avoided, since in partly closed cavities or loose tissues its gas production may make it a spreader of infection. The use of dry sterile gauze meets the indications in the routine treatment of the great majority of septic wounds better than any other material.

Journal of the American Medical Association, April 23, 1904.

The Intracellular Toxin of Bacillus Pyocyaneus.—The experiments of D. R. MacIntyre lead him to the following conclusions: (1) Bacillus pyocyaneus does contain an intracellular toxin. (2) This toxin cannot be extracted from the cell by physiologic salt solution. It is in part extracted by dilute sulphuric acid. (3) Heat to 120° C. in the autoclave continued for thirty minutes only slightly diminishes the toxicity of the cell substance. (4) The cell substance of Bacillus pyocyaneus contains a hæmolysin, which may be extracted from the cell, either in the fresh state or after treatment with alcohol and ether by physiologic salt solution. (5) The minimum lethal dose of the cellular toxin is for guinea-pigs when given intraperitoneally about one part of the cell substance to 50,000 parts of body weight. (6) when injected subcutaneously in guinea-pigs in the proportion of one part of the cell substance to 10,000 parts of body weight or less no permanent ill effect results. (7) Subcutaneous injections do not give immunity to subsequent intraperitoneal injections.

The Extraction of a Toxin from Liver Cells.—A preliminary report on this topic is made by V. C. Vaughan, J. F. Munson, and F. R. Spencer, who describe their methods of preparing the toxin. The product obtained when dissolved in water and injected intraperitoneally into guinea-pigs and rabbits, kills the animal when the proportion is one part of the extract to 500 parts of body weight. When used in smaller quantities there is more or less marked emaciation, depending on the quantity injected, from which the animal recovers very slowly. So far they have not been able to secure any marked degree of immunity by beginning with small doses and gradually increasing the quantity. After acute poisoning with the quantity above mentioned, post-mortem examination shows the liver of the dead animal to be deeply congested. The spleen is soft and mottled, with dark and pale red spots. The kidneys show no gross changes, but the adrenals are markedly congested. The gastric and mesentric vessels are greatly dilated, and there are frequently found small hemorrhagic areas under the peritoneum.

More Local and Less General Anæsthesia in Gynecologic Operations.—J. C. Webster believes that many operations on the pelvic organs, usually done under general anæsthesia, can and ought to be done under local anæsthesia. Of recent years he has extended the latter plan to even major procedures in which prolonged general anæsthesia is not advisable, *e.g.* old age, cardiac, renal, pulmonary diseases, marked anæmia, chronic wasting diseases, and sepsis. He advises the use of the Schliech solution No. 2 by the infiltration method, and adds a little formalin to lessen the risk of infection. He finds that under it various plastic operations can be done on the cervix, vagina, and vulva. After the abdomen is opened we can remove diseased tubes and ovaries, shorten the round ligaments, perform myomectomy, appendectomy, and resect the bowel. It is important that the patient should be encouraged and cheered by the operator throughout the operation. If a few drops of chloroform be sprinkled from time to time on a mask held over the patient's face a strong suggestive influence is often exerted, the patient believing that she is being deeply anæsthetized. Sometimes a patient may become so nervous and excited that her struggles make it impossible to continue the operation until general anæsthesia is induced. But even if such a course is pursued, the advantage has been obtained of reducing to a minimum the amount of chloroform or ether which is necessary.

The Dangers of Potassic Chlorate.—P. Bartholow calls attention to the dangers arising from confounding potassic chlorate with potassic chloride (KCl) and hypochlorite (KClO). The three have very different chemical properties. The explosive power of the first named is often forgotten. Internally it acts in a state of almost complete molecular integrity, as it passes practically unchanged through the body; and, judging from the way in which it develops a toxic strength, it seems likely that its molecule is endowed with an uncommon potentiality, for its pharmacodynamic effects are often irresistibly sudden and fatal. This sudden explosiveness of poisonous power is to be clearly seen in the cases in which the salt has been merely used as a gargle and has caused death. There is no doubt that it may profoundly alter the composition of the blood. What an abundant clinical experience now shows is, that this alteration of the blood may take place suddenly, and after comparatively small doses. In several instances a small dose, when taken on an empty stomach, has caused death. It shows its utmost power under these conditions, viz., in which there is no mechanical interposing agency (such as food, aqueous contents of the stomach) between the salt and the avenues into the blood. It is under these conditions, as any valid observation will show, that potassic chlorate may display a treacherous power.

Medical News, April 23, 1904.

When and How Shall We Operate for Obstructing Hypertrophy of the Prostate Gland?—Paul Thorndike emphasizes the following points: (1) The catheter has as wide a range of usefulness as it ever had, in the palliation of obstructing prostatic hypertrophy. (2) The various operative procedures at present at our command are to be resorted to, with the exception of certain small classes of cases referred to (by the author), after the catheter has ceased to palliate. The time for this operative interference is at the moment when the catheter has ceased to palliate, and not after months or years of further and unavailing struggle to make it do so. The more radical operation of enucleation, on the one hand and the Bottini operation with its various modifications on the other, are not procedures of the same kind, do not have the same object in view, and are in no sense to be weighed in the balance, the one class against the other. They should rather be contrasted, the one class as radical operations aiming at a cure, and the other as efficient palliating procedures, each having its own distinct indications for its appropriate use.

Some Features of Renal Tuberculosis.—F. Tilden Brown outlines the general symptoms of this disease. The personal history generally tends to reveal a past record of more or less ill health, although there are exceptions to this. The present complaint dates from some prolonged muscular effort where exposure to wet or cold occurred at the same time. Chilling, followed by fever, results. Frequency of micturition is then first noticed. Many cases are preceded by trauma. The urine in most cases was slightly opaque. In a few cases

severe pain in the loins and down the side, with nausea and vomiting, have been experienced. The patient is usually poorly nourished, and the color is faulty. Temperature is a degree or so above the normal. There is tenderness on one side or the other, even if the kidney is not palpable. In female cases the left organ may be the seat of the disease, yet not palpable nor so tender as the commonly prolapsed but otherwise healthy right gland. Careful examination of the urine must be made. Smegma bacilli should be excluded. After the tubercle bacilli are found, the catheterizing cystoscope is brought into use. As the bladder is hyperæsthetic in these cases, an anæsthetization with cocaine or eucaine should be employed. The writer alludes to the almost pathognomonic appearance of the ureter mouth, accompanying a renal tuberculosis on the same side. It consists of an œdematous pouting, or even prolapse of its mucous membrane with more or less erosive and hyperæmic lesion on the part of its periphery. Sometimes, however, this appearance is not present. For the majority of cases the best outlook lies in a nephrectomy. If possible, a change of air, and improved hygiene should anticipate the operation for a month or two. Nephrectomy for tuberculosis should always be done extraperitoneally.

Some External Diseases of the Eye Due to Rheumatism.—Richard Kalish believes that many affections of the eye could be aborted if the fundamental condition responsible for them were recognized in time. He considers the following diseases under the title of external diseases of the eye due to rheumatism: (1) Marginal blepharitis of the young adult; (2) recurrent hordeolum or stye; (3) recurrent chalazion; (4) circumscribed bulbar conjunctivitis; (5) limited circumscribed bulbar conjunctivitis; (6) striated keratitis. The writer declares that rheumatic marginal blepharitis is precisely that condition, the determining cause not having been recognized, which authors declare "to be more or less constant, without known cause, and with little possibility of cure." Against this dictum he enters a protest, for if optical error when present be corrected, muscular insufficiency overcome, and a thorough antirheumatic treatment, medicinal, and dietetic, be enforced, rare indeed will be the case that does not respond to treatment and terminate in recovery. An early diagnosis is most important. In the case of a recrudescence of styes, some of them the so-called "blind" styes, if the patient is fitted with proper glasses, and if local irritation from dust, and exposure to heat or cold can be eliminated, the cause is rheumatism. There is but a step between hordeolum and chalazion. When the latter becomes recurrent, it is distinctly rheumatic in type. The distinctive feature of circumscribed bulbar conjunctivitis, rheumatic in its origin, is that it is localized to the conjunctiva of the eyeball and never encroaches upon the membrane of the lid. It affects but one-half of the eyeballs, and by preference the nasal sides. It must be differentiated from scleritis. In the case of conjunctivitis, there is no special tenderness of the eyeball; there is neither elevation nor discoloration of the sclera; there are enlarged tortuous vessels, freely movable over the sclera and easily emptied on pressure. The discharge is watery, the photophobia, if present, slight, and the pain, smarting in character. There is a variety of this disease restricted to the conjunctiva directly over the insertion of one of the recti muscles, which is the limited circumscribed bulbar conjunctivitis. Striated keratitis is a rare disease which strongly resembles the striped keratitis that semi-occasionally follows cataract extraction. In the rheumatic type, the cornea assumes a grayish tint, and soon a checkerboard appearance develops. Deep corneal infiltration follows, and circumcorneal injection. The writer calls attention to the omission of these subjects from the textbooks.

New York Medical Journal, April 23, 1904.

Sclerosis and Ossification of Veins.—Carl Beck reports the case of a woman aged fifty-six years, seen in consultation, in whom the saphenous vein presented perfect osseous texture. She had suffered from varicose veins of both lower extremities for thirty years. There were frequent attacks of thrombophlebitis followed by dilatation, as well as by cicatrization, the latter causing the signs of phlebitis obliterans in various portions. There was also a large ulcer, from which profuse hemorrhage had several times taken place. On removal of the varicose areas the author found a number of thrombi in the dilated veins, which in places resembled aneurysmal sacs. The *x*-rays are of great value in the diagnosis of this condition.

The Contagiousness of Pneumonia.—R. N. Wilson reports a series of three cases occurring among college students. Two were brothers living in the same house, but not in the same room; while the third was that of a college mate who boarded with them. All were in the same room during my first visit to the subject of Case I, and the latter was waited upon for two days by his brother. In Case III the patient was simply in and out of the sick-room during the two days before the subject of Case I was transferred to the hospital, and had nothing to do with the nursing or handling of the latter. The clinical histories are summarized, and from the facts brought out the following observations are made: Simple tonsillitis, so-called, is frequently a pneumococcus infection, and such a sore throat may convey pneumonia to another. Two other cases reported bear out the theory that this disease may be conveyed by the sputum. We ought to isolate our cases of tonsillitis and pneumonia and care for them as we do for the usual contagious maladies.

The Limitations of Chemistry in Infant Feeding.—This topic is discussed by H. D. Chapin, who finds that some of the old laboratory tests for milk are not entirely reliable, and that the tests required nowadays should be based on modern chemical knowledge of the digestive peculiarities of milk. He does not disparage chemical analysis of foods, but shows that food chemistry has limitations in practical feeding. If the whole basis of the teaching of infant feeding should be chemical, then the principles taught have frequently been wrong, as it is now known that some of these principles have been erroneous. Cow's milk and human milk have been analyzed many times, but the advances in infant feeding have come, not so much from these analyses, as from clinical and physiological experiments with cow's milk, altered or modified in other ways than by simple quantitative adjustment of the component parts. The advances made have been greater along the line of physiological adaptations of various milks to the feeding requirements than from exclusive chemical studies. If chemical composition alone is to be considered, cellulose should be as good a food as starch; cane sugar, always interchangeable with milk sugar; and all caseins should act exactly alike. This we know they do not do.

The Soules Method of Burying the Stumps of the Appendix and Mesoappendix in Appendectomy.—The method is thus described by T. E. Soules: After the appendix has been brought up, the mesoappendix is tied off at or about its center in sections varying from one to four, usually two or three, according to length; each succeeding ligature being made to include some fibers of the preceding. The mesoappendix is then cut down to its base, the adherent mesentery is carefully dissected from the appendix and removed, and a circular incision made through the peritoneal envelope down to the musculoconnective tissue, at or near its tip, and carefully peeled off throughout its entire length to, or very near, its colonic junction, where a fine silk ligature is thrown around the denuded base of the appendix. Another ligature is applied about one-quarter of an inch externally to this, and the cut made between the two; the appendix is then removed. The glove finger of peritoneum is then turned back again and slit along the line of former mesenteric attachment, and spread out, making a flat membrane equal in extent to the circumference and length of the excised appendix; this is then made to cover the appendicular stump, together with the bare ends of the mesocæcal stumps; and with edges turned in, if great delicacy is desired, it is carefully stitched to either side, where the peritoneum shades away over the mesoileum.

American Medicine. April 23, 1904.

Personal Observations on the Advantages of Certain Arctic Localities in the Treatment of Tuberculosis.—Frederick Sohon gives the following recapitulation: Constant sunshine, which brings health and energy, a germless and dustless air that gives neither irritation nor extra infection; an unvarying and bracing temperature that invites outdoor life and exercise; a climate that creates an appetite and a life that brings the ability to digest and assimilate; a life of new recreations that banish loneliness, and of enticing interests so different from the ordinary, that absolute nerve rest is secured; a country in which colds and catarrhal conditions are not found, and even the healthy invariably improve in well-being; all of these advantages, except the perpetual sunshine and the germless air, can be obtained elsewhere, but in the Arctic regions they are furnished altogether and each in perfection. They are also furnished at that time of the year when conditions are most unfavorable elsewhere. Three months under such conditions may be time enough for a cure in patients not greatly run down.

Summary of an Experimental Research into Digitalis in Shock and Collapse, with Illustrative Protocols.—G. W. Crile reports that in animals reduced to varying degrees of

surgical shock, digitalis usually caused a rise in the blood-pressure. When overstimulation was obtained by administering too large a single dose, or by repeating smaller doses, the heart became extremely irregular or the animal died suddenly from cardiac failure. In some instances convulsions occurred. The respiration, when at all affected, was either impaired or arrested. Death in the digitalis experiments was usually more sudden than in the controls. It seemed, on the average, that in cases of shock the animal treated by digitalis did not live so long as the controls. In the experiments in which the medulla was cocainized, and those in which the cord was severed just below the medulla, digitalis caused a distinct rise in the blood-pressure. When the heart had ceased to beat, digitalis introduced by intravenous infusion or by direct injection into the chambers or the walls of the heart did not produce any appreciable effect. The animals showed considerable idiosyncrasy in their reaction to digitalis.

The Importance of Considering the Element of Vasomotor Instability in Estimating the Significance of Irregularity of Cardiac Rhythm.—Louis Faugeres Bishop states that the vasomotor system is far more liable to disorder than the heart, and the heart is able to compensate for a good deal of misbehavior on the part of the vessels, but in compensating it often appears to be misbehaving itself. So one may fall into the error of predicating disease of the heart-muscle when the trouble really is a functional derangement of the blood-vessels. Diseases of this class, including myocarditis and nephritis, have their origin most often in degeneration of the blood-vessels, at first functional, and then organic. The coronary arteries of the heart become involved and then the heart-muscle suffers. The vasavasorum of the blood-vessels are affected and then the larger vessels. The writer concludes that, thus, even in the first stages of circulatory symptoms, the relationships should be appreciated, and the hygiene of the peripheral circulation becomes a matter of serious supervision.

The Lancet, April 16, 1904.

The Treatment of Cancer with Radium Bromide. —H. G. Plimmer tabulates the results in seventeen cases, many of which were in an advanced condition. The diagnosis was confirmed in all of them either by the examination of the primary growth or by the excision of a nodule. The individual exposures varied from forty minutes to five minutes; and the capsule containing the radium was placed directly on the nodules or lumps, the only thing intervening between the radium and the skin being the talc top of the capsule. The cases were left for a month after the exposures and then examined to see in what condition they were. The effects in all the cases were negative, either no changes or an increase in the size of the nodules. The effect on the skin varied in the different cases; an exposure of ten minutes was generally sufficient to produce blistering, and under the scabs there was found a very slowly-healing ulcerated surface. The radium had no apparent effect with regard to either causing or relieving the pain.

Notes on a Case of Myelopathic Albumosuria.—The patient of R. C. Bruce, K. F. Lund, and P. P. Whitcombe was a woman of fifty-one years, who presented the usual symptoms which have been recorded in this rare affection, viz., (1) The fragility of the bones. (2) The extreme anæmia and lassitude. (3) The pains of neuralgic character, varying in intensity and situation, aggravated by movement, and accompanied by local tenderness. (4) The presence of a semi-fluctuating tumor over the acromial end of the clavicle in connection with the false joint. The peculiarities of the case were: (1) The fractures occurring solely on the left side. (2) The occurrence of the disease in the long bones, humerus and femur; no disease in cranial bones. (3) The absence of any prominences on the bones. (4) The sharp grating crepitus of the fractures resembling that produced by old dried museum specimens. (5) The fact that a firm union took place in one of the fractured bones, viz., the femur, although infiltrated with disease of a malignant nature. (6) The sex of the patient. Most recorded cases have been in males.

A Chronic Neurosis Characterized by Frequent Paroxysms of Pain, Swelling, and Hemorrhage in Various Parts of the Body; Death from Acute Pulmonary Tuberculosis. —The general nature of the case reported by T. K. Monro and A. N. McGregor is fully stated in the title. Their patient was a man of twenty-eight years. The areas affected were successively the knees, calves, thighs, forearms, and upper arms. The lesions often affected the limbs of both sides, but were not always strictly symmetrical. The whole period covered by the attacks was some eighteen months, but the patient finally succumbed to pulmonary disease. The general nature of the local lesions suggested that they were allied to angioneurotic œdema with certain resemblances to a disease whi is as likely as not of infectious origin—namely, the pu puric type of erythema. In rare cases of tabes dorsal small or even considerable subcutaneous hemorrhag may follow paroxysms of lightning pains, so that hemo rhage may certainly be due to nervous disturbanc Moreover, in urticaria, into which the neurotic eleme enters largely, there may be exudation not only of seru but also of corpuscles. It is to be noted that this patie was the subject of factitious urticaria. During i numerous remedies were employed for the cure or reli of the disease or its most urgent symptoms, but none them exerted any very noticeable influence. Counte irritation, in the form of a seton at the back of the nec appeared to do almost as much good as any intern remedy.

British Medical Journal, April 16, 1904.

Two Cases of Primary Malignant Disease of the Pancre —Joseph Stewart reports two cases of primary malign disease of the pancreas. He declares that in gene there should be no difficulty in the diagnosis of pancre titis—the painless jaundice, the intense weakness, gre wasting, and the enormous evacuations being charact istic. In his second case, autopsy showed the absence the gall-bladder. This condition had made the diagno difficult. There was no sugar nor albumin in the uri of the patients at any time during the illness. Anoth interesting point is that there was no constipation.

An Inquiry into the Primary Seat of Infection in 500 Cases of Death from Tuberculosis.—J. Odery Symes and Theodore Fisher conclude that: if local foci of disease are taken as evidence of primary disease in the neighborhood of the foci, the authors' statistics tend to show that during the first twelve years of life tuberculous infection by the air passages is four times as common as by the alimentary canal. These statistics also seem to show that the comparative frequency of infection through the alimentary canal during the second twelve years is equally common. Deaths in hospitals above the age of twelve years can hardly, however, be taken to represent the average causation of death from varieties of tuberculosis for the whole population above that age, because cases of tuberculosis of the lungs are more chronic than at an earlier period of life, and are not usually admitted to ordinary hospitals. in spite of the exclusion of chronic pulmonary troubles from hospitals, the proportion of abdominal to thoracic tuberculosis in the institutions from which the reports were taken was very small after the age of twenty-four.

The Glycogen Reaction in Blood; Its Pathological and Diagnostic Import.—G. Lovell Gulland, after describing the glycogen reaction, enumerates the general conditions in which the intracellular reaction occurs, as follows: Severe disturbances of respiration; anæmia; toxæmia of metabolic origin; suppuration and bacterial infection. Clinically, the chief conditions in which a positive reaction is constant, are: croupous pneumonia, bronchopneumonia, empyæma, abscess, and gangrene of the lungs, septicæmias, and pyæmias of all kinds, all advancing suppurative processes, septic gangrene of all kinds, appendicitis, and peritonitis. Some of the conditions in which the reaction is uniformly absent, are: Rheumatic fever, chorea, rickets, heart disease (unless compensation has failed badly), catarrhal jaundice, uncomplicated tubercle of all kinds, asthma, alcoholism, early cancer, lead colic, and diabetes (except when coma has occurred). This reaction is probably associated in some way with the resistance of the organism to poisons, and especially to those which produce positive chemotaxis. Many of the causes which produce the reaction also cause leucocytosis, but there is no necessary connection between the two. Patients who show this reaction are always "sick." Although the method is simple, it demands care and accurate observation.

Deutsche medizinische Wochenschrift, March 31, 1904.

The Occurrence of Free Amino-Acids in the Blood in Acute Yellow Atrophy of the Liver.—Neuberg and Richter report the results of an analysis made on the blood of a patient with acute yellow atrophy of the liver. The disease arose in connection with a recent syphilitic infection, and the clinical picture was the usual one. Both leucin and tyrosin were present in the urine though not in large amounts. By a complicated series of precipitations and recrystallizations the following amounts were recovered from 345 c.c. of blood obtained during life: Tyrosin, 0.787 gm.; leucin, 1.102 gm.; lysin, 0.240 gm., or a total of 2.13 gm. of amino-acids. Assuming that the total amount of the patient's blood was 4-5 kilog. this would give the surprisingly large quantity of 30 gm. of amino-acids free in the circulating blood. The authors are unable to draw definite conclusions as to the origin of these bodies, but consider muscular degeneration, and the intestine as the two most likely sources.

The Biology of Tumors.—Saul describes culture experiments made on tumors by means of which he was able to discover protozoon-like organisms in both benign and malignant growths. Portions from the center and the periphery of the tumors were cut into small cubes, and as soon as possible after their removal from the body were placed in test tubes containing agar and bouillon. In all cases in which it had been possible to secure sterility of the bits of tissue certain hyaline bodies were observed to develop in between the tissue cells, and with time what appeared to be various phases of development were seen. These bodies were present both in malignant and non-malignant tumors. All attempts to fix or stain them so as to make their demonstration in tissue sections possible were unsuccessful. The author concludes that the bodies described as cancer parasites by many writers are histological elements of the tumors themselves, since apparently such organisms are incapable of withstanding the methods of fixation, etc., employed.

A New Method of Approaching the Posterior Surface of the Right Lobe of the Liver.—Israel was confronted by the problem of making an exploratory incision in order to determine the nature of a disease process affecting either the kidney, adrenal, or posterior portion of the light lobe of the liver. The kidney was freely exposed by an incision beginning at the twelfth rib and running obliquely downward and forward. Both kidney and adrenal were found healthy, and the liver was then made accessible by resecting a large portion of the twelfth rib and then splitting and reflecting the renal capsule. The vessels at the hilum were freed, and the entire organ thus mobilized sufficiently to permit it to be dislocated downward and forward, as is the case with a floating kidney. The peritoneum over the posterior surface of the liver was rough and infiltrated, and further investigation showed the presence of a dense fibrous growth the size of a walnut. This was successfully extirpated without undue hemorrhage and the cavity packed. The kidney was fixed in place by appropriate sutures, and the incision closed except for the opening left for the drainage gauze. Prompt recovery followed and the patient was enabled to resume his duties as army officer. The growth proved to be a gumma.

Berliner klinische Wochenschrift, April 4, 1904.

Late Liver Abscesses Following Tropical Dysentery.—Pel reports three cases in which abscess of the liver first gave symptoms many years after the patients had returned from the tropics. In the one case no symptoms of abscess were observed until eleven years after an attack of tropical dysentery and in another not until fifteen years after a similar attack. This case is particularly unusual in that the temperature remained subnormal until the pus was evacuated, when it rose to normal and remained so. The third patient did not suffer from his abscess until twenty-one years after a long drawn-out attack of dysentery. In all three cases the pus was sterile. The author proposes to call such cases late liver abscesses.

Therapeutic Attempts with Dyes in Trypanosomiasis.—Ehrlich and Shiga publish the results of an investigation on the cure of trypanosome infections which are of especial interest, since they show the possibility of producing active immunity through the administration of drugs. The trypanosome experimented with was that producing the South American *mal-de-caderas*, and mice were used as test animals. After some experimentation a member of the benzo-purpurin group was found which was hostile to the organism. When injected into mice infected with the trypanosomes this substance, to which the name of trypan-red was given, proved capable of saving the life of the animal even if not administered until the day preceding the death of control animals. The organisms appeared to vanish from the blood, but in many instances relapses occurred. The effect of the remedy was equally certain if administered by mouth. Other animals, such as rats, could not be saved with the same certainty as mice, and relapses were more frequent, while with dogs and guinea-pigs the results were still less encouraging. The trypanosome causing *nagana* was also tested but was found more refractory to the action of the agent than that of the *mal-de-caderas*. On adding the trypan-red even in ½ per cent. solution to cultures of the trypanosome *in vitro* the latter did not perish, showing that the action of the substance is not that of an ordinary antiseptic, and it was found on injecting it into healthy mice that protection against subsequent infection lasted only two days, although the tissues remained colored for a much longer period. On the other hand, infected animals cured by the trypan-red showed greatly protracted resistance to subsequent infection. It appears therefore that a true active immunity is induced by the injection of a purely chemical agent. Many other dyes and other bodies were tested, but none showed similar action.

Münchener medizinische Wochenschrift, April 5, 1904.

Amputation of the Tonsils with the Cold Snare.—Henrici considers that serious sources of inconvenience are inherent in all the customary methods of tonsillotomy and advises a return to the cold-wire loop. Amputation with the bistoury is always difficult and with children is usually impossible. Both the guillotine and the tonsillotome of Blake are open to objection owing to the necessity of having several sizes of the instrument, and of keeping the blades sharp, there is danger of the blade of the guillotine breaking against a tonsillolith, too much of the tonsil may be cut away and hemorrhage result, etc. The galvanic snare is too unreliable and painful and involves slow healing. The cold snare is easily applied, is small and easy to manipulate within the mouth, it does not induce bleeding, one instrument does for all cases, it can be used with equal ease on either side of the mouth and the author considers it the ideal instrument.

The Theory of Sensibilitization and Observations on Some Sensibilitizers.—Halberstaedter says that in photochemical parlance optical sensibilitizers are agents that have the power of making silver salts sensitive to the rays at the red end of the spectrum, by which under ordinary circumstances they are not affected. Certain bodies have similar properties in regard to the action of light on living cells, and Dryeer has shown that erythrosin can sensibilitize infusoria, animal tissues, etc., for the usually inactive yellow-orange and orange-green rays. The importance of this observation for light treatment becomes evident when one considers that the blue rays have very little and that the red rays have much penetrating power. Eosin has very marked sensibilitizing powers, especially for the yellow and yellow-green rays, but its activity is only about one-fourth that of erythrosin. Chinolin red is an excellent photographic sensibilitizer for yellow and yellow-green and has a similar property for animal tissues, though its power is less than that of eosin or erythrosin. Cyanin has slight sensibilitizing power but is too toxic for practical application. Alizarin-blue sulphide which photographically is a good sensibilitizer for red was found inactive for animal tissues.

Spinal Anæsthesia.—Bier and Donitz say that the method of spinal anæsthesia advocated by Bier was at once taken up with much greater enthusiasm by others than was accorded it by the originator himself. Subsequent results showed that this conservatism was justified, and that in its old form the method was adapted to serve only in exceptional cases. Further observation has led the authors to conclude that the dangers of the procedure can be completely obviated by combining the adrenalin with the cocaine. The latter agent has been found more satisfactory than any of the substitutes that have been proposed and is therefore retained. The method employed is as follows: The patient lies on a table with the upper shoulders somewhat elevated, so that the back is arched from before backward and at the same time the spinal column is curved laterally with the concavity looking upward. The line joining the crests of the ilia is drawn and indicates the spinous process of the fourth lumbar vertebræ. The finger is passed upward so that it reaches the space between the second and third vertebræ, and the needle is plunged into this space instead of into that between the third and fourth, as was the old technique. As soon as cerebrospinal fluid escapes, 1 cm. of a 1-2000 solution of adrenalin is injected. The syringe is allowed to remain in place to prevent the escape of cerebrospinal fluid, and at the end of five minutes a solution containing from 0.005 to 0.02 gm. of cocaine is injected through a second syringe. Physiological salt solution is used as a solvent, as apparently it is of no advantage to employ solutions isotonic with the cerebrospinal fluid. Suprarenin was used in a somewhat larger number of cases than adrenalin and seemed slightly more satisfactory. In all 121 cases were anæsthetized in this way for operations of all degrees of severity. In none was the slightest evidence of danger observed, and the authors considered that the method in this form may be considered perfectly safe. On the other hand the headache, nausea, etc., which were such drawbacks to the old method, have not been greatly reduced and the procedure, therefore, must still remain one to be reserved for selected cases. A precaution that is advised is to assist the action of the adrenalin in preventing the cocaine from traveling too far up the cord by keeping the patient's shoulders elevated throughout the operation and never employing the Trendelenburg position.

Society Reports.

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, Held February 29, 1904.

WENDELL C. PHILLIPS, M.D., PRESIDENT.

Some Observations on the Surgery of the Common Duct of the Liver.—Dr. WM. J. MAYO of Rochester, Minn., read this paper. (See page 681.)

Dr. ROBERT F. WEIR was greatly surprised that one man should have had so many common duct operations in one year as Dr. Mayo had and complimented him upon studying his cases so well and giving such results as were contained in the able paper. It was well worth knowing that the common duct could be investigated by passing the finger in from below upward but not from above downward, and that one need not hesitate to entirely open the common duct and explore for stones. This could be done and the common duct closed and regain its serviceableness. Regarding the removal of the gall-bladder he said that if it was needed for drainage, save it; but if it was not needed and if it could not be restored to its normal condition, it then should be sacrificed. No rule could be given but one must individualize.

Dr. ARPAD G. GERSTER was thankful for the excellent teaching that it had been his pleasure to receive from the paper.

Dr. JOSEPH A. BLAKE referred to a method of reaching the common duct by liberating the duodenum for the purpose of attaching it to the cardiac portion of the stomach by incising the peritoneum between the duodenum and kidney. In this way the duodenum could be readily turned to the left and the common duct not only palpated but inspected.

Dr. WILLY MEYER said it was sometimes very difficult for physicians or surgeons to refuse to yield to the importunities of patients who have suffered for years with recurrent attacks of colic, with stone in the common duct, when jaundice sets in for the first time. In such cases he believed it to be wise to refuse operation, for if one operated at such a time it would be similar to operating during an acute attack of appendicitis when it would be better possibly to await the interval. When jaundice supervened, he said the conditions in the common duct were then more active than at other times, and one had better wait. Many of the cases of stone existing for a long time in the common duct he said had given symptoms which were often mistaken for malarial fever, on account of the chills and fever. He emphasized the importance of an early recognition of stone in the gall-bladder and before cholangitis had existed for any length of time. Knowing that stones in the gall-bladder may be productive of stones in the common duct meant that one should be timely in operating upon the stones in the gall-bladder.

Dr. SAMUEL LLOYD emphasized the importance of preserving the gall-bladder whenever possible, particularly at this time when so many surgeons were advocating its removal in all cases of stones.

Dr. THOMAS H. MANLEY said that the surgery of the gall-bladder and ducts had been kept back for years because of the fears entertained by many surgeons of opening the upper right quadrant of the abdomen. Yet gall-bladder surgery he believed to be safer than the surgery of the appendix.

Dr. MAYO agreed that one should wait until the fever and initial symptoms had subsided in the acute cases. If there were no chills or fever and the patient did not feel very ill, one should operate at once. In acute cases, with symptoms of cholangitis, he said it was not the question of stones but the infective inflammation of the ducts that should be considered, for many cases die from such an infection without operation. He did not advocate removal of the gall-bladder unless positively indicated. The so-called ideal operation was to open the gall-bladder, remove the stones and sew it up again. The question of its removal depended upon the amount of infection. If there was no inflammation, and the stones were easy to get out, he did not see why the gall-bladder should be removed.

Special Report of the Counsel of the Society.—Mr. CHAMPE S. ANDREWS said that during the last three or four months the legal department of the society had been called upon to do more work than ever. It had to do with the men Blinn and Conrad, regarding whom the papers had devoted much space. During the last four years the complaints had so increased against these men that now they could no longer be ignored. He said it was impossible to catch such people without fixing some trap for them, as had been done in the Conrad case. He had received as many as 150 letters from the victims of these men offering to assist in the prosecution of them. Blinn had skipped his bond and Conrad was in jail trying to raise a $10,000 bail.

Ratification of the Action of the Medical Society of the State of New York to the Amalgamation of the Medical Society of the State of New York and the New York State Medical Association.—This occurred without a dissenting voice. After twenty-two years of discord peace was declared.

Stated Meeting, Held March 28, 1904.

DR. WENDELL C. PHILLIPS, CHAIRMAN.

Clinical Manifestations of Uric Acid.—Dr. EGBERT LE FEVRE read this paper. (See page 687.)

Volumetric Determination of Uric Acid and the Purin Bases in Urine.—Drs. J. RUDISCH and F. KLEEBERG considered this part of the topic. This rapid and accurate method depended upon the following principle: both uric acid and the purin bases were completely precipitated by a weak ammoniacal solution of silver containing ammonium chloride. On the other hand, in a strong ammoniacal solution, the purin bases remained completely in solution, whilst the uric acid was completely precipitated. Silver and uric acid formed a compound in which to each molecule of uric acid there was one atom of silver. With the purin bases the silver formed compounds in which the proportion was as two to one. A definite quantity of the silver solution was added to the solution to be analyzed, and the excess titrated directly to the ammoniacal solution by means of standard potassium iodide. A mixture of dilute nitrous acid and starch was used for determining the end point. Requirements: (1) $\frac{N}{50}$ silver solution; (2) $\frac{N}{50}$ potassium iodide solution; (3) a nitrous-sulphurous solution; (4) ammonium hydrate, specific gravity, 0.90.

TO DETERMINE THE URIC ACID.—The method was carried out as follows: To 110 c.c. of urine add 55 c.c., $\frac{N}{10}$ silver solution and dilute with NH_4OH, specific gravity 0.90 to 220 c.c. All these measurements could be made conveniently in flasks of the Gile's pattern. Mix and filter either at once or after standing a few minutes through a dry folded filter. Two portions of 100 c.c., each corresponding to 50 c.c. of urine, are collected. In the meantime a half a dozen small test tubes (about 8 cm. long and 1 cm. in diameter) were filled for about 1 cm. with a mixture of roughly, two parts of the nitrous sulphuric acid and one part starch. To one of the above portions of 100 c.c., $\frac{N}{50}$ KI was rapidly added and, after such addition of 2 c.c., a small portion, not exceeding 0.5 c.c., was removed by means of a pipette, which also aided as a stirring rod, and carefully introduced down the side of one of the test-tubes, in such a manner that two distinct layers were formed. The end reaction manifested itself sharply by the formation of a blue ring at the point of juncture. Having now determined the end point approximately with the first 100 c.c., the exact end point was determined with the second 100 c.c., *e.g.* say that more than 100 c.c. and less than 12 c.c. were required with the first 100 c.c. The second 100 c.c. were then taken, and 10 c.c. $\frac{N}{50}$ KI run into the solution at once. Then carefully a few drops were added

time until the exact end point was reached. Each $\frac{N}{10}$ silver solution equalled .00336 gr. uric acid. aid the entire process need not require more than ty to twenty-five minutes.

DETERMINE THE PURIN BASES.—Exactly the same ss was carried out except that instead of adding g ammonia he diluted with water, *i.e.* take 100 c.c., 5 c.c. $\frac{N}{10}$ silver, and dilute with water to 220 c.c., proceed as before. The number of c.c. of $\frac{N}{10}$ silver equalled the total purin bodies, and subtracting umber of c.c. of $\frac{N}{10}$ silver required in the uric- determination, the difference equaled the purin , bearing in mind that each c.c. $\frac{N}{10}$ silver equalled 2 gr. purin base calculated as xanthine.

e accuracy of this method was proven by estab- g the following points experimentally: (1) That ilver compound which uric acid formed under the tions stated was insoluble both in dilute NH_4OH n string NH_4OH. (2) That the silver compounds the purin bases formed were insoluble in weak OH and soluble in strong NH_4OH. (3) That known nts of uric acid when added to either water alone urine can be accurately determined. (4) That the cid determinations agreed with the determinations by the Ludwig-Salkowski method. (5) That the mination of the total purin bodies agreed with the s obtained by Arnstein's modification of Camerer's od. (6) That silver can be determined with great cy by means of KI in an ammoniacal solution.

e method as proposed deserved the designation of a cal method" in the sense that it placed at the dis- of the clinicians an accurate method for the deter- ion of both the total purin bodies and the uric acid, ermination which could be made in a short period e, far shorter than by any of the numerous other ods that had been proposed. On the other hand erm "clinical method" was looked upon by chemists ithout good reason, as a term indicating a method y inaccurate and, in this sense, the method did not ve to be known as a clinical method.

monstration of Method.—Dr. F. KLEEBERG demon- d the method as described by Dr. Rudisch.

Pathological Increase of Uric Acid.—Dr. E. E. took up this part of the topic under discussion. aid that one constant manifestation of states in uric acid was pathologically increased was *exhaus-* The products of destructive metabolism differed g the condition of over-fatigue from the normal. ver-fatigue there was an increase in the amount of acid and the action of the fatigue products was upon ntral nervous system as well as upon the over-tired es. Experimentally it had been shown that the duction of lactic acid into the body led to an increase e uric acid output, this increase being due to uric formation by synthesis through the combining of the acid with urea. It was his conviction that the e of the increase of uric acid output in disease was, any instances, what might be tentatively called rmal fatigue products of metabolism. He said that nged muscular exercise did not produce an increased ation of uric acid when the subject was in proper cal condition, but only when he was in poor physical tion. He had observed that it was not the absolute nt of alcohol that determined the increase of uric d, but the physiological effects. Thus, in an individual king alcohol in the form of whiskey there were no notice- le subjective symptoms and no pathological uric acid crease, while the same individual, at another time, king the same quantity of alcohol in the form of cham- gne, showed a distinct subjective effect with a marked thological uric acid increase. In various diseases with normal fatigue type of condition on the one hand and here there was a pathological uric acid increase on the her the clinical manifestations might be profitably udied. Thus, in fevers, neurasthenia, migraine, and the convulsive state of epileptic seizures such a relation might exist. He did not maintain that the products of over-fatigue were the only substances that gave rise to synthetic uric acid formation. It seemed probable that products formed by fermentative changes in food in alimentation might also give rise to uric acid by synthesis, thus giving rise to a pathological uric acid increase. He wished to be understood as maintaining that while it had been amply demonstrated that while the endogenous uric acid excreted under ordinary conditions of health, and which might be designated as the physiological uric acid, was almost wholly derived from nuclein breakdown in destructive metabolism, it had not been demonstrated that the uric acid constituting a pathological increase was from this source, and that the consideration of clinical and experimental data indicated that the pathological increase in many instances was largely derived from synthetic uric acid formation from other pathological products in the body.

Treatment of the Gouty Diathesis.—Dr. THOMAS E. SATTERTHWAITE considered this part of the topic. The treatment of gout varied according to the form: *i.e.* whether it was (1) Acute, of which podagra was the best example; (2) Chronic, characterized by chalky deposits; (3) Retrocedent, or, perhaps, better called aberrant, gout, where the type deviates from the characteristic variety; (4) Irregular, or minor gout, with its protean manifestations.

ACUTE GOUT.—The inflamed part should be elevated and protected against weight of bed-clothes by a cradle. Lead and opium wash made a good local application, applied on absorbent cotton, covered with oil silk, and renewed every four hours. Or, a saturated solution of bicarbonate of soda. Or,

℞ Guaiacol. . . . . .
Oil of wintergreen. . . . . āā ℥ss.
Olive oil . . . . . ℥ij.
M. Sig.

A more elegant mixture he believed to be:

℞ Menthol . . . . . ℥j.
Alcohol. . . . . ℥iv.
Glycerin . . . . . ℥j.
Cherry-laural water. . . . . ℥j.
M. Sig.

During this stage the patient may be placed in a tub at 98° to 100° F., kept there for fifteen minutes, then douched with water at 102° F. for another fifteen minutes. Afterward the flabby parts are massaged while the inflamed parts are untouched. This was followed by a mercurial purge and, later, a saline cathartic. The salicylates of lithia, or colchicum, or the iodide of potassium or sodium were used until the subacute stage had been reached, when they were abandoned for dietetics, hygienic and balneo-therapeutic measures.

As soon as possible, the wine of colchicum should be given in from 15 to 30 minims every four hours, alternating with salicylic acid, or the salicylate of sodium, at intervals of four hours. The administration of colchicum should be carefully watched and its dose lessened as soon as possible, because of the disturbance of the gastrointestinal tract which follows large dosage or prolonged use of it. He gave colchicum combined with nitroglycerin, which dilated the blood-vessels, while it acted as a cardiac stimulant. If the salicylates were not well borne he gave citrate of potassium in 30 to 60-grain doses, every four hours. One should lose no time in giving a mercurial purge; it relieved portal congestion and tended to eliminate the purin bodies. Following the mercurial purge a chologogue should be effective, and his favorite was:

℞ Resin podophyllin. . . . . gr. ss.
Ext. colocynth. . . . . gr. ij.
Ext. hyoscyami. . . . . gr. j.
Ext. nucis vomicæ. . . . . gr. .
M. et ft. pil. No. 1. Sig. One at night, if necessary.

For drinking purposes he used the waters containing carbonate of soda, of lime, of potash and lithia. During this stage the diet should be such as to meet in the fullest

manner the dangers of faulty metabolism, while the kidneys should be guarded from irritating substances. With the exception of toast and butter, the diet should be a liquid one. When the subacute stage was reached a soft-boiled egg and a weak meat or vegetable broth may be allowed.

SUBACUTE AND CHRONIC GOUT.—Here one must always bear in mind that there is an excessive formation of the purin bodies, or its allies in the uric acid group, and they must, in a measure, be met with by drugs, hot air, hydrotherapeutics, massage, suitable exercises, and diet. One should always be ready with colchicum and the salicylates or alkaline carbonates to abort an attack. He always insisted that patients should have one or two free evacuations each day.

RETROCEDENT OR ABERRANT GOUT.—In the treatment of this form he saw no reason why one should endeavor to lure away the attack from its new site to its former one. Once the deposit of this insoluble bi-urate was fixed in the joints, it was rare that it left them. He next considered the question of dietary, and said that many of the present ones had been tried and found to be useless. The patient tried them one after another, and only found in the end that he did better on a dietary of food and drink that he had found to be suitable by personal experience.

IRREGULAR OR MINOR GOUT.—In this form he said it was not necessary to observe the strict rules as in acute gout, or even in the chronic form. Yet the treatment was based on the same general principles. People afflicted with these symptoms present indigestion, nervous irritability, headaches, neuralgias, parasthesias, depression of spirits, hebetude, perhaps with the slow pulse of arteriosclerosis. The urine contained, as a rule, uric acid in excess, though the oxalate of lime might replace it. This was gout without the major joint symptoms. Here the diet should consist of the free use of water, not necessarily an alkaline water. Vegetables should be taken freely. Carbohydrates should be taken in small quantities, because they give rise to fermentation, which was active in the gouty.

He believed the following conclusions were warranted: (1) That there was a general treatment of gout that should underlie every variety, whether in the form of acute, subacute or chronic, aberrant or minor, and independently of special manifestations that required special treatment. (2) Colchicum in conjunction with the salicylates, or their congeners, or the alkaline carbonates, should hold their place in the treatment of acute gout. (3) In the aberrant form, so varied were its manifestations, there could be no specific treatment. (4) In the other forms medicine played a subordinate rôle to diet, and the iodides were the main remedies. (5) Our knowledge of gout was not yet sufficient to justify us in adopting any ironclad rules to govern the general treatment. (6) Success demanded a study of the individual, his environment, his necessities, and his physical limitations.

Dr. WM. H. THOMSON opened the discussion by stating that laymen looked upon uric acid as a disease, and one which alarmed them, and, when suffering from it, asked what they could do to be saved. He said that for the past ten years there were far too many medical journals, and he was much surprised recently when his mail brought him *The Uric Acid Monthly*. He referred to the prevalent confusion that existed regarding the relation between uric acid and disease, and he began his discussion by challenging the question whether or not purin bodies were the sole origin of uric acid. He spoke of the existence of uric acid in almost a pure state in certain reptiles and birds, and said that some animals lived and ended their days in making nothing but uric acid. Uric acid was really the cause of nothing in man; when it existed in large quantities there was always a *plus* before it which did the harm. Depending upon that *plus* harm followed. In childhood we may have the uric acid gravel. Often patients may have uric acid gravel fo years and years, and yet never have an attack of gou He said he wished to present to the society four defini tions as follows: (1) True rheumatism was always a infection by some specific organism which had alread been demonstrated. It was the microbe which caus acute articular rheumatism. (2) Gout was caused b the metabolism of certain articles of food and by nothin else. (3) There was a whole class of painful affection which was characterized by a myositis, or a fibrosis, or fibromyositis, in which the sheath of the muscles, i fibers or tendons were involved, and this was a form whic was frequently called muscular rheumatism. This w not true rheumatism, because it is not of microbic origi Lumbago, sciatica, etc., were generally classed und the head of muscular rheumatism, but they were direct connected with disturbances in the excretory functio of the liver (4) This was a class that could be confound with gout and lithæmia, on account of the frequent d posits of urates from the urine. This occurred, as a ru in those people who became exposed, and had a chilli of the body surface, as from exposure to rain, etc. Su cases, he said, were treated differently. Cod-liver o was almost a specific in such cases, and this was, in fac the reason for its introduction as a medicine by the fishe men of Norway. Uric acid producing gout was very d finitely connected with what was taken into the mout so much so that one could say that it was not produce by alcohol, AS SUCH, but by alcohol the result of ferme tation occurring within the body. He said that in En land everybody had gout; every physician, pathologi Haig included, never appeared to see anything but go as a cause of every ailment. Whereas in Scotlan where they imbibed whiskey freely, it was a rarity. Go was rare in Scotland, as it was, a few years ago, in th country. Since the introduction of beer here gout h become extremely plebeian, especially in New York Cit The more whiskey displaced by beer the more gout w encountered. Therefore, it was not the alcohol whi produced the gout *per se*, but there was something of fermenting character which produced it in all probabili Cider was a great gout producer. But, as a rule, the must be present that something *plus* the alcohol. Wh was it? He said we did not know. So many proble were yet connected with metabolism not yet solved th we were still in the dark regarding gout. The differenti diagnosis between rheumatism and gout was not ve difficult. If a man gave a history of his trouble beg ning early in life as a polyarthritic complaint, if his pul was soft and compressible, then it was probably rhe matism. If the trouble had been gout or a gouty co dition he would have full arteries, an incompressib pulse, dilated veins on the hands, etc., conditions just o posite to what one would expect to find in rheumatis Gout was a monoarticular affection at first. If it beg above the knees its diagnosis was more complicate There was one infallible sign he referred to, *i.e.* gou inflammation affecting a joint with condyles; in suc cases if one pressed with the fingers upon the condyl the patient would wince; but upon other parts of th joint it would not be noted. In rheumatism the pa was along the course of the tendons. In gout there wa a structural change. Gout always left its card. It wa peculiar to rheumatism that no matter how it infected a individual (90 per cent. of the cases were infected throug the tonsils), there was a fibroid thickening of some joint as a result, and the prognosis was invariably favorable

Dr. HARLOW BROOKS spoke of the increase of gout i New York City, especially noted at the hospitals, and h believed it was due to the increase in the beer-drinkin habit. It was more frequently noted by him now in th morgue than a few years ago. He agreed that it wa not the alcohol *per se* that caused the disease but the kin of beverage containing it. Whiskey ordinarily would not bring on an attack of gout. The simple fact that the

urine contained an abnormal amount of uric acid and purin bodies should not permit a diagnosis of gout being made. Another thing that led to mistakes was the fact that when the urine was examined and large quantity of substances found, as a rule little or nothing was known regarding what substances had been taken in the body as food; the finding of certain bodies in the urine was largely dependent upon the food taken in. This was a point that should always be considered.

He did not agree with the mechanical theory of the symptomatology or pathology. Reptiles and birds had enormous quantities of uric acid in their bodies, and without producing any ill effects at all. Uric acid in large quantities could be found when a person was in perfect health. In other words, in these animals the deposition of salts did not cause any pathological changes. He did not believe the mechanical theory accounted for the interstitial hyperplasia, nor for the nervous symptoms. He did not believe we knew the cause of the arteriosclerosis associated with gout. He said he could not draw a sharp line of distinction between gout and rheumatism, but he did not believe that rheumatism was purely an infectious disease or a specific one. So far as he knew, he thought that gout and rheumatism, from a pathologist's standpoint, were much confused.

Dr. FREDERIC E. SONDERN said that anyone who had examined a very large number of specimens of urine from both gouty and rheumatic patients would be impressed that, in the laboratory, both diseases should be divided into two groups at least. It was unquestionable that there were many cases of acute rheumatism in which the uric acid output was very great as compared to the output of urea; there were other cases in which the output of uric acid was considerably decreased. The same thing applied to gout. Whether this would have any bearing on the treatment of rheumatism he said remained to be seen. It was true that some cases of gout responded to definite methods of treatment which had no effect in other cases. This was true, too, in rheumatism, especially in the chronic or subacute varieties. In some cases salicylic acid will act well; in others the alkaline treatment does much better. To him it was a question whether the output of uric acid should be an indication as to treatment. He doubted that uric acid alone was the cause of the disease; for why did one meet it in excessive amounts in some cases and small amounts in others? A consideration of the ratio between urea and uric acid as seen in the literature was rather amazing, and he thought that the figures quoted in most books and articles were apt to be a little low for New York City. Recently it had been stated that this ratio was 1 to 40, and that anything under this ratio was abnormal. In other words, if there was more than 1 part of uric acid in 40 parts of urea, then we were having an increased uric acid output. Examination would rarely show this ratio to be above 1 to 40, and many fell between 1 to 35, or 40, and without apparent evidences of disturbed metabolism. There were many other conditions in which there was a disturbed uric acid output not necessarily the cause of the conditions, but evidence of disturbed metabolism. In acute yellow atrophy one of the first things noted was a diminution in the amount of urea, and a relative increase in the amount of uric acid. In pregnancy the examination of a large number of specimens shows a relative increase in the excretion of uric acid. What point was normal, and where it became abnormal, remained to be seen. This increase in the excretion of uric acid he looked upon as being evidence of disturbed metabolism. In the cyclic forms of chill and periodic headaches occurring in adults observations made showed that, during the normal periods, the urea and uric acid ratio was normal, 1 to 45; but as these people approached the attack the uric acid and urea ratio became 1 to 45, 1 to 50, 1 to 60, and, as he once saw it, 1 to 92. Then came the explosion. When the attack appeared there was always a marked deposit of uric acid, scanty urine, etc., and the ratio became 1 to 12, 1 to 8, and, in one case he saw, 1 to 6. During the convalescent stage the ratio went up again to near the normal. He asked what was considered the normal ratio? For a long time it was taught that the normal daily amount of urea excreted for an adult was from 20 to 40 grams. Dr. Cabot stated last year that it did not make a particle of difference how much was excreted in averages, but it depended upon the intake; that the estimation of the amount of urea was, as a rule, useless. This went to the other extreme.

Dr. P. A. LEVINE spoke of the origin of uric acid in the body and its relation to gout. He agreed with Dr. Thomson that uric acid arising from the purin bodies was rather doubtful. In any part of the body where uric acid accumulated it might be due to one of two processes: first, a hyperproduction, and secondly, a diminution in the combustion of it. He compared uric acid and rheumatism with sugar and diabetes. Glycosuria did not always imply an attack of diabetes; sugar in the urine might be simply due to faulty kidney function. Sugar in the urine might show an increase in the production of sugar; again it might be due to the fact that normally produced sugar was not oxidized. The same was true of uric acid in the urine.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

One Hundred and Eighty-seventh Regular Meeting, Held March 4, 1904.

DR. CHARLES STEDMAN BULL, PRESIDENT, IN THE CHAIR.

A Case of Giant-celled Sarcoma of the Lower Jaw Treated by Radium; Preliminary Report.—Dr. ROBERT ABBE showed a young man of seventeen years with a view to having the members watch the course of growth or retrograde under radium treatment of a tumor, regarded by surgeons as the most malignant known.

Four months ago the lad noticed the swollen gum around the left lower canine tooth, which became loose, and which he thought was only temporarily inflamed.

For two months it increased in size, until he sought advice at Saint Luke's Hospital—with the following condition:

A soft spongy dark tumor occupied the lower jaw from the middle toward the left, and bulged inward under the tongue and outward under the skin—the inner part one-third of the mass, and the outer, two-thirds.

In bulk it measured 3 cm. from front to back; 6 cm. on the front surface of the jaw, and 3 cm. vertically (1 in. x 1½ in. x 1 in.).

To the finger pressure within and without it seemed almost to fluctuate, it was so soft.

Within the mouth it rose behind the teeth and presented a small ulcerated surface.

Three teeth were loose and bent in their places, so that a pair of thumb forceps could have easily pulled them out of the tumor that had absorbed the alveolar around them.

A piece was removed from the inner side for examination and proved to be a pure giant-celled sarcoma.

Surgically viewed, the case called for resection of the jaw with hopeless mutilation, and inevitable recurrence.

I decided to try a strong radium specimen upon it.

A small glass tube of 10 cgm. of the 300,000 x Curie radium was applied over the growth within the teeth for one-half to one hour daily, a lead shield protecting the tongue.

On the fourth day the purple ulcerated surface became flat, pink, and small. The entire bulk of the projecting internal tumor was considerably reduced.

I then began to attach the outer part by laying the tube between the lip and the tumor. Three such applications blistered the mucous membrane, and I decided to penetrate the mass of the tumor. Anæsthetizing the mucous membrane with a drop of cocaine I pressed a bistoury

through the rim of the tumor and found the soft sarcomatous mass allowed the radium glass tube to be pressed through it down to the lower margin of the jaw, represented by the shell of bone.

Two or three times weekly I have thus penetrated the various parts of the tumor, leaving the radium imbedded for two to three hours at a time.

The growth of the tumor has not only been arrested, but there is an appreciable shrinkage in bulk of about one-third of its original size during the two months of treatment. In quality also the substance of the growth has become much firmer, bleeds scarcely at all, and presents a gritty feeling, as if points of ossification had set in.

Summary.—Growth of tumor apparent, two months—treatment during the next two months by radium only.

Arrest of development, undoubted shrinkage of one-third in total bulk. Apparent retrograde in active growth of tumor. Treatment now being continued to be reported two months later.

Dr. JOSEPH D. BRYANT called attention to the presence of an enlarged submental lymph node in the corresponding side of the neck, and suggested that it be removed and examined. If that also proved to be cancerous, very little good could be expected from the radium treatment.

Appendicitis in Children.—Dr. JOHN WINTERS BRANNAN read this paper. (See page 685.)

Dr. HENRY F. WALKER said he thought the reason why comparatively few cases of appendicitis in children came under the surgeons' care was that the attacks in early life were usually of the catarrhal type. The condition was analogous to inflammations of the urethra. A man would have his first attack of gonorrhœa, and usually recovered without a stricture. After his second attack he is likely to have a stricture, and after his third attack he is very apt to have one. With appendicitis, the early attacks are usually ascribed to indigestion or colic, due to some indiscretion in diet, but after repeated attacks the inflamed appendix becomes strictured, and when it is no longer able to empty itself, the formation of an abscess was likely to occur. Severe attacks in adults are the outcome of milder attacks in earlier life. Dr. Walker said he had seen a number of cases of appendicitis in children. In one of them, a boy of three years, there was an abscess that was at first supposed to have originated in the hip-joint. It was evacuated, and there was apparently a complete recovery, but thirty years afterward another abscess developed, the origin of which was traced to the half obliterated appendix.

Dr. WALTER B. JAMES thought there was no doubt as the reader of the paper had suggested that a great many cases of appendicitis in young children did not reach the surgeon, because the condition is not recognized by the attending physician; and this not because the obvious symptoms were overlooked, but rather because of the inherent difficulties in the way of the diagnosis in these patients.

The complex of symptoms, described for instance in Dr. Brannan's case, could hardly have been recognized as belonging even probably to appendicitis. In the diagnosis of this condition, the conclusion is based, for the most part, upon information obtained directly from the patient rather than from the result of objective investigation.

The complaints of young children are so vague, and their replies to questioning so uncertain and varying, as to introduce an unusual element of doubt into such a diagnosis. These children are subject to many minor attacks similar to that described by Dr. Brannan, but which arise from moderate disturbances of the stomach or intestines, and from mild errors in diet, so that the early recognition of appendicitis in young children must always probably be difficult, and in many cases impossible.

Dr. EDWARD G. JANEWAY said he had seen a number of cases of appendicitis in children, one of them in a child two and a half years old, which was operated on successfully. In some instances, as in the case reported by Dr. Brannan, the diagnosis was very obscure. About four years ago he saw a child that had been under the observation of several men, including a surgeon and a specialist in children's diseases, and each one had arrived at a different conclusion. There was evidently a very decided infectious process, and possibly peritonitis, but there was no abdominal tenderness (although morphine had been given), and the consensus of opinion was that it was not appendicitis. The child died and the autopsy showed general infection following appendicitis. Dr. Janeway said he had heard of another of a girl of six, who awoke one morning with the remark, "Nurse, I have appendicitis." An operation on the following day proved that her diagnosis was correct. In that instance the child's cousin had recently been operated on for the same disease. The speaker said that pain on the left side of the abdomen was not so uncommon in appendicitis, and he recalled a case in a girl of fourteen where the pain and tenderness were especially severe on that side, and seemingly indicated the presence of a peritonitis. The white cell count at that time was not very high—12,000. A gynecologist was asked to examine the pelvic organs and found nothing wrong. There was now some rigidity of the abdominal muscles, and the white cell count had gone up to 13,000. The next day the child began to vomit and the cell count was over 20,000. The abdomen was opened, and the cæcum and appendix were found in the pelvis: they were both covered with a fibrinous exudate, and the appendix was the seat of an unperforated ulcer. Peritonitis had already set in, and death occurred two days after the operation. In that case, the pain on the left side was due to the dragging upon the inflamed small intestines.

Dr. ANDREW H. SMITH said that in obscure or doubtful cases of appendicitis the suggestion made by Dr. Meltzer might prove of value. The suggestion was to put the psoas and iliacus muscles into action by having the patient lie on the back and causing him to elevate the leg without bending the knee. By this action the muscles were contracted considerably thickened, and anything resting upon them would be elevated and could be felt more distinctly.

Dr. GEORGE L. PEABODY said that in many of these cases the symptoms were so obscure that they were not likely to be operated on very early unless we took the ground that an operation should be done early in every doubtful case, providing the services of a thoroughly competent surgeon could be obtained. In children, the usual symptoms of appendicitis, such as pain, vomiting, and fever, were often the result of indiscretions of diet. In connection with the general subject of appendicitis, the fact was becoming more apparent daily that it was extremely important to operate early, even in doubtful cases, on the ground that an early operation in the hands of a competent surgeon was extremely unlikely to do any harm if a normal appendix were found and might prove a life saving measure if the appendix were diseased.

Dr. JOSEPH D. BRYANT said that while he had to do with many cases of appendicitis in children, the condition was comparatively rarely seen in early life, and he was inclined to explain this fact in the same way as Dr. Walker did. Some years ago, the speaker said, he had conducted a rather thorough investigation along the line of determining the contents of the appendices of post-mortem subjects and he had found that in quite 65 per cent. of those cases in whom death had occurred from various causes, the appendix was the seat of a distinctly morbid process, in some instances containing a series of strictures, while others were still able to expel their contents. The diagnosis of appendicitis in children was usually obscure, pain and tenderness and tension, particularly the latter, being the most reliable symptoms. The result of operative procedures in these subjects was usually very good.

Dr. BEVERLEY ROBINSON recalled a case of appendicitis in a child, seen many years ago, in which there was a distinct abscess formation. The patient was operated on by Dr. William T. Bull, and recovered. Since then, the

speaker said, he had often had occasion to feel extremely anxious over children who presented symptoms of obscure abdominal trouble; some of them, no doubt, had appendicitis, others, perhaps, styphlitis or colitis, but in all of them recovery took place without operation.

Dr. Robinson said he still felt skeptical that the condition which we term appendicitis should limit itself to this rudimentary organ. An analogous condition could not be found in any other organ in the body. Why should the appendix continually become the seat of an inflammatory process, and leave the cæcum and colon unharmed? The mere removal of the appendix, followed by the recovery of the patient, did not prove that the neighboring gut was not involved in a general inflammatory process, which was formerly recognized under the name of typhlitis or colitis. The speaker said there undoubtedly were cases of inflammation of the appendix in which we had nothing better to offer the patient than an operation. He always favored the use of a proper laxative in these cases, preferably hydrargyrum cum creta, which he thought was a far better remedy than calomel in children. It was extensively used in the children's hospitals in London.

Dr. Robert Abbe said he thought the number of cases of appendicitis in children that came to operation was very small compared to those in adults, for the reason, as had been already suggested, that the appendix was rarely strictured sufficiently in early life to produce a complete blockade. The pathological process often began in infancy, but the organ retained its power to expel putrid material until adult life. The speaker said he had seen many cases that gave a history of recurring attacks of appendicitis dating back twenty-five and thirty years, and upon removal of the appendix he had found this long-standing strictured condition. He recalled a case in a child of three years in which a concretion of exfoliated epithelium was found in a tightly strictured appendix. During the last two or three years he had seen at least half a dozen cases of acute appendicitis in which there was no stricture, but a follicular ulcer, and a hemorrhagic condition of the mucosa of the appendix. These he was inclined to regard as an infection by the bacillus of influenza, and a complication of what the late Dr. Draper referred to some years ago as abdominal grippe.

Foreign Body in the Œsophagus.—Dr. Joseph D. Bryant reported this case and showed the specimen. This consisted of a fragment of gutta-percha paper-cutter, 7½ inches long, which the patient, a robust Irishman, had accidentally lost hold of while he was illustrating to his friends the art of sword-swallowing. An examination showed a little bloody mucous in the mouth. Upon introducing a bougie into the œsophagus, a certain degree of adhesion between the bougie and the paper-cutter was noticed, both instruments being made of the same materil. When the finger was introduced into the throat, nothing could be detected, but suddenly the patient gagged severely, and at that moment the paper-cutter was felt to touch the end of the finger. This procedure was then repeated, with the same result. A pair of long forceps was thereupon introduced open into the œsophagus for a distance of about six and one-half inches, and closed when the patient gagged. Luckily, the foreign body was caught between the blades and extracted. Dr. Bryant said he had estimated that the expulsive force of the diaphragm during the act of gagging had raised the paper-cutter at least half an inch, and brought it within touch of the finger. Since the length of the tube from the diaphragmatic narrowing to the upper incisor teeth is about 14½ inches, and his finger was introduced 6½ inches, leaving half an inch between the end of the finger and upper end of the object in the quiescent state.

Death Following Puncture of the Lung in Thoracentesis.—Dr. George L. Peabody reported this case. The patient was an old man who had long been in feeble health. In addition to extensive pleural adhesions, with effusion, he had a weak heart and chronic nephritis. On account of the dyspnœa from which he suffered, his left pleural cavity was tapped by his physician, as had been done once before, and 900 c.c. of fluid withdrawn. His dyspnœa was immediately relieved, but about an hour later it recurred with increased severity, he became cyanotic and died in a few minutes. When Dr. Peabody saw him, just before his death, the left pleural cavity did not act freely; the heart was displaced; succussion was not obtainable; the coin phenomenon could be heard over the lower part of the chest only.

A fine trocar and cannula had been used in tapping the chest, and the autopsy showed that the lung had been punctured. Dr. Peabody said the case was extremely uncommon, as he thought the lung was frequently pierced in the operation of thoracentesis without producing any particular harm. Perforation of the lung and the introduction of air into the pleural cavity usually did not cause more than temporary inconvenience. In this case the lung was collapsed as far as its adhesions would allow it.

Dr. W. Gilman Thompson said he thought it was extraordinary that death should have resulted so suddenly in this case, because the pleura was usually very tolerant of air. He had under his observation at present, at Bellevue Hospital, a man with pulmonary tuberculosis who, four days ago, had developed a double pneumothorax, producing considerable displacement of the heart and dyspnœa. In order to relieve the dyspnœa, the pleural cavity was punctured, when the air escaped with sufficient force to blow out a candle. The man was still living and fairly comfortable, although the final outcome of the case is inevitably fatal.

Dr. Peabody said that in most of these cases there was a history of pulmonary tuberculosis. In the case he had reported, the man had suffered from chronic bronchitis and chronic pleurisy. The pleural adhesions were so dense that it necessitated a good deal of rough handling before the lung could be removed. This might have accounted for the certain amount of blood found in the pleural cavity at the time of the autopsy, but there was no doubt about the ante-mortem puncture of the lung.

Dr. Thompson, in order to illustrate the tolerance of the pleural cavity for air, said that several years ago he had the opportunity of examining a number of cases of pulmonary tuberculosis that had been treated by Dr. H. P. Loomis by the introduction of nitrogen gas into the pleural cavity through an aspirating needle, the object being to rest the diseased lung through compression. A dozen or more cases were treated by that method, and in no instance was there marked dyspnœa, or even any special inconvenience. Some of the patients were up and about the ward immediately after the gas had been introduced. Dr. Thompson said he thought the common practice of aspirating the pleural and peritoneal cavities with a sharp needle, and leaving it in during the process, should be condemned. It was better to use a small cannula, which could be left in safely. The danger of leaving a sharp needle in the pleural cavity was that as the fluid was withdrawn the lung rubbed against the point of the needle and was liable to be punctured.

Dr. Janeway mentioned the case of a man with empyema in which the small cavity was being irrigated with peroxide of hydrogen. On two occasions, after these washings, the man suddenly became temporarily hemiplegic. His head dropped forward, and the hemiplegic condition persisted about half an hour. The speaker said he had subsequently found a number of similar cases reported in French literature, and he had come to the conclusion that in these cases, in which the pleura was usually greatly thickened, oxygen or air was drawn into the heart, and thence passed to the brain. Dr. Janeway said he had seen exploratory puncture of the chest followed by pneumothorax on several occasions.

Joint Meeting of the Chicago Medical and Chicago Orthopedic Societies.

At a meeting held March 30, 1904, Dr. Weller Van Hook exhibited a man with multiple lipomata of the neck, and a little girl upon whom he had operated for double congenital dislocation of the heads of the radii. Dr. L. L. McArthur showed a patient upon whom he had operated for compound comminuted fracture, associated with dislocation of the ankle-joint.

The remainder of the program was devoted to a symposium on "Tuberculous Spondylitis." Dr. Edwin W. Ryerson discussed the "Etiology," and among other things said that the disease was most prevalent among the ill-nourished children of the poor, living in localities where they were exposed to tuberculous infection, in overcrowded and insanitary dwellings. A large proportion of such children were shown at autopsy to have glandular tuberculosis, even though no clinical manifestations might have existed. A clear hereditary predisposition had been demonstrated in from 25 to 70 per cent. of cases of Pott's disease. Both sexes were about equally represented, boys being slightly more numerous than girls. The portion of the spine most frequently affected was stated by Taylor to be the cervical region, but most other observers considered the junction of the dorsal and lumbar regions to be the most vulnerable.

Dr. John L. Porter discussed the "Diagnosis and Prognosis." He said until the diagnosis was made, efficient, intelligent treatment could not be instituted. With an early diagnosis, not only was the treatment made more effective and the prognosis improved, but the patient might often be saved a distressing deformity which added to an already crippled existence the burden of mental suffering and pain. He believed that a diagnosis of spondylitis could and should be made in every case before any deformity had appeared. He considered the signs and symptoms of spondylitis in detail with relation to the different divisions of the spine. In the prognosis, one had to consider: (1) The factors concerned in the prognosis were the time at which the diagnosis was made and the treatment begun. (2) Individual resistance to the disease. (3) The patient's age. (4) The patient's environment. These, with the location of the disease in the spine, were the chief points in determining the prognosis.

Dr. John Ridlon discussed "Straightening of the Curvatures of Tuberculous Spondylitis." After mentioning the methods of straightening of curvatures in these cases, he related his personal opinions and conclusions to which he had arrived from his experience.

Dr. Wallace Blanchard spoke of the "Present Status of the Mechanical Treatment of Spondylitis," and stated that a set of principles based upon the most approved mechanical means of treatment might be formulated, although the extent to which they could be carried out varied in each individual case. First, to remove the superincumbent weight of the body. Second, to prevent flexion and rotation of the spine. Third, to put the greatest possible amount of pressure upon, or in the immediate vicinity of, the deformity compatible with the integrity of the skin. Fourth, to very thoroughly hyperextend the spine. It was believed that the application of these principles placed the spine under the best possible circumstances for healing, with the least possible amount of deformity. The author showed a plaster jacket with chin rest; a Taylor back brace with head supports; a brace for cervical spondylitis partially applied, with the chin nearly touching the chest, and a brace for the treatment of cervical spondylitis.

Dr. Alexander C. Wiener presented a patient upon whom he had operated for gravitation abscess. Recently, in a large psoas abscess, reaching down to the middle of the left femur, which originated in a tuberculous spondylitis of the first and second lumbar vertebræ, he had used a large trocar to empty the pus. The man, thirty-four years of age, was attacked seventeen years ago with tuberculous spondylitis, which left quite a kyphosis of the lumbar spine. For seventeen years the patient did not experience any inconvenience, when, without apparent cause, the tuberculous process revived, resulting in a large psoas abscess which bulged forward at Scarpa's triangle. Just behind and below the left great trochanter was found a small swelling the size of a silver dollar. This spot was chosen for three preliminary injections of carbolic acid, six drops each time, five and seven days apart. Carbolic acid seemed to have powerful chemotactic qualities, since it allured the pus to the outer side of the femur. One pint of thick pus intermixed with chunks of fibrinous coagula and fine osseous débris was emptied the first time. Then fifteen drops of 95-per-cent. solution of carbolic acid was slowly injected into the abscess cavity. The operation was repeated six times at intervals of one to three weeks. The last injection was made three months after the first one, when the fluid had changed into a clear yellow serum. At no time was there any harm experienced, either local or systemic, and the injections seemed to cause no pain or inconvenience.

Dr. A. E. Halstead said that the surgical treatment of Pott's disease comprehended (1) the removal of the tuberculous focus in the bone; (2) the treatment by incision or by puncture of the abscesses that are secondary to the bone disease, and (3) the operative treatment by laminectomy of the most serious of all of the complications of this disease, namely, the paraplegia resulting from pressure upon the spinal cord. The author's experience in the operative treatment of paraplegia due to spinal caries had been limited to two cases, which were detailed, one of which recovered and the other died. He said laminectomy was contraindicated in cases in which there was tuberculosis of any other organ. In one of his cases the lung and pleural tuberculosis probably existed before the operation, although its presence was not recognized. The duration of the paralysis offered no contraindication to the operation, as it was not so much the length of time that the cord had been subjected to pressure, as the way in which the pressure was exerted that affected the integrity of the cord and determined the possibility of recovery.

The general discussion was participated in by Drs. M. L. Harris, Frederick Mueller, Wallace Blanchard, Alexander C. Wiener, Edwin W. Ryerson, L. L. McArthur, and John L. Porter.

Cincinnati Academy of Medicine.

At a regular meeting, held March 28, Dr. Gilbert L. Bailey presented a boy of twelve who had suffered at the age of one year with anterior poliomyelitis, with paralysis of right leg and arm. The arm recovered. When first seen by Dr. Bailey the leg was flexed on thigh, the knee partly dislocated outward and backward, and the foot was held in a position of equino-varus with flail-like movement of the ankle-joint. All the muscles controlling the knee were useless, except the biceps and semitendinosus at the ankle, only the gastroenemius remained. On January 27 tendon transplantation by the Lange method was done. The tendons of the biceps and semitendinosus were loosened, elongated by means of No. 12 braided silk, passed subcutaneously along the anterior surface of the patella and implanted in the periosteum at the insertion of the patellar tendon. The tendo Achilles was divided, one half being lengthened by the Bayer method to correct the talipes equinus, the other lengthened by a No. 12 silk extension which was inserted into the periosteum at the middle of the inner surface of the foot to correct the eversion. After three weeks in plaster passive movements were begun and now patient is able to walk with a cane and the improvement still continues. Dr. Bailey also presented a man of thirty-five with a double pes carus, who had had contracted extensors of the toes, so that the toes could not be made to touch the floor, the entire weight of the body having rested on the os calcis and the ends of the metatarsal bones. Patient complained of constant soreness of the feet. The condition was greatly relieved by

itting and lengthening the extensors of the toes and the e of insoles to more evenly distribute the body weight.

Dr. C. L. Bonifield presented a fibroid of the uterus eighing nineteen pounds, which he had removed from a lored woman of forty-four—she had noticed the tumor r eighteen years. It extended clear across the abdomen, using protrusion of both flanks. On March 16 it was moved with great difficulty and now patient is well on e road to recovery.

Dr. C. A. L. Reed presented a rectum which he had moved from a woman of twenty-four at the City Hospital. The rectum was prolapsed for the extent of four ches and was associated with complete laceration of the rineum. The prolapse was irreducible and had been for six weeks. The surface was ulcerated and the mass thickened and hardened as to feel like a malignant owth. The entire prolapse was removed and with it e torn and ulcerated sphincter ani. At a second operan the laceration of the perineum was repaired and by eans of figure-of-eight sutures the inner portion of the ator ani was made to form a new sphincter. At esent patient has complete control except when the wels are excessively loose. Dr. Reed also presented ovarian cyst which he had removed after it had been angulated by torsion for four days. The diagnosis was de before operation.

Dr. B. Merrill Ricketts presented twelve specimens of pendices removed at operation. In one patient, a male, pain and tenderness was upon the left side, low rn in the abdominal cavity. Appendicitis was not spected. Incision made on left side for exploration aled nothing abnormal except the greatly diseased adherent appendix, which was drawn over and removed ough the incision on the left side of abdomen. In other case the appendix was one inch long, greatly inmed and curled upon itself like the letter S, attacks re frequent and severe for eighteen months with loss twenty-five pounds. The third case, a man of forty-six ars, operated upon for large scrotal hernia in January der cocaine, had three attacks of pain in right lower domen during convalescence; course was not delayed r appendicitis suspected. During the past two weeks e family physician found tumefaction in appendicular ion, with tenderness and other signs of appendicitis. eration two days ago showed hernia wound in good ape, the omentum was adherent to anterior belly wall d constituted a mass three times the size of fist. The pendix was found within this tumor and was removed; was five inches long, club-shaped and obliterated, conining no pus. Patient died thirty-six hours later in llapse, no cause could be assigned. The history dated ck fifteen years, but pain had always been referred to e hernia.

Dr. Rufus B. Hall presented the tubes and ovaries which had removed from a case of tuberculous peritonitis, they re markedly tuberculous. Later he had to open and in an abscess external to the kidney. Patient is doing ll, but final outcome is not yet certain. Dr. Hall also esented a tube distended with bloody fluid which he d removed. At the operation it was thought this might an ectopic gestation, but further examination had shown to be a simple hæmatosalpynx.

Dr. Frank Fee reported a case of cæsarean section. s. M. B., twenty-one, had suffered from rickets in childod. She became pregnant for the first time in Septemr, 1903, and was admitted to City Hospital June 17. atient is 4 ft. 4 in. tall, has very bad teeth, the sternum prominent, as are the junctions of ribs with sternum. e pelvic measurements are intertrochanteric 29 cm., tercrestal 26½ cm., interspinous 26 cm., external conjute 15 cm., and internal conjugate 8 cm. After several ttacks of false pains, labor began on August 3 at 8.30 A.M. ead of child could be felt in upper right quadrant and et at the os. Fetal heart sounds were loud and clear to e right of umbilicus. At 12.30 membranes ruptured, and as labor did not progress and patient wished a living child, cæsarean section was done. After sterilization patient was chloroformed and incision made by Dr. Fee from one inch above navel to symphysis. Uterus was brought out, broad ligaments compressed by assistant and uterus incised. Child and placenta were rapidly delivered, uterus swabbed out with 1-15,000 adrenalin, and uterus closed with chromicized catgut. Recovery was uninterrupted. Child was healthy and weighed 7 pounds, with a length of 20 inches. Measurements of the child's head were: occipito-mental, 13 cm.; occipito-frontal, 11¾ cm., biparietal, 8¾ cm.; cervico-bregmatic, 9½ cm., and bitemporal, 7 cm.

Dr. W. D. Haines reported a case of fractured patella which had been treated by rest for ten days and then the fragments sutured by a quadrilateral subcutaneous suture. The suture was passed subcutaneously across through the ligamentum patellæ, then reëntered through the skin and passed up external to the joint, and then in the same manner passed through the quadriceps tendon and down to the place of starting. He showed skiagraphs and said the functional result had been perfect.

Dr. J. W. Withrow reported a case of unusual infection. The patient, a young married woman, had suffered pain and had not menstruated since birth of a child eighteen months before. A physician was called and chloroformed her to do some operation, patient claims not to know what, but finding her pregnant did nothing. She aborted that night. Nearly two months later patient was seen by Dr. Withrow, she was markedly septic. Examination showed uterus to be fixed, with foul purulent discharge from cervix. To the right of uterus high up was a mass the size of an orange. Under an anæsthetic the sound showed the uterine cavity to be normal in size and fairly clean. Further investigation disclosed a channel opening into cervical canal just below the internal os. Into this an œsophageal bougie was passed for thirteen inches, apparently behind the peritoneum; the end was palpated just behind right kidney. An incision was made over end of bougie and a pus cavity found extending up behind kidney and down to the brim of pelvis. Long drainage tubes were used and patient left the hospital well four months later and has remained so. Dr. Withrow thinks the false opening was made in an attempt to produce abortion.

Dr. B. Merrill Ricketts then showed skiagraphs of a five-year-old girl with fracture of middle of fibula and tibia at the age of one year. The deformity was angular, no correction having been permitted. After taking these skiagraphs deformity had been corrected by osteotomy.

A Rare Case of Pulmonary Hernia in a Baby of Three Years.—Saba Frontini gives a résumé of the subject of pulmonary hernia illustrated by a case in a child of three years. Pulmonary hernia occurs through the intercostal spaces or the diaphragm, and appears as a mass lying covered with the skin of the chest wall. It is a rare condition. It may be traumatic, consecutive, spontaneous or congenital. It is produced by force from within, as in coughing when the glottis is closed, and there is a forcible expiration, or in singing. The congenital form occurs on the front of the chest, near the sternum, in one of the upper intercostal spaces. The consecutive form occurs from the first to the fifth intercostal space, at the lower angle of the scapula. The spontaneous occurs below the clavicle. The opening through which the hernia comes is small and fibro-muscular in form. The coverings consist of the skin, subcutaneous connective tissue, thoracic and intercostal muscles, the pleura and any new formation that may have occurred. Causes are emphysema, bronchial catarrh, tuberculosis, pertussis, and congenital malformations. It may or may not be reducible, and generally increases rapidly in size. This case occurred after pneumonia, followed by empyema. The chest was rachitic in form.—*Rivista di Clinica Pediatrica*, March, 1904.

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

SAMMLUNG KLINISCHER VORTRÄGE. Nr. 368, DIE ANGEBORENE PYLORUSSTENOSE DER SÄUGLINGE. Von ERNST SCHOTTEN. Pages 155–184 paper. Nr. 369, DIE BEHANDLUNG DER FREIEN HERNIEN MIT ALKOHOLINJEKTIONEN. Von ED. STEFFEN. Pages 27–64 paper. Nr. 370, EIERSTOCKSCHWANGERSCHAFT. Von LUDWIG KANTOROWICZ. Pages 57–92 paper. Breitkopf und Härtel, Leipzig.

PHYSIOLOGY AND PATHOLOGY OF THE URINE WITH METHODS FOR ITS EXAMINATION. By Dr. J. DIXON MANN. 8vo, 272 pages, illustrated, muslin. J. B. Lippincott Company, Philadelphia. Price, $3.

THE MEDICAL NEWS POCKET FORMULARY. By Dr. E. QUIN THORNTON. Sixth Edition. 16mo, 287 pages. Leather. Wallet shape. Lea Bros. & Co., New York. Price, $1.50 net.

A MANUAL OF FEVER NURSING. By Dr. REYNOLD WEBB WILCOX. 8vo, 236 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia.

THE MEDICAL EPITOME SERIES—PEDIATRICS. By HENRY ENOS TULEY, A.B., M.D. 12mo, 266 pages, illustrated, muslin. Lea Brothers & Co., Philadelphia. Price, $1 net.

BEITRAGE ZUR EXPERIMENTELLEN THERAPIE. Heft 8. TUBERCULOSEENTSTEHUNG, TUBERCULOSEBEKÄMPFUNG UND SÄUGLINGSERNÄHRUNG. Von Dr. E. v. BEHRING. 8vo, 138 pages, illustrated. August Hirschwald, Berlin.

FIFTY-FIFTH ANNUAL REPORT OF THE BOARD OF TRUSTEES AND SUPERINTENDENT OF THE CENTRAL INDIANA HOSPITAL FOR INSANE for the fiscal year ending October 31, 1903. 8vo, 109 pages, illustrated.

MANUAL OF CLINICAL MICROSCOPY AND CHEMISTRY. By Dr. HERMANN LENHARTZ. 8vo, 412 pages, illustrated, muslin. F. A. Davis Company, Philadelphia, Pa. Price, $3.

TRANSACTIONS OF THE AMERICAN CLIMATOLOGICAL ASSOCIATION FOR THE YEAR 1903. 8vo, 267 pages, illustrated, muslin.

CARTE DE LA SAVOIE ET DU DAUPHINE—GEOLOGIE—EAUX MINERALES. By Dr. DARDEL. Masson & Cie, Paris.

ELETTRICITA MEDICA, ELETTROTERAPIA-RAGGI RÖNTGEN-RADIOTERAPIA-FOTOTERAPIA-OZONO-ELETTRODIAGNOSTICA. By Dr. A. D. BOCCIARDO. 16mo, 201 pages, illustrated, muslin. Ulrico Hoepli, Milano.

LA RACHITIDE E LE DEFORMITA DA ESSA PRODOTTE. By Dr. P. MANCINI. 16mo, 300 pages, illustrated, muslin. Ulrico Hoepli, Milano.

LE MALATTIE DEI PAESI CALDI LORO PROFILASSI ED IGIENE CON UN' APPENDICE LA VITA NEL BRASILE. By Dr. C. MUZIO. 16mo, 560 pages, illustrated, muslin. Ulrico Hoepli, Milano.

TWENTY-EIGHTH ANNUAL REPORT NEW YORK STATE REFORMATORY AT ELMIRA, 1903. 8vo, 105 pages, illustrated.

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AN INTRODUCTION TO VERTEBRATE EMBRYOLOGY BASED ON THE STUDY OF THE FROG AND THE CHICK. By ALBERT MOORE REESE, Ph.D. 8vo, 291 pages, illustrated, muslin. G. P. Putnam's Sons, New York.

A New Method of Suspending the Uterus.—Bardescu describes a method of suspending the retroverted uterus intended to avoid the undesirable features of the procedures commonly in use. The abdomen is opened either by a median incision or by Küstner's suprapubic incision, adhesions separated and the fundus brought forward. A hole is pierced through the rectus muscle on either side and a loop of the round ligament pulled through with forceps. The peritoneum and muscle are sutured and the two protruding loops of round ligament stitched together in the mid line.—*Zentralblatt für Gynäkologie*, No. 3, 1904.

Medical Items.

Contagious Diseases—Weekly Statement.—Report cases and deaths from contagious diseases reported the Sanitary Bureau, Health Department, New Y City, for the week ending April 23, 1904:

	Cases.	De
Measles	1630	
Diphtheria and croup	391	
Scarlet fever	436	
Smallpox	2	
Varicella	83	
Tuberculosis	381	
Typhoid fever	29	
Cerebrospinal meningitis	...	

Observations on the Changes, the Pathogenesis and Uropoiesis of Diabetes Insipidus.—Alfredo Rossi give results of his observations of three cases of diabete sipidus. Of these, one first had symptoms after an dent resulting in a severe wound of the scalp. T symptoms continued for ten years; then grew better, returned after severe labor. Another had pulmo tuberculosis. All three had the classical symptom diabetes insipidus. The writer made observations d a number of days, dividing them into two periods; i first period the diet was one rich in albuminoids, wh the second the carbohydrates predominated. The albuminoids in the urine and fæces oscillated from d day, but not more than in the normal subject. chlorides also did not differ materially from the no The curve of the phosphates followed closely that o albuminoids, and showed nothing abnormal. The am of water eliminated corresponded closely with th gested. He tested the relative freezing points of and urine, and found that that of urine was much than that of blood. Hence he concludes that in patients there was a urine of great abundance, with specific gravity, a molecular concentration much in to that of the blood, containing no abnormal subst and having the normal solids in a customary amount *Policlinico*, March, 1904.

The Treatment of Obesity.—P. Grocco gives the fo ing rules for the treatment of obesity: He con obesity to be the result of an excess of ingesta or of rangement of the metabolism of the body. The cli must first ascertain the cause of the accumulation o then regulate the income and outgo so that the equalized, and combat the morbid effects of the condi As a general rule the liquids taken at meals sh be reduced, and liquids taken two hours after meal. Some cases, however, do not get along well this reduction of fluids, but gastric, intestinal, renal symptoms ensue. In cases in which the uri habitually concentrated and has deposits of urates or acid, a dry diet is not well borne. In such cases best to allow frequent small meals, four or five in twenty-four hours, with liquids taken two hours each meal. The diet is reduced until the weight o patient falls to the desired figure, and then kept at requisite amount to maintain a normal weight and pre a renewed increase. There should be a great increa muscular activity by walking, riding, cycling, sport gymnastics. General and local massage, when the domen is enlarged, is very useful. Hydrotherap measures, cold and heat, are important, as well as bonic acid gas baths. Patients should sleep very m rately, and should not do excessive mental work. halations of oxygen may be used with advantage. author does not advocate the use of purgatives, alka or other drugs in reducing weight, except as the condi of health would naturally demand them, as in cas the need of laxatives, iron in anæmic and alkalies in g cases.—*Rivista Critica di Clinica Medica.*

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Original Articles.

THE PHYSIOLOGICAL FUNCTION OF MENSTRUATION AND THE PART PLAYED THEREIN BY THE FALLOPIAN TUBES.*

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In discussing any function connected with menstruation we are met at once with the obstacle that neither scientists nor clinical observers are agreed among themselves regarding the significance of menstruation, its cause, or the end to be accomplished. Menstruation was formerly regarded as the exclusive prerogative of woman, but we now know that woman shares this privilege with monkeys in captivity, including all members of the monkey tribe. This function has always been associated more or less intimately with the reproduction of species, although the ancient idea was that menstruation was a cleansing of the system by which woman got rid of all noxious products that might be lurking in her physical economy. This belief has given rise to numerous popular superstitions. One of them is that a drop of menstrual blood will wither a flower, another that a menstruating woman in a dairy turns the milk sour, and another that no menstruating nurses should be allowed in the operating room during a laparotomy. I am informed by Dr. Blair of Monroe, N. C., that among the large German community in Union County of that State no menstruating woman is allowed to put her hands in the sour kraut barrel—the common necessity of every household. But why a woman should require this monthly housecleaning, for which man had no necessity, has never been satisfactorily explained.

The monthly molimen has certainly a striking analogy to the heat or rut observed in all mammals. Arthur Johnstone of Cincinnati has made extensive comparative studies of rut and menstruation. He defines menstruation as a shedding, getting rid of some material whose function is fulfilled, and for which the economy has no longer any use. It is an analogous process to the molt of birds, the shedding of hair and horns by the deer, the shedding of the leaves by a tree, etc. All warm-blooded animals that stand or walk erect, without exception, menstruate. The appearance of the discharge is due simply to posture. The same process goes on in all quadrupeds, as the sheep, the cow, the dog, the cat, etc. Animals that go on all fours shed the same degenerated material, but on account of the position of the uterus it is retained in that organ and reabsorbed through the lymphatics into the blood and consumed in the vital processes or eliminated through excretory glands. The frequency with which this process recurs varies in different animals. In animals menstruation or shedding occurs after the rut has passed. In the monkey menstruation has been observed five times in a year, although no evidence has been given that she has the rut more than twice a year—in the spring and fall.

Wiltshire† states that the cow has a discharge at an interval of about three weeks, at times bloody, resembling menstruation, and that similar phenomena have been observed with other domesticated animals. In the cow, however, the rut occurs only once a year. Similar phenomena have been observed in the mare.

The cause of the greater frequency and regularity of this phenomenon in woman as compared with the lower animals is an interesting question. We know that in the lower animals unless impregnation occurs during the rutting season, the phenomenon of menstruation occurs, a period of rest follows, upon which supervenes a gradual congestion till the period of rut recurs. It has been suggested that this frequency in woman is due to her environment, and is the result of civilization and its attendant luxuries. Life under these circumstances becomes more artificial; every factor in life is sought as a source of pleasure, and the race becomes more sexually inclined. We know that animals will not tolerate the male except at a time when impregnation is possible, while civilization permits of this indulgence simply as a source of mutual pleasure.

Dr. Ritchie, who was followed in his views by Lawson Tait, scoffed at the idea of any logical or causal relation between ovulation and menstruation. Previous to their time M. Gendrin and Dr. Robert Lee conducted a battle royal in their discussion regarding the true and false corpora lutea and their relations to menstruation and pregnancy. Lawson Tait tells us that this lasted for fifty years, and in its progress resulted in the destruction of many animals, and yet the outcome was undecided.

As I view the phenomenon of menstruation in its broad and general factors, it seems to me that it is a direct and logical sequence of ovulation in which pregnancy has not occurred. Menstruation is usually defined by our best authors as a monthly hemorrhage. Duane defines the menstrual molimen as the endeavor by the generative organs to produce a menstrual flow, molimen coming from moliri, to strive. Were I to offer a definition of menstruation I would say that it is a frustrated attempt on the part of nature to reproduce an individual of the species. Its *raison d'être* seems as follows: An ovum is thrown out from the ovary and gradually finds its way toward the uterus; nature at once begins preparation for its reception; the nervous system becomes exalted to a high degree of functional activity; the blood supply to these parts is increased; the endometrium, which is the soil in which the ovum is to be implanted, becomes turgid, soft, and velvety; its epithelial cells swell and multiply, and every preparation is made to nourish the welcome guest and give it a home. If perchance this guest has been annointed with the baptism of the spermatic fluid, she is ready to respond to this bountiful preparation and partake of the nuptial feast; but if the sacrament of baptism has been

*Read at the regular monthly meeting of the Clinical Society of the New York Polyclinic Medical School and Hospital, April 4, 1904.

†"Comparative Physiology of Menstruation."

omitted, the guest is incompetent to receive the hospitality extended, and is therefore cast out. The preparations are also eliminated; the exuberant epithelial cells are exfoliated; the delicate capillaries, already engorged with their vitalizing wine of life, sweat drops of blood by diapedesis or burst and discharge their contents; the congested and engorged glands secrete and excrete profusely, and this mingled mass of epithelial cells, blood, and mucus comes away in the form of menstrual blood. So that the discharge is simply an evidence of the retrograde physiological process that is going on in the organs within. Briefly stated, the arguments confirming this idea of the direct relation between ovulation and menstruation are as follows: (1) The appearance of menstruation at puberty marks the stage of sexual maturity, at which time fecundation becomes possible. (2) The cessation of menstruation, the menopause, marks the end of the child-bearing period; as a rule fecundation is no longer possible. (3) It is a common observation among obstetricians and gynecologists that women go many years, during which they are bearing children, without once menstruating during that period. This is undoubtedly due to the fact that ovulation ceases during pregnancy and lactation, and the first ovum that appears in the renewed activity of ovulation becomes fertilized, and continues its process of development into a new individual. In my history-book I have notes of many cases in which the women have gone from seven to ten years, during which time they were bearing children, without menstruating. If now it should happen that a girl married before any menstrual discharge has appeared, she might become impregnated and by a rapid succession of pregnancies never menstruate at all or, indeed, not till late in life. D'Outrepont, quoted by Edgar, reported a birth in the ninth year of age without the establishment of menstruation. Ahlfeld reported the case of a woman who bore eight children without ever having menstruated. He has also narrated a case of a woman who had never menstruated, but who bore a child in her thirty-second year. This dependence of menstruation upon the non-fertilization of the ovum is supported by the opinion of such eminent authorities as Loewenhardt, Reichert, and Hiss.

Coming now to the question propounded in the title of our paper, the source of the menstrual discharge is to be accounted for. Does it come entirely from the uterus or does the fallopian tube participate normally in this function. Lawson Tait, I think, was the first to announce that the fallopian tube, as well as the uterus, had a part in this process as an assigned physiological function.

Anatomically there seems to be every reason why this might be true. The mucous membrane lining the tube is of the same general structure as the endometrium, although it possesses no glands and no submucosa. We know from the numerous cases of tubal pregnancy that the mucous membrane of the tube is capable of taking on the functions of the endometrium, developing a placenta and carrying on the nourishment of the fœtus as far as the capacity of the muscular walls of the tube will permit. If, then, the tubal mucous membrane makes the same preparation for the reception of the ovum as is normally provided by the uterus, why should it not undergo the same retrograde process in case of non-impregnation that the endometrium undergoes—namely, a shedding of its epithelium and a rupture of its capillaries? The most recent literature on this subject is that furnished in a paper by Drs. Montgomery and Bland of Philadelphia, who reported a case illustrating the point. The case was that of a woman who had been operated upon ten months previously by abdominal incision for intrapelvic abscess. Shortly after leaving the hospital a small abdominal sinus developed in the line of the old abdominal incision almost simultaneously with the establishment of the succeeding menstrual flow. The material discharged from this opening was at times comparatively nil, but during the days preceding the menstrual period the discharge increased in quantity, became bloody, and assumed all the characteristics of menstrual fluid. Upon opening the abdominal wound the fimbriated end of the right fallopian tube was found adherent to the abdominal cicatrix. The author is persuaded, from the phenomena manifested by this patient during menstruation, that the tubal mucosa undergoes changes similar to the uterine mucosa and participates in the menstrual function.

As contributing to the evidence in favor of the participation of the tube in the menstrual function, I have to present two unique cases that have occurred in my private practice.

Case I.—Mrs. K., a Jewess, age thirty-four, married sixteen years and the mother of one child twelve years of age, has had frequent induced miscarriages. She was submitted by me to operation for multiple fibroids of the uterus, attended by menorrhagia. The operation was vaginal hysterectomy, in which the appendages of the right side were also removed on account of disease, the left ovary and tube being left *in situ*. The vaginal incision was left open and the pelvis packed with gauze. This gauze, in accordance with my custom, was gradually removed day by day up to the seventh day, when the last of it came away. Convalescence was uninterrupted and the vaginal vault closed apparently in a most satisfactory manner. At the return of the first menstrual period following the operation, the patient experienced the usual phenomena of menstruation, her breasts swelled and became sensitive, and there was a slight blood-stained discharge from the vagina lasting for a day or two. Nothing was thought of this until the recurrence of the molimen the following month. The same symptoms recurred and likewise the blood-stained discharge. She reported at my office, and thinking the discharge might be due to some granulations in the vaginal scar, I inserted a speculum and found a reddish spot in the left angle of the vaginal incision. I touched this with stick of nitrate of silver and applied a cotton tampon, assuring her that she would have no further appearance of menstruation. To my surprise she presented herself the following month with the same history, and upon examination I found the same angry looking circumscribed surface, and upon careful examination was able to pass a small silver probe for the distance of three and a half inches. It occurred to me then that this was the proximal end of the fallopian tube that had been drawn down by the gauze in its extraction and become incarcerated in the vaginal scar. I kept her under observation for the two following months, the same experience supervening, and then, fearing the possibility of a tubal pregnancy, I made repeated applications of stick caustic deep in the opening until I had induced granulations and finally sealed up the tube.

Case II.—Mrs. H., the wife of a physician of New York City, who came under my care for excessive pain and menorrhagia. Upon examination I found a greatly enlarged, retroverted, adherent uterus, complicated by salpingitis of the left side. I

subjected her to vaginal section for relief of the condition in a private sanatorium in July, 1899. Upon delivering the fundus into the vagina multiple fibroids were discovered at the fundus, and upon undertaking myomectomy and incising the uterine wall it was found so studded with fibroid foci that, with the consent of the husband, a vaginal hysterectomy was done, removing the appendages of the left side, but leaving the ovary and tube of the right side *in situ*. The patient made an uninterrupted recovery, but the same accident that occurred in the first case was repeated here, but more fully, for the proximal end of the tube was drawn down into the vagina, and in the healing process projected fully one-quarter of an inch into the vagina. The patient was a marked neurasthenic, extremely nervous and excitable, and upon the return of her monthly molimen two months after the operation she noticed a bloody discharge, and having been told that she would never again menstruate, she presented herself at my office in great alarm. I was able also to probe this tube, but after keeping the patient under observation for three months and convincing myself by repeated observation that the discharge was an actual menstruation from the tube, I no longer felt justified in leaving the tube patulous. I therefore caught the end in an artery clamp, twisted and tore it away, and by repeated applications of stick caustic succeeded in closing permanently the vaginal opening.

Experience in these two cases seems to establish, as far as such observation can, the fact that the tube, at least in the absence of the uterus, actually performs the function of menstruation. How long this process would have continued I am of course unable to say, but in the second case the discharge came freely, and I actually saw drops of blood come from the tube.

My opinion is that the dominant factor in menstruation is the ovary and ovulation; that from the ovary, or its sympathetic nerve ganglia in the pelvis and abdomen, there springs the impulse for reproduction of the species; that menstruation is a retrograde process, the result of a failure of fertilization of the ovum, and that the tubal mucous membrane as well as the endometrium participates actively in the process of menstruation.

GALLSTONES IN THE COMMON DUCT.

By A. H. CORDIER, M.D.,
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The classification of gallstones according to their location has not been given the importance that their presence in special localities demands. From a clinical, pathological, and operative standpoint, this division of the discussion is essential. Many writers on this topic discuss the subject in a general way, and thus fail in a measure to call attention to, or lay stress upon, the most important phases of the pathology. Complications engrafted upon the original pathology are often more serious than the cause of the complications. In no locality is this more true than in neglected common-duct gallstone cases.

The majority of individuals who have gallstones in the gall-bladder are not made aware of their presence by any direct clinical manifestations. This is not the case when the stones are using the common duct as their resting place on their journey to the duodenum.

A stone, when once in the common duct, with rare exceptions, begins making mischief that is quickly noticeable by the patient and his physician, this evidence, with short intervals of quiescence, will continue until the offending foreign body is gotten rid of by nature or the surgeon, or until death of the patient from chronic cholæmia, carcinoma, or other complications. Recognizing the great importance of prophylaxis, the surgery should, especially in this locality, be timely and complete. I know of no clinical picture more perfect in its symptomatic details than that of complete or partial occlusion of the common duct by gallstones.

Most gallstones have their origin in the gall-bladder, but the purpose of this discussion is to treat of their effects after once formed and while in the common duct. I am firmly of the opinion that when a stone has once invaded the common duct it never returns to the gall-bladder. I do not wish to be understood, however, as in any way depreciating the importance of surgical treatment of stones in the gall-bladder when known to exist.

I cannot fully agree with some of the noted authorities when they say that an inflammatory process is ever present and necessary to put a common duct stone in motion, and that the wedging of the stone in the duct is a direct result of this process. I see no reason why a stone too large to pass through the duct should not become lodged as a similar concretion does in any other location—for instance, a stone in the ureter.

With the pressure of the liver in its effort to force the bile through its natural canal, I see no reason why the stone should not only be set in motion, but by its presence, produce a complete occlusion and a most severe pain from nerve-stretching and pressure. It is true, the liver is an expansive organ, but there is a limit to this, and that limit is aided by nature in her endeavors to prevent a foreign and poisonous fluid (bile) from entering the circulating blood in that organ.

Two pints or more of bile forced into the blood through resisting capillaries within twenty-four hours must of necessity mean quite a firm pressure at the point of stone obstruction.

I would rather accept the theory that the friction of the stone on the delicate epithelium of the duct leads to a destruction of the same, and thus acts as a direct cause of local inflammatory changes and opens an avenue for constitutional sepsis at this point.

The clinical symptoms in their order of appearance would in most of my cases support this theory. The patient has an attack of pain, then a chill (when a chill at all) followed by fever, and a day or two later evidences of absorption of bile in the deposit of the coloring matter in the skin (jaundice). The stone occludes the duct, bile pressure against it produces in turn nerve pressure (pain), and destroys the surface epithelium; absorption takes place, and a rigor followed by fever is the result of this absorption.

The presence of a long-imprisoned gallstone in the ductus communis choledochus undoubtedly is a factor in the production of cancer of duct and adjacent structures. One author (Schroeder) claims that cancer occurs in 14 per cent. of gallstone cases. This percentage, I believe, is too high. Carcinoma is not as likely to develop here as in the gall-bladder.

Jaundice from a stone obstruction is usually less pronounced and persistent than that produced from a carcinoma. A stone producing icterus is more likely to have periods of quiescence than a growth—in fact, a malignant stenosis is usually progressive and permanent.

The pain varies f om a mere transient uneasiness (rare) to the most intense and prostrating suffering lasting for hours or days. A stone too large to pass through the papillæ into the duodenum may give rise to the most terrific suffering, followed by a

quiescent period for a number of months and then by another attack. Now let this same stone remain in the duct for years or until it has increased materially in size, and the pain produced by its presence will in all probability be less severe than that caused by the smaller stone.

The duct gradually becomes accustomed to its presence, and dilates, nerve sensibility is in a measure obtunded and tired out—nature accepts the situation, so to speak. The bile may find a groove or depression, through which it may escape into the duodenum and the patient live a fairly comfortable life for years.

Now let a severe infection take place about this stone, and the duct is again occluded, pain is renewed, jaundice reappears, and the clinical picture of a total stoppage of the common duct is presented again. The calculus does not change its position during this process, the inflammatory symptoms subside, and the patient is left as before.

The pain produced by a common-duct stone is usually much nearer the median line than that produced by stones in the cystic duct. Absence of bile in the fæces (acholia) is usual at some time in the history of these cases, and is a companion to jaundice. The rigors produced by a lithogenous choledochus obstruction resemble those of malaria in their periodicity and are not governed by the amount of the local inflammatory process as much as by the location of the stone A stone lodged near the entrance of the duct into the duodenum will cause more systemic septic disturbance than if located elsewhere in the biliary tract. The largest number of absorbents are located here, and the close proximity to the intestine containing the colon bacillus admits of more ready infection at the site of the stone.

The colon bacillus and other intestinal bacteria I believe are less virulent at this point than lower down in the canal; this is demonstrated by the comparative safety with which the infected bile may escape at time of operation on the common duct. This weakening of bacterial powers in all probability is due to the action of the bile either alone or in conjunction with the pancreatic and gastric juices.

One thing is certain, a larger amount of bile containing bacteria can be spilt into the peritoneum with safety at this point than can be tolerated by the peritoneum from a similar leaking of an appendix or an intestine. I have not stitched the gall duct in many of my cases, I have seen a half pint of muddy-looking bile-stained fluid escape from the common duct at the time of the operation, staining the intestines, omentum, and peritoneum over a large area, in spite of my precautionary wall of gauze; but not in a single case has there been the least evidence of a peritonitis.

I have relied in all my cases upon gauze drainage to conduct the escaping bile to outside dressings. Bacteriological examinations have revealed the colon bacillus in most of the cases at the time of operation. Many cases with latent common-duct stones are diagnosed as gastric ulcer, gastralgia, or cancer of pylorus. A careful analysis of the symptoms present and the weighing of the negative evidence will, in most instances, lead to a correct opinion. The injury to the pancreas from gallstones is often of such a character as to retard recovery after the cause has been removed. Interstitial pancreatitis of the duodenal end (head) of the pancreas and pancreatic stone formation and cancer are the most frequent changes induced in this organ.

Case.—Mrs. B., age forty-eight. Twelve years ago had a severe attack of hepatic colic lasting two or three days, this was followed by a marked jaundice, the latter lasting two or three weeks. In the course of a few months a recurrence of the colic was experienced, and with it the jaundice. These attacks of colic have continued to return every two or three months. Two years ago the jaundice became persistent and every few days she would suffer from colic.

The fæces were white in color and putty-like in consistence. The last two or three months she has had occasional mild rigors and a slight rise in temperature (101° F.). She has lost much in weight; the pulse is 56 per minute; the patient is thoroughly jaundiced. Examination revealed no enlargement about the gall-bladder and but very little tenderness. Diagnosis of common duct stone made. Operation: Incision to the right of the rectus beginning near the sternum. The gall-bladder was contracted and empty, there were no adhesions about the duct. The foramen of Winslow was easily reached. A large round stone (one inch and a quarter in diameter) was detected in the portion of the common duct just before it disappears behind the duodenum. The cavity was well walled off with gauze, and with two fingers of the left hand in the foramen the duct with the stone was pushed toward the surface of abdomen and divided with a scalpel and the stone removed. With the fingers underneath the duct and stone, thus pressing the stone to the surface of the duct, the portal vein and hepatic artery and their branches were pushed to one side and removed from danger. The stone was easily detected at the thinnest point, and here it is safest to cut directly down upon it. An abundance of bile escaped through the opening, coloring the surrounding structures in spite of the precautionary endeavor to protect them with the gauze. No effort at duct-stitching was made. Gauze was carefully placed about the opening in the duct for drainage and the gauze packing placed in the abdomen at the beginning of the operation was removed. Part of the surface wound was closed in the usual way. The gauze was not all removed for a week or ten days, for if the gauze is taken out too soon nature will not have her walling off work completed. At the end of two weeks bile ceased to flow from the wound. At the end of a few days evidences of bile were detected in the fæces; the skin regained its natural color. The patient left hospital at end of five weeks, well.

I report the above case to bring out the cardinal principles in all common-duct stone operations. Each case must of necessity be dealt with according to the indications in that particular case.

In arriving at a diagnosis there are several pathological conditions occurring in this region to be eliminated, viz., cancer of the pylorus; gastric ulcer; stenosis of the pylorus; movable kidney; cancer of the head of the pancreas; chronic duodenitis (rare); growths pressing on the duct.

Cancer of the pylorus when so situated that it produces a pressure on the duct may cause a jaundice and pain simulating stones, but when the case is analyzed carefully a diagnosis is usually made. The length of time since symptoms first developed, character of the pain, the persistent gastric symptoms, and rapid inroads on the general health of the patient all point to cancer. The same applies to cancer of the pancreas, although the obstructive symptoms come on earlier and are more persistent in the latter. The presence of a small ulcer in the pyloric end of the stomach may mislead unless a close scrutiny of the symptoms is made.

A right movable kidney by pressing on the common duct may cause a slight and transient jaundice and some pain, but the presence of the kidney in an

abnormal position and the mildness of transitory obstructive symptoms will point to the correct diagnosis.

A chronic duodenitis (a very rare condition) may lead to an error in diagnosis. The distinguishing features are the absence of the severer symptoms of stone obstruction and a more marked tenderness over a larger area, accompanied by disturbed intestinal digestive symptoms.

DENTIGEROUS CYSTS.*

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In considering the subject of dentigerous cysts, a few remarks on the pathology of the condition may not be out of place, as the literature is rather scarce relative to the condition under consideration. The first important work on the subject was published in 1872 from the pen of the well-known Parisian dentist, Magitot. After a careful study of all material he had at hand, Magitot gave a systematic classification of dental cysts, and at the same time he took their etiology into consideration.

As most of the writers who have studied this question since Magitot's paper appeared have concurred in most of the statements therein found, it would seem proper to consider his paper a little in detail. Magitot considered every cystic production lined with a membrane and situated in the interior of the jaws as a maxillary cyst. These cysts usually contain a fluid contents varying in nature from one case to another; they may be thin and fluid or, on the other hand, quite thick and pasty. Every cystic production arising spontaneously in the maxilla usually originates from a tooth. Magitot also believed that if a foreign body penetrated the jaw a cyst could form around it, and this fact has been proven by a case long ago published by Maisonneuve.

Cysts developing spontaneously he termed progenous cysts, and in contrast to these, those developing around a foreign body he termed perigenous cysts. To these two forms which develop in the bone substance he adds a third type, to which he applied the name of neogenous cysts, which develop outside the osseous tissue.

Magitot subdivided follicular cysts into embryoplastic, odontoplastic, and corona-forming-period cysts according to the time of their development, and he again subdivides them according to the nature of their contents into serous, colloid, and caseous cysts.

By the classification given, it is readily seen how Magitot accounts for the formation of progenous cysts. From some influence he believes that the enamel may perish in different stages of development by either resorption or by maceration. The dental sac then slowly develops by a proliferation of its structures. The contents found in embryoplastic cysts will be composed of shapeless embryonal dental elements, while in those of the odonto-plastic cysts more or less regularly developed tooth elements will be present, while in cysts arising during a later period of dental development coronal structures should be present.

Magitot believed that neogenous cysts arise in the periosteum of the root, and he supposes that this membrane undergoes development by proliferation of its cellular structures and thus forms a cystic sac. The primary causative factor is an obliteration of the canal of the root due to an inflammatory thickening of the periosteum following infection from the canal of the root or by formation of a denticle in the pulp. The epithelial lining of these cysts is derived from a marked proliferation of the connective tissue cells.

Although Magitot unquestionably did much to enlighten us on the question, he could not reconcile his theory with facts; namely, that the epithelium could arise as if by regeneration from the connective tissue elements. It was naturally most important to discover the true origin of the epithelium which is exclusively found in neogenous cysts when it has not become destroyed by a suppurative process of the contents of the cyst.

In 1885 appeared a paper by Malassez, and it is to him we are indebted, discovering in the maxillæ of embryos in different stages of development that during the period of the formation of the teeth there takes place, beside the physiological proliferation of the epithelium for the formation of the dental follicle from the embryonal enamel, other proliferative processes, arising both from the organon adamantinæ and from the mucous membrane. These epithelial masses are in structure exactly like the enamel organ, arranged around the root of the tooth in various manners. They are also found present in normal lower jaws of adults, and he came to the conclusion that these epithelial masses persist not only during the period of dentition, but are normallypresent during adult life. He asserted that not only the neogenous cysts of Magitot, but also every other neoplasm having an epithelial character developing in the jaw, especially multilocular cystomata and cystadenomata of the maxilla, originate from these masses of cells which he terms paradental epithelial débris.

The conclusions arrived at by Malassez were examined and found correct by other investigators. Von Brunn especially, has given a satisfactory explanation, basing his assertion on the writings of Hartwig, published in 1874, and he shows how the epithelial masses, preëxisting around the root of the tooth, become constricted by the fetal enamel organ, and from its connective tissue with the epithelium of the buccal mucous membrane. If Malassez's theory relative to the origin of periodontal cysts from the paradental cell agglomeration is correct, these cysts should occasionally be met with in their early stages, and, in point of fact, Witzel published a paper on cysts of the roots of the teeth in 1896, in which he fully describes them and gives a satisfactory explanation for the development of periodontal cysts. He points out that one occasionally finds tumors varying in size from the head of a pin to a pea in extracted teeth, especially when they are the seat of caries. These neoplasms are sometimes spherical in shape, at others egg-shaped, varying in their connection with the roots, sometimes being near and sometimes being distant, while occasionally they are pedunculated.

On section these small, grayish-white bodies will be found composed of one or more cavities containing serous fluids. Microscopically the external layer of these minute growths is composed of a rough connective tissue, then by a layer of tissue abounding in blood-vessels and leucocytes, while the cavities are lined with epithelium. The larger cystic cavities show a more evenly distributed epithelial layer, while in the smaller ones the thickness of the lining epithelium varies considerably.

We consequently are here dealing with a miniature cyst which on account of its diminutive size has never given rise to symptoms. The microscopical examination of well-developed cysts exactly corresponds with these small pathologic productions described by Witzel.

In the first case of dental cyst that I have to report, the lining membrane consisted of several layers of flattened epithelium, and outside of this was a con-

*Read by invitation before the Harvard Odontological Society.

nective tissue layer measuring about 1½ millimeters in thickness. Outside of this connective tissue layer was found another of connective tissue in which nuclei were easily distinguished. The history of the patient was briefly as follows: She was a well built girl of twenty-five, who had always enjoyed good health. About three years ago she noticed for the first time a small bunch under the left nostril. This small growth gave rise to no pain and grew slowly, and continued to do so until at the time of the patient's coming under observation the left nasolabial fold had completely disappeared, while a tumor about the size of a large walnut was found immediately underneath the labionasal fold. The skin covering the growth was movable, while the left nostril was pushed upward. By palpation, fluctuation could be detected.

Under ether narcosis the growth was incised, giving issue to a transparent serum. The opening was enlarged, and it was then found that a cavity existed between the nasal cavity and the antrum of Highmore into which the apex of the root of a small incisor was found protruding. After extraction of the tooth and the removal of a corresponding part of the alveolar process, the cavity was plugged with gauze and the skin incision united by wire sutures. These were removed on the fifth day and the patient was discharged well in three weeks.

It is easy to understand why we have a flattened epithelium in large cysts, while in the smaller ones cubic epithelium is present because it is well known with what ease epithelial cells adapt themselves to the amount of pressure brought to bear on them. In all the cases of dentigerous cysts which have come under our observation, the microscope has revealed practically the same histological structure, but in some instances the epithelial layers were so thick that the lining membrane of the cyst was readily peeled out from the cavity. Such was the condition found in the two following cases:

A healthy boy ten years of age had had what was called by the mother a swollen cheek for over three years. The swelling had apparently never given rise to any pain. It had slowly increased until at the time the boy came under observation the deformity was very marked. By palpation, a tumor the consistency of bone was found in the anterior aspect of the right superior maxillary bone. The nasal cavities were normal. Under ether an incision was made over the most prominent part of the growth, the gum was stripped back and the bone opened with the chisel. This led into a large cavity lined by a whitish membrane which was easily stripped off and removed. The cavity contained a light yellow serum, but no evidence of any tooth could be found within it. On account of the large size of the cavity, which might be estimated that of a small hen's egg, it was deemed more prudent to obtain drainage through the nose, so a communication was made with the right nostril and a drainage tube inserted. In terminating the operation, a portion of the anterior wall of the jaw was removed so that the cavity might contract more rapidly. Drainage was continued for a week, after which time the wound was found to be granulating nicely and the patient was discharged cured at the end of four weeks.

The next case was that of a man thirty-seven years old, who for about eighteen months had noticed the presence of a tumor situated in the neighborhood of the left wisdom tooth. The swelling was hard and had slowly increased in size. By examination an oval tumor was found situated in the neighborhood of the wisdom tooth on the left hand side and might have measured in size that of a large English walnut. Under ether the last molar on the left side was removed, and it was then found that we were dealing with a rather thick-walled cyst of the jaw. The cavity was split open with the chisel, and by exploration it was found to communicate with the antrum of Highmore. It was lined with a thick, whitish membrane which was easily removed by blunt dissection. Drainage was obtained by making an opening into the nasal cavity and a rubber tube was inserted, the cystic cavity being plugged with gauze. No evidence of a rudimentary tooth could be detected within the cavity. The liquid contents consisted of a thick, light yellow serum.

Now, if we assume that these periodontal cysts are produced by an irritative process arising from the paradental epithelial débris of Malassez, and that the cavities increase in size on account of an increase of their fluid contents, we have all the conditions found in cysts of long standing explained. A cyst will naturally grow in the direction of the least resistance, and since the root of the tooth is firmly lodged in the alveola process by its periosteum, the bone being less resistant gives way to the pressure. On account of the pressure on the surrounding structures produced by the growing cysts, the vessels and nerve supplying the tooth and periosteum of the root undergo pressure atrophy and resorption. Thus may be explained the absence of periosteum covering the root and the apices projecting into the cavity of the cyst, although their presence is by no means constant.

The perigenous cysts of Magitot can be explained by a foreign body directly in contact with, or in the neighborhood of, the so-called epithelial streaks of Brunn. This produces a constant irritation, which finally causes a proliferation of the latter, and to this type those cysts, in which fully developed teeth are found present, belong in all probability.

It is easily conceivable that a tooth which did not make its exit from the jaw from faulty position or some other similar circumstance becomes enclosed in the maxilla and at length plays the part of a foreign body, causing the epithelial streak to proliferate. It would appear that such cysts are generally considered under the head of follicular cysts, but under these circumstances it is difficult to explain the presence of fluid. But if we adopt Malassez's theory, it will be found to explain the formation of these cysts very well. One such case has come under my notice, the history of which is briefly as follows:

A woman sixty-four years old had had all her lower teeth removed several years ago. About twenty months before coming under observation, a swelling made its appearance on the angle of the right jaw. The tumor gradually increased in size, so that when the patient was first seen it was as large as an egg. Later a certain amount of pain had been felt in the growth, and the latter had become quite tense and the patient complained of much annoyance from a throbbing sensation more or less constantly present. Under ether an incision was made through the skin over the most prominent part of the growth, and while peeling off the periosteum of the ascending ramus of the lower jaw a cystic cavity was opened, giving issue to a considerable quantity of malodorous pus. The cavity was at once enlarged, and by digital exploration the root of a tooth was found protruding into it. The root was extracted, and the cavity was thoroughly curetted and drained. The patient made an excellent recovery, although drainage was necessary for over three weeks on account of a more or less abundant discharge of pus, but she eventually recovered without a fistula.

If a tooth develops normally, it is evident that it can never become entirely enclosed within a csyt, but its root may be contained within the cavity, and this is what is found in the larger number of cases. Most of the textbooks on surgery are very deficient in explaining the pathology of these cysts and even commit gruesome errors in their statements. It is an unimpeachable fact that one tissue can only reproduce itself, and consequently epithelium can only be derived from epithelium, and it is also well known that the lining membrane of these cysts is always epithelial and never composed of granulation tissue. Now Malassez theory explains satisfactorily the absence of the periosteal covering of the dental roots protruding into these cysts, but the cause giving rise to the proliferation of the epithelial streak of Brunn and to the formation of a periodontal cyst is not so easily demonstrated. Without any question an inflammation of the membrane of the root may be the starting point of this process, and many cases unquestionably do originate in this way. In such cases caries of the tooth, inflammation or gangrene of the pulp must have preceded, but if the root of a perfectly normal tooth is found protruding into a cystic cavity and where there is a complete absence of all signs of a periodontitis, or if no trace of tooth is found within the cavity of these cysts, such as has been observed, we consequently must admit that there are other causative factors existing. It is possible that traumatism may be the starting point of some of these cysts, because the lower jaw is particularly well placed to receive external injuries, and it is a well-established fact that retained teeth may be the cause of periodontal cysts. But it is also well demonstrated that a perfectly normal tooth may be the etiological factor when such a tooth is deviated from its normal position, an example of which will be found in the following case:

A boy seventeen and a half years of age had always been fairly well excepting for the ordinary ailments of childhood. For the past eighteen months he had suffered more or less intensely from toothache. About five months ago he first noticed a slowly growing tumor on the left side of his cheek. The growth did not give rise to any pain. Examination showed that the tumor extended from the left nostril underneath malar bone. The skin covering the growth was not reddened and was found freely movable over the tumor. The teeth were in extremely bad condition. The left upper canine appeared healthy, but it pointed directly backward in an oblique direction. At this point the superior maxilla presents a swelling extending from the labial to the palatinal aspect. Crepitation could be elicited on pressure. Under ether an incision was made over the tumor attacking it from inside the mouth, and when the cavity of the cyst was opened a large amount of thick, ill-smelling serum made its exit. The opening into the cyst was enlarged, the cavity being found lined with a smooth, glossy membrane. The apex of the root of the canine tooth was found protruding into the cystic cavity and was extracted. The alveolar edge was chiselled away and the cavity packed with gauze and drained. The patient made a rapid and uneventful recovery. Examination of the tooth extracted showed that the apex of the root was bare of its periostium.

On the other hand, the retention of developed teeth does not necessarily produce the formation of a cyst, as has been proven by several cases reported in literature. In one case reported by Hildebrand, that of a boy during his second dentition, he removed from the upper and lower jaws over two hundred perfectly developed teeth without any evidence of cystic formation around any of them.

It would also appear that the period of dentition may also play an important part in the etiology of periodontal cysts, and this should not seem surprising because at that time processes of resorption and regeneration are taking place everywhere in the maxillæ. Now, during such a time of active metabolism there is no reason why an increased activity may not be present in the epithelial streak of Brunn.

In many cases, periodontal cysts do make their début during the period of the second dentition, but in other cases the cyst begins to develop long before this period, as has been proven by certain cases reported in the literature. The second case narrated in this paper in all probability enters into this class, because evidently the cystic formation commenced at an early time in the dental development, and in point of fact microscopical examination showed a picture closely resembling an embryonal dentinal sac. This type of cyst may always be suspected if the tooth corresponding to it is absent, and this is an important point to be noticed in making a diagnosis. It may also occur that although the entire set of teeth is intact, a supernumerary tooth follicle may undergo cystic transformation, but such instances must be very rare. The cause of the cystic transformation is as yet unknown.

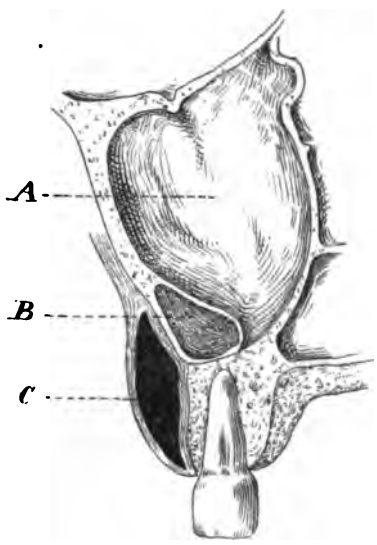
It may not be out of place to refer, in a few words, to a certain class of tumor which perhaps in reality does not strictly belong to the subject of this paper, but whose histological nature and origin is closely allied to that of periodontal cysts. The tumors to which I refer are usually encountered in the lower jaw near its angle. They suddenly begin to develop after they have been present for a number of years in a latent state, so to speak, and when they commence to increase in size they do so very markedly. Traumatism is usually the cause of their sudden increase in size and growth. After they have attained a certain size they present symptoms of cysts, namely, fluctuation and parchment crepitation. These cysts have been treated by incision, curettage, and drainage, which has rarely been the means of curing them, and in most instances an extensive resection of the jaw has been necessary.

These cysts have been described by a number of surgeons. Some of them were multilocular while others were unilocular. Microscopically they are found composed of small cavities or canals, the inner wall of which is lined with an epithelium of the cylindrical, cubic, or polygonal type, while in the larger cysts it is flattened. Malassez believes that these cysts also originate from the paradental epithelial débris, but the reasons why in one case a simple periodontal cyst should develop, while in others cystomata or cystadenomata arise, is as yet insufficiently explained, but a large number of authorities agree that the original epithelial cells of periodontal cysts originate from the enamel organ, while the other types of cysts take their origin from the buccal mucous membrane.

As I have already stated, the development of dentigerous cysts is caused by the increase of the fluid contents which is evidently constantly secreted by the lining membrane of the cyst, and the development of the growth naturally extends in the direction of least resistance. The bony structures of the jaw enveloping the cyst become thinner and thinner until finally they entirely disappear by pressure atrophy and then the cyst assumes a soft consistency. If the cyst continues to grow, the soft

parts covering it become thin, and finally the cyst ruptures and its fluid contents are evacuated spontaneously. This, however, rarely happens, because operative interference is usually undertaken before such a marked development has been reached. I have had one case of this description, which I will here briefly report:

A man aged thirty-two years had complained of an inflammation of the buccal mucosa covering the root of the first molar on the left side about eighteen months before coming under observation, and at the same time he noticed a swelling appearing under the left nostril. A few weeks later the tumor opened spontaneously and a considerable amount of pus escaped. On examination a fistula was found near the root of the first left molar, and the patient stated that the swelling would increase in size and then give exit to quite an amount of pus, after which it would decrease. The pus was always discharged through the fistula. When the tumor would increase in size on account of the collection of pus within it, it gave rise to a certain amount of pain. In other respects the patient was entirely well. The skin over the tumor was movable and not reddened. An incision was made over the tumor, including the fistulous opening, which gave exit to a yellowish fetid pus. The anterior wall of the alveolar process was resected and then a cavity lined with a membrane was exposed. The cyst sac was carefully dissected



A—Empyema of sinus.
B—Dentigerous cyst.
C—Dental abscess.

out and the cavity packed with gauze. This was removed in three days and the patient was discharged well in eighteen days.

The fluid contents of these cysts are usually serous, and it is only after secondary infection of the cyst has taken place that the liquid becomes purulent. Infection can occur very easily from the buccal cavity or from the remains of teeth within the cyst. In those cases in which decayed roots protrude into the cystic cavity, infection may also arise from the canal of the root.

Regarding the diagnosis of dentigerous cysts, it may be said that when the growth has reached a certain size but little difficulty will be experienced. We will here find a circumscribed unilateral swelling of the bone giving rise to a parchment crepitation and a fluctuation. If there is any doubt, an exploratory puncture will in most instances give issue to a serous fluid. In the early stages of the process, when the swelling of the bone is of small dimensions and the tumor hard to the feel, the diagnosis is less easy, because in this condition the cyst resembles any circumscribed tumor of the jaw. The absence of the various forms of fluid collections occurring in the upper jaw.

If the cyst should burst into the antrum of High- abscess, but if the topography of the parts be remembered an erroneous diagnosis can hardly be made, and the figure, taken from the excellent "Manuel de Diagnostic Chirurgical" by Duplay, shows extremely well the relationship betwee pain during the entire progress of the growth will al one in making a differential diagnosis. Dentigero cysts might be mistaken for cystomata, but it shou be remembered that the latter class of growth pe tain almost exculsively to the lower jaw. Suppura ing dentigerous cysts may simulate an alveol more, a primary empyema of this cavity will ari and *vice versa*, an infected cyst of the superi maxillary opening on the outside might eas simulate an empyema of the antrum if the cystic s protrudes into the cavity, completely filling it.

The prognosis of dentigerous cysts is in ever respect benign. The only serious complication th might arise would be when a cyst of the lower j becomes infected, because the danger then would that the pus might extend and infect secondarily o of the large veins of the neck; but this is only a su position of my own, for I must confess that I ha been unable to find any such instance recorded.

The treatment of these cysts is simple. Th should never be punctured unless for diagnostic pu poses, and after this, when the diagnosis has be made, operation should be immediately undertak In undertaking the surgical cure of these cysts it absolutely necessary to remove all vestige of t lining membrane, otherwise a relapse is practica certain to arise. In order to do this, the cav should be freely exposed by a large opening, and t curette, scissors, and, if necessary, the therm cautery should be freely used, because if any epith lial cells remain within the cavity they can regen ate and cause recurrence.

After the cavity has been thoroughly cleared of lining membrane it should be plugged with gauze a few days, so that the epithelium of the buc mucous membrane and the granulations aris within the cystic cavity unite when the lat becomes filled and only leaves a slight trace beh it.

If any tooth or root is found protruding into cyst it should be removed. In large cysts it may necessary to drain through the floor of the nose, was done in one or two cases here reported.

When dealing with these cysts developed in lower jaw, it is oftentimes impossible to reach tumor by way of the buccal cavity and it must attacked through a cutaneous incision. In t case it is indicated to remove as much of the lin membrane of the cyst as possible, and to accomp this a sufficient resection of the outer shell of bo should be done.

871 Beacon Street.

Intestinal Syphilis.—Suarez de Mendoza calls atten to this affection apropos of a case of rebellious chr diarrhœa which was cured by large doses of merc (hermophenyl) given by hypodermic injections. concludes that intestinal syphilis is an affection far rare than is ordinarily believed. Intestinal syp attacks especially the terminal part of the small inte and the large intestine. The symptoms of this affec are so few and so inconsistent that the diagnosis is d cult. Physicians, as a rule, are not on the lookout this disease. In every case of rebellious chronic diarrh the writer believes it to be well to think of syphilis, eit hereditary or acquired, and to apply the indicated tre ment.—*Gazette des Hôpitaux Civils et Militaires*, Mar 17, 1904.

A CASE OF RECURRING MEMBRANOUS STOMATITIS, ASSOCIATED WITH ERYTHEMA EXUDATIVUM MULTIFORME (HEBRA).*

By LOUIS E. BLAIR, M.D.,
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The rarity of these cases in medical literature warrants the writer to put the following case on record: L. W. O., a lad about twelve years of age, undersized for age, poor muscular system and somewhat anæmic, family history on father's side good, on mother's side the nervous element is very prominent, never had any of the children's diseases except chickenpox. I was called in May, 1899, to attend him for the first time. He had numerous sores in the mouth resembling very much the mucous patches of syphilis. The irregular ulcerations were for the most part on the gums running into the teeth and on the hard palate, also a few sores on the tongue, under the tongue and on the buccal surfaces, on the lips and contiguous parts. Probably one-third of the mucous surfaces of the mouth was involved. There were extensive salivation, a heavy putrid odor, and involvement of the lymphatic nodes and glands of the face, neck, chin, and jaws. The sores were covered with a well-marked membrane, thick and firmly adherent, and diphtheria-like in appearance. The tongue was swollen and could not be protruded. The soft parts about the mouth and throat were much infiltrated and made swallowing difficult. After the stomatitis had lasted six days and was at its height an erythematous rash broke out extensively over the body, on the extensor surfaces of the extremities, back of hands and dorsum of feet, accompanied with a severe conjunctivitis of both eyes. The patient's temperature ran high, pulse weak and rapid, and general condition of prostration severe. In a few days the soft parts about the eyes were infiltrated and the conjunctivitis assumed a diphtheria-like invasion, and the eyes were closed. The character of the erythematous eruption was marked in that instead of having an ordinary papillary type with diffuse redness, the eruption became vesicular, confluent, and large blebs and bullæ formed, resembling for the most part scalds from steam or hot water. In the face the eruption was confluent, resembling variola, while again on the body in places the blebs became hemorrhagic and pustular, also some took on the form of herpes iris. There was but very slight itching, and desquamation did not take place until later on, when the eruption was fading out.

The eruption was quite extensive over the body, somewhat less on face and neck. The eruption in the mouth did not occur all at once, but seemed to come out in successive crops and spread. The peculiar phase of the case was the appearance of the skin affection at least one week after the mouth disease, and the question naturally arose what relation did the skin complication have to the oral disturbance; was the secondary involvement a part of the same infection. The patient was very ill for two weeks, and was as much prostrated as though he had a severe typhoid fever. Prof. Ernest Schwimmer[1] says, "that herpes iris, with its related forms, is usually a non-pyrexial affection, but sometimes it assumes a grave type, like the multiforme erythema, in which case the skin affection plays a prominent part; Wunderlich,[2] Gerhard,[3] and others have reported instances in which multiforme erythema appeared on the body with every indication of a grave typhoid affection, together with a high fever; the eruption subsequently changed into vesicles and presented a picture of herpes universalis. On the whole such observations are rare." As to the severity of this case at this time the views of Schwimmer are also to the point. "A less favorable prognosis is presented by the grave pyrexial erythemata with complicating diseases of the mucous and serous membranes. Experience shows that the erythemata connected with erythematous nodes of the mucous membranes run a grave course and at times end fatally. Hebra makes mention of such a case in which the autopsy showed infiltrations of the mucous membranes of the intestinal tract which he connected with the cutaneous erythema. Grigorow not long ago described a case of erythema attacking the skin and mucous membranes which led to ulcerations in the mouth and finally ended fatally." From these quotations from Schwimmer it is apparent that this authority did not meet with such a case in his extensive practice and could only cite two cases in his reading experience of the special literature.

This present illness lasted four weeks, when the boy made a slow recovery. The skin eruption in healing left bluish red and afterward coppery stains, which were noticeable for months afterward before they faded away. On the face there was loss of skin substance, and scarring resulted. In the mouth the sloughing of the mucous membranes was quite marked and white contracted scars could be seen a year later.

About one year after the first attack, in the spring of the year, the boy had a second attack much milder than the previous one; it consisted of a few ulcerations on the hard palate, under the tongue, on the gums, also on the lips. A few days later a few scattered erythematous patches becoming vesicular appeared on the face, neck, and hands and feet; also an eruption on the conjunctivæ, and at the inner canthi of the eyes. The mouth and eye eruption was covered with the usual membranous deposit. This attack lasted about two weeks, and yielded promptly to local washes and gargles. The systemic disturbance was mild. A third relapse came in June, 1901, and also lasted two weeks, and was very much similar to the previous one.

A fourth attack, and the severest one of all, appeared March 26, 1903, and lasted six weeks before the patient was in a normal condition again. The eruption broke out as usual in the mouth, a few sores appearing about the gums up to the margin of the teeth, and spread rapidly in the next few days, involving pretty nearly all the mucous surfaces of the oral cavity as far as the uvula; some of the ulcers were discrete, but for the most part confluent; profuse salivation, fetor oris, and infectious involvement of the glandular system of face and neck. The sores in the mouth were all covered with a firmly adherent membrane in spite of vigorous gargling and washings with H_2O_2 and early applications of nitrate of silver solutions. In five days the entire mucous surfaces of the oral cavity were nearly covered with a well organized diphtheria-like membranous deposit; the tongue, on account of its severe swelling, could not be protruded, and occupied a large part of the mouth space, pressing up against the roof of the mouth. The following day the nares throughout their whole length, the nasopharynx and contiguous parts, the oropharynx, larynx and trachea became involved, and the lumen of the larynx very much compromised, so that breathing during two days was very labored, and resembled that of severe laryngeal diphtheria. The conjunctivæ were also infected,

*Paper read before the Medical Society of the State of New York.

and the soft parts about the eyes œdematous and infiltrated, making it impossible to open them. The mucous membrane about the anus and glans penis and urethra were also covered with a membranous deposit.

About eight days after the manifestations of the mouth symptoms, an erythematous eruption made its appearance over the entire body, except on the hairy scalp, palmar surfaces of hands and soles of feet. The eruption on face was very profuse, became rapidly vesicular and confluent; the inflamed condition of the skin, together with a hemorrhagic serum which filled the vesicles, gave the characteristic appearance of virulent confluent variola.

The eruption covered from one-quarter to one-third of the entire skin surface of the body, and varied in size from a millet seed to large bullous patches, some being 1½ inches long, and ½ to 1 inch wide. The outer layer of the skin was lifted up, and there was a very free secretion of serum; some of the skin lesions were deep enough to destroy the true skin and had a blood-tinged serous secretion. There were successive crops of eruption, new ones appearing before the old ones had healed, giving the picture in places of erythema iris. Dr. Curtis saw the case in consultation at this time and pronounced it as worthy of illustration in any skin atlas. Both ears were entirely covered with large blebs and were much swollen, having the appearance of being scalded. Drs. Bloomer, Ward, and Bendell also saw the case, the former making bacteriological studies of the secretions of the mouth and skin. For the intense swelling of the glands at the angles of the jaw and under the jaw a 5 per cent. Oleat hydrarg. was rubbed in. Twenty-four hours after the application the skin became very much inflamed and was covered with almost one continuous crop of large blebs as though the skin resistance had been weakened. By the 10th of April the severe mouth, nose, throat, and laryngeal symptoms abated, and the temperature and pulse were falling, and it was thought the patient was convalescing, when a troublesome bronchitis developed and the pulse and temperature began to rise again. A fine crepitant râle could be detected next day along the base of both lungs. In the next thirty-six hours a lobular pneumonia was established. The pneumonia was of a wandering type and involved various parts of both lungs. In five or six days the pneumonic process cleared up and the patient convalesced. The desquamation of the skin was very extensive. The eyes healed slowly, as also did the mucous surfaces about the penis and anus.

On September 1 there was another moderate attack of sore mouth, accompanied with a membranous deposit and the usual lymphathic infection. This lasted one week. There were a few erythematous spots on face which became vesicular.

On October 17 the sixth attack of stomatitis occurred. The eruption appeared on the buccal surfaces, on the gums, on the tongue, hard and soft palate, and was covered with a firmly adherent membrane. The lymph nodes of the skin and glandular structures were all infected again in three days. On the fourth day both eyes became involved again, and there was a moderate erythematous eruption on face and neck. This attack lasted ten days. The nose and nasopharynx were not involved, the eruptive processes being confined to the mouth alone.

The bacteriological report from the Bender laboratory was as follows, September 30, 1903: Hæmoglobin, 85 per cent.; red cells, 5,240,000; white cells, 7,000.

A differential count of 240 cells showed the different varieties of leucocytes present in the following proportions: Polynuclears, $42\frac{9}{10}$ per cent.; small mononuclears, $36\frac{8}{10}$ per cent.; large mononuclears and transitionals, $16\frac{6}{10}$ per cent.; mast cells, $\frac{4}{10}$ of 1 per cent; eosinophiles, $3\frac{8}{10}$ per cent.

There was no marked anæmia in the red cells. The examination is practically negative, there being no marked anæmia nor disproportional increase of any of the varieties of white cells. The mononuclears are usually relatively more numerous in children than adults. We have on three separate occasions made a bacterial examination of material from the sores of the mouth; one of these examinations was made two years ago; one about a year ago and one at the time of the above examination. The organisms found had been cocci only. In the last two examinations these were of the staphylococcus pyogenes aureus class. In the first examination some streptococci were found.

Very truly yours,

ARTHUR T. LAIRD.

A word as to the treatment and to prophylaxis. The general treatment for fever, etc., was symptomatic; for the mouth weak solutions of Ag. NO_3, 1 or 2 per cent.; for gargling and cleansing, H_2O_2, diluted 1 to 2 or 3, had the best effect; for the nares and upper air passages sprays of H_2O_2 and Blair's formula of benzoinal and resorcin.

The boy's physical condition previous to his first illness and up to recently had not been good. Tonics of cod-liver oil and of preparations of iron have materially increased the blood count, as the laboratory report shows. Daily care of the mouth and teeth with antiseptic gargles of H_2O_2 and formaldehyde in weak solutions are keeping the mucous membrane clean and healthy looking.

Prof. Henry Koplik's suggestion as to daily high enemas to clean and empty the colon have been carried out for the past six months, although patient had one relapse during this time. The flushing of the colon with salt solutions were done for the purpose of eliminating the factor of autoinfection as far as possible.

Dr. Koplik of New York saw the patient in his office as he was recovering from the fifth attack as described, and frankly said that he had never seen a case of erythema exudativum multiforme of the mucous membrane of this type. He thought a patient of his had a mild attack of a similar nature, but where the mucous membrane of the eyes, penis and rectum and anus were involved, and the severe relapsing condition, he had had no personal experience. He said, however, he would look into the matter on account of its clinical interest to him. Shortly after he wrote as follows: "I have been looking over the case you have allowed me to see and have come to the conclusion that my idea that you have a condition allied to urticaria as I first thought is correct and explains all the phenomena in your case. As I said when you were here, the literature is not so rare in cases of urticaria of the mucous membrane. The urticaria may begin on the mucous membrane. As a rule in the published cases it does and in a few days after the skin eruption follows. In your case the skin eruption is of the erythematous urticariformi type and in time bullæ are developed (urticaria bullosa). The eruption on the mucous membrane, nose, throat, tongue especially, it having been swollen, corresponds to what is known as urticaria of the mucous membrane. Again in one of these attacks the boy had pneumonia of a wandering type, and this is rather characteristic of many cases of this form of urticaria. Now,

how are the pseudo-membranous patches to be explained? They are to be explained on the ground of a mixed infection. The urticaria attacks the mucous membrane and in the severe form on the skin, vesicles or bullæ form as in aphthæ of the ordinary type. These vesicles burst and leave a raw exposed base, the streptococci of the mouth attack this exposed surface, and as in the aphthous stomatitis a pseudo-membrane is formed. So severe are some of these cases of urticaria of the mucous membranes that the reports say stenosis of the larynx through swelling of the tongue, epiglottis, and larynx was a principal feature. . . . I have analyzed this case because of its great rarity. . . . So far I have met many cases of urticaria of the mucous membranes in the literature, but none of the bullous or pemphigoid type."

Replying to Professor Koplik I said: "I note what you have to say of urticaria of the mucous membranes and of urticaria in general, but I cannot agree with you as to its being a case of urticaria. I believe we have here a case of erythema exudativum multiforme coming primarily, or in a freak manner, on the mucous membrane of the mouth and contiguous parts, and when the attack is severe, then we have the well-known skin eruption as described in the severe cases. Urticaria is diagnosticated by the wheals and the burning, stinging and itching and the absence of desquamation. The efflorescence of erythema exudativum is not evanescent, but persists throughout the disease, and for months afterward the copper-colored stains persist; the severe itching is missing and desquamation frequently takes place." Koplik in a subsequent communication inclined to the opinion that "as Kaposi says, both severe erythema may be combined with urticaria, and pathologically are of the same class, according to the experts on skin. As to urticaria involving the mucous membrane of the mouth, etc., Schwimmer,[3] who wrote the chapter in Ziemssen's Encyclopedia, says in rare cases it shows itself; the mucous membrane, as well as the common integument, were covered with an eruption of large wheals, which he called gigantic urticaria. He says, however, that he had no personal experience either with urticaria of the mucous membranes or of erythema exudativum multiforme of the mucous membrane.

Nothnagel[3] says, according to Kaposi, the occurrence of urticaria of the mucous membrane of the mouth and upper air passages is one extremely rare, and is also designated as giant urticaria, and frequently a glossitis takes place, mouth stained with blood and great embarrassment to speaking and swallowing.

Kaposi[4] and Milton[5] discuss this phase of it at length.

Nothnagel [6] also speaks of a stomatitis fibronasa et maculosa without reference to erythema exudativum multiforme, and quotes from Stoos, page 180, and says more likely the staphylococcus infection is implanted on the aphthous sores and raw places of the mucous membrane.

Unna[7] says we must at once separate from the pure angioneuroses of the skin certain well-defined dermatoses, which up to now have been considered with them: the true erythema exudativum multiforme of Hebra and erythema nodosum. These form a definite, most interesting group of infectious inflammations of the skin which, with certain angioneurotic symptoms, have certainly a superficial resemblance to the true angioneuroses. But in them there are, owing to the specific infectious irritant, histological changes in the texture of the skin which are absent in the simple angioneuroses.

Nothnagel, after giving a long list of causal conditions of membranous stomatitis, says cases will arise for which no reason can be assigned, especially the recurring and protracted forms may become very troublesome. With regard to the very unfavorable prognosis of the confluent type he had no personal experience.

Winfield[13] thinks that erythema iris is a rare form of erythema multiforme, and in rare cases the mucous membrane may be involved.

Unna[14] speaks of erythema exudativum multiforme of Hebra and herpes iris as breaking out occasionally on the mucous membrane of the mouth as well as the skin.

Pye Smith[15] says that all the skin diseases of the angioneurotic type have many things in common and cannot well be separated.

I have here brought together the different views of writers for the purpose of showing the various opinions held, and the confusion which apparently exists in the etiology and clinical picture of erythema exudativum multiforme.

During[8] says, "The complications which are liable to accompany or to precede erythema multiforme are varied, and are so diverse in kind that the subject may be best considered by referring to some recorded observations. In some of these cases, for the most part of a grave character, the nature of the disease may be said to be obscure. I believe that most of such cases should be looked upon as infectious. Thus occasionally disease of the respiratory and alimentary tracts, heart, kidney, and spleen, brain and cord occurs, due to the same influence that has produced the cutaneous affection. Such cases exemplify a general and not merely a cutaneous disease.

Leloir[9] reports a case in which twelve days after the beginning of an erythema exudativum multiforme, with bullous and hemorrhagic primary lesions, typhoid and profound adynamic symptoms set in. The autopsy disclosed marked pulmonary congestion, albumin in urine, and the microscope diplococci and streptococci in the blood and urine.

Whitehouse[10] says, "With reference to erythema multiforme, with or without the trunk being involved, analogous lesions may appear on the mucous membrane, notably those of the buccal and pharyngeal cavities. In these cases the lips are swollen and covered with vesicles or blood crusts. The mucous membrane of the cheeks, lips, and tongue present irregular raw-looking patches, outlined by the attached and ragged circumference of broken vesicles. The tongue may be greatly swollen, and the uvula and soft palate may also be implicated. In rarer cases the epiglottis and larynx are involved. The affection is extremely painful, rendering it almost impossible to open the mouth or to eat, and the decomposing tissues produce a characteristic fetor. In the only case I have seen in which the mouth was severely affected in this manner, the condition simulated more closely the mouth affected with pemphigus vulgaris than anything I am familiar with. In rare cases the disease may involve the vulvovaginal mucous membrane, the urethra and glans penis. Some cases have also been reported in which there were conjunctivitis and swelling with ecchymoses of the orbital connective tissues. As before stated, herpes iris generally occurs independently of other lesions of erythema multiforme, but exceptionally its lesions may be mingled with them."

I have quoted Whitehouse at length because he is the only authority that I can find that has stated

the clinical picture completely, as it applies to the case described in this paper. He makes no mention, however, of the pseudo-diphtheritic membrane, which sometimes attaches itself very firmly to the vesicles and raw places, due, as explained, to the pus germs present in the mouth. He also fails to mention the fact that this disease manifests a distinct disposition to relapse, as pointed out by During[11] and Lewin,[12] the latter authority having had a case that had suffered fifteen relapses. My patient had six attacks. Sometimes a year or two will be skipped, no apparent cause being discernible.

Dr. G. A. Blumer, formerly of the Bender Laboratory, kindly made for me last July a search of the Medical Index in the Surgeon-General's library while at Washington, and only noticed one paper which he thought had a bearing on the subject. It was an article contributed by Lanz[16] of Moscow, Russia, to the *Berliner klinische Wochenschrift*, entitled "A Case of Erythema Exudativum Multiforme, with Involvement of the Mucous Membrane of the Mouth and Pharynx." He reported an interesting case of his own and made an exhaustive review of all that had been written on the subject, and found only a limited number of cases, while a large number of authorities failed to speak of this subject. His patient was twenty-eight years old, who appeared at his clinic with a rash on his extremities, on the mucous membrane of lips, mouth, and glans penis. He gives then a minute differential diagnosis, and establishes that of erythema exudativum multiforme of Hebra. The eruption on the body was quite insignificant, while in my patient it covered about one-third of the body with large bullæ, freely secreting a serous fluid and in some places of a hemorrhagic nature. His patient was in hospital four weeks, and had no recurrence. Nine other cases of involvement of the mucous membrane in connection with the skin eruption are gathered from various sources, some showing the mouth complications only feebly, Lanz then says: "This review embraces about all the cases of erythema exudativum multiforme complicated with mucous membrane eruptions that the literature of recent times produces. In all of these cases the affection of the mucous membrane either started simultaneously with the eruption of the efflorescence on the skin, or after the skin exanthem was well developed." In contradistinction to this record, Lanz says his case is noteworthy in that the eruption of the mucous membrane preceded the skin lesions by at least three days. In my patient I wish to emphasize the fact that frequently the membranous stomatitis existed from four to ten days before the skin disturbance would manifest itself. The only case I can find which bears a close resemblance to the one of this paper is one reported by Fuchs in Lanz's contribution. This is the only case in which a membranous exudate is mentioned in connection with the papular eruption on the conjunctiva and the mucous membrane of the mouth. It is described by Fuchs as consisting of a thin, grayish white, quite firmly attached membrane on the conjunctiva and the mucous membrane of the oral cavity. With forceps the membrane could be pulled off in shreds from the conjunctiva, but left a bleeding surface, which in twelve hours would reform again. Like membranes covered the larger part of the mucous surfaces of the mouth, large, white patches covered the upper and lower lips and extended from the angles of the mouth along the inner border of the cheeks to the anterior palatine folds, besides large portions of the hard and soft palate, the uvula and the tongue were covered. Lanz calls attention to one more point of importance in his case, which was also very prominent in the one which I report. He calls it a peculiar condition, "eigenthümlicher." He says it is an accepted fact that the involution of the efflorescence of erythema multiforme is completed without scaling, or with only a slight amount. He quotes the high authorities of Neumann, Kaposi, Berend, and Schwimmer as holding these views. In fact, cases which show extensive desquamation must be exceedingly rare. In Fuchs' case the epidermis was lifted up in large strips, under which new epidermic cells were forming; in Lanz's case the epidermis on the hands was loosened in lamellæ (Desquamatio membranacea), while in other parts it was not so extensive. In my patient the peeling was severe in places, especially on abdomen, hands, feet, and in the face. Eight months after the severe attack the coppery discoloration of the skin and scarring marking the places of the original eruption are noticeable. In the face likewise the red blotches of new skin are apparent, especially if the boy exercises violently or is exposed to a low temperature.

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804 State Street.

THE HOSPITAL CAR; ITS EQUIPMENT, USES, AND IMPORTANCE.*

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In the remarkable achievements of the medical profession, there seems yet an abundant opportunity for better surgical relief for those who must inevitably fall victims to railroad accidents, notwithstanding the many safeguards devised and put in operation by the most competent railroad managers.

In view of the wonderful results of mechanical ingenuity, in attaining speed, it is truly marvelous that such vast numbers of persons are safely carried each year by our railroads. It has been too well demonstrated in the West and South, during the past few weeks, however, that accidents do continually occur, often causing instant death, but more often resulting in injuries, which frequently, from lack of prompt application of remedial agencies, later prove fatal. It is especially to this class of the injured that the writer wishes to call attention, and also to those whose wounds invite sepsis so distressing in character at a later period.

Let me briefly describe first a car which is the result of a suggestion by President F. D. Underwood of the Erie Railroad, and secondly, a system of especially constructed and thoroughly equipped hospital cars, soon to be inaugurated along the entire length of this railroad.

When the plan was first proposed, both haste and

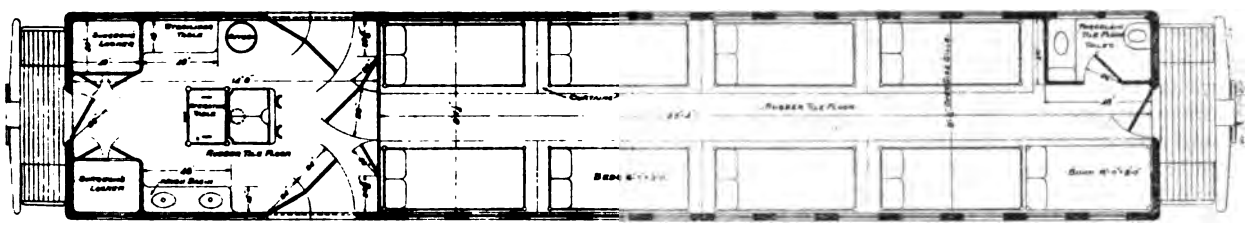
*Read at stated meeting of New York Academy of Medicine.

availability were necessary, and in consequence, a combination baggage and smoking car was selected from the regular passenger service. By the removal of the double row of seats, and all unnecessary fixtures, sufficient room was secured for the insertion of six ordinary hospital beds supplied with mattresses and rubber sheets. These beds were arranged lengthwise of the car. In the compartment formerly used for baggage, was placed an adjustable operating table, a case of surgical instruments, a small portable sterilizer, splints, stretchers, a cylinder of condensed oxygen, and a few drugs. The heating, lighting, and ventilation remained unchanged.

It is readily understood that such an equipment would be of great service, should necessity demand, although the crudeness of this car, and its very limited command of trackage must be apparent. Without several appropriately stationed hospital cars, distant portions of the road might suffer.

Every army, and indeed every regiment, every war vessel, every passenger steamship, and every city, is supplied with efficient means for immediate medical and surgical relief of all who are wounded, and almost daily reports prove that railroads should adopt measures whereby, in case of accident, every possible assistance may be given to the injured, and in the shortest possible time. To meet this demand this company has taken another step in advance, and resolved to establish a system of hospital cars, to be supplied with all necessary appliances to meet all emergencies.

The accompanying drawings will illustrate the efforts the writer has made in the arrangement of a newly and heavily constructed car, which will serve as a type of the several cars to be distributed at convenient distances along this entire road. This car will be fifty feet in length, of the usual width and height, and will be constructed in the strongest manner The interior arrangement will be as plain as possible, and all corners will be rounded. It will be finished in white, and as nearly dust-proof as possible. The floor will be of white rubber, in block form, of proper consistency, capable of adapting itself to the movements of the car while in motion, and of easy cleaning.



It will be divided into two compartments, a large one and a smaller one, 36 feet and 14 feet, respectively, separated by sliding glass doors of heavy frosted plate, through which a small stretcher of the wheel variety may pass. In the larger compartment which corresponds to a ward of a hospital, will be inserted eight stationary beds the frames of which will be of white enameled iron, arranged lengthwise. There will also be two beds suspended in such a manner that all jars of transportation shall be eliminated. Each of these beds will be supplied with a comfortable mattress, linen, rubber sheets, and blankets. From a rod, completely encircling each bed, will hang white curtains capable of enclosing such beds when desirable. Immediately at the outer end will be a toilet the flooring of which will be of white porcelain tiling. A swinging door will serve for admittance. Entrance to this ward will be by use of sliding doors, thus utilizing space formerly consumed by swinging doors.

In the smaller compartment, which corresponds to the accident, receiving, and operating room of a hospital, will be an adjustable operating table, a sterilizer for instruments, and, especially constructed for the limited space, cases for surgical instruments, for medical agents, and for previously sterilized and encased dressings. At one side will be two porcelain wash basins, with hot and cold water, managed by foot arrangement.

By day, light will be admitted from above by means of heavy frosted glass, while windows of the same material will be placed at the sides. By night, light will be secured by the use of electricity, a group of lights being placed in the center, directed from above, and aided by individual lights elsewhere. A patient may be admitted through sliding doors, on either side of the operating room.

This car is to be the type of the cars which will constitute the system of which mention has already been made. The importance of a *system* of such cars is manifest, when it is considered how inadequate is one such car to cover a line of several hundred or thousands of miles, with its many trains, increasing the possibilities of danger.

Each car will be cared for by a resident attendant, and inspected by a physician at stated intervals.

The possibilities of such a system of cars are far-reaching; for while these cars will chiefly perform the function of an ambulance, namely, for the better temporary treatment of the injured, and more comfortable transportation thereafter, yet they may also be used for the immediate operative procedures of a major or minor character in such emergency cases.

In this paper the writer would desire at this time to present especially the surgical possibilities of such cars, but he would not forget Dr. Beverley Robinson's valuable suggestion of the purely medical side, which involves many important considerations, and which may be hereafter separately considered.

It is proposed that such cars as described shall be stationed at accessible points, standing on a special track, so that they may be quickly despatched in charge of a train conductor, collecting en route the company surgeons and trained nurses who have been previously notified by telegraph.

By these means we shall have secured three things: (1) Saving of valuable time; (2) A sufficient number of competent physicians and nurses; (3) Equipment at hand.

Among the injuries sustained by passengers in derailments and collisions of trains, which demand prompt surgical treatment for the preservation of life, are serious crushing of extremities, involving the hard and soft parts, fractures of the skull, and grave trauma resulting in rupture and laceration of the contents of the abdominal and thoracic cavities. Should the checking of internal hemorrhage or the immediate repair of such viscera, or the transfusion of a saline solution be necessary, all of these may be performed with perfect safety and with satisfactory results.

The large percentage of deaths from injuries received in railroad accidents is doubtless due, in part, to the fact that the more seriously injured ones have died from the lack of immediate surgical or medical

attention, the result of the absence of facilities at hand, and the loss of time in transportation to places appropriate for treatment. Some may advise delayed operation for such conditions, while good authorities will insist upon prompt action.

The prevention of complicating conditions, immediate or remote, due to the nature of the injury, a better condition of the patient generally, and conveniences for such relief, are things to be considered in lowering the death rate, which is alarmingly great in these accidents. The removal of the possibilities of sepsis, which in a debilitated person has been, and may still be, prominent in the causation of mortality is also an important consideration. It may be safely said that there is not a physician or surgeon present, who does not believe that the need of establishing such a system of hospital cars upon our railroads is imperative, and it would seem to be the duty of railroad corporations to make such provision for the prompt relief of injured passengers.

As we recall the memory of the distressing railroad accidents of past years, the more impressed by the horrors of those recent occurrences in the West and South, it is a sad thought to picture the mangled and dying on beds of snow, or often in the dingy room of some wayside cabin, or, even as was recently the case, in a barn, being cared for by a chance physician, who, perhaps, himself only escaped total disability assisted by the willing laity, in his feeble efforts to alleviate the sufferings of the many injured, while miles away, after much delay, a relief train is being prepared as quickly as possible, but slowly and inadequately supplied with a few surgeons and possibly a nurse to be sent to the scene, hampered in their work by lack of facilities.

Allow the comparison with the immediate departure of a hospital car with its staff of a goodly number of surgeons and nurses, prepared for all emergencies.

It is well known that many of the greatest achievements that have been developed within your own recollections were at first looked upon with skepticism and opposed by men of influence, but after much dispute, they proved indispensable, and wonder is often expressed that such inventions were not long before in use.

While the future will doubtless witness the adoption of many new inventions which will add more safeguards to railroad travel, yet mechanism will sometimes fail at an inopportune moment, devastating storms will sometimes destroy a bridge just ahead of a train, a miscreant may wreck a train, or an employee will sometimes fail to obey an order; in consequence, human beings in large numbers will sometimes be killed or mangled.

The consideration of this matter, which these many years has been overlooked by so many railroad managers, cannot be too strongly urged by the medical profession, as a duty to the people who have so long suffered such great calamities with no adequate means of relief.

Variations of Weight During the Course of Scarlatina.—Garnier and Sabaréanu conclude from their investigations of this subject that the curve of weight during the course of scarlet fever may be divided into five periods. During the first days, the weight is stationary or increases more or less markedly. As soon as the fever declines, the weight decreases very rapidly for several kilograms. As long as the patient remains on a strictly milk diet, the weight remains stationary, having reached the minimum With increased feeding, a considerable increase occurs, and in a few days, the patient even goes beyond his original weight. Finally from the third week, the weight increases only slightly, or remains stationary.—*La Presse Médicale.*

THE PREVENTION OF DISEASE.

By JOHN B. HUBER, A.M., M.D.,
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During several summers past I have been inspecting the weekly parties which the New York Association for Improving the Condition of the Poor have been sending to the seashore. The main object of these inspections was the exclusion of cases of infectious disease. But besides this there was to me much else of professional interest. I should like to submit sundry data collected on these occasions.

Women and children made up the parties, and many of them, especially the infants, needed greatly the change from the air of the tenements to that of the sea. The eyes of these latter were sunken, their colorless faces had a clammy sweat upon them, their limbs hung flaccid, and they were listless and quite without the constant restlessness characteristic of healthy early childhood. Their appearance connoted the vitiated air, the poverty of sunshine, the pathogenic lack of cleanliness, and the dreadful summer heat in the crowded tenements of this city. To comprehend well the condition of these people one should examine some of the thousand odd photographs taken by our late tenement-house commission.

Many infants and children evidenced irregularity in feeding and overfeeding. The conditions which thus obtain will probably never be entirely corrected—crying and peevish infants, and solicitous mothers who know of no better way of pacification than the giving of the breast. Medical men have done much in the way of education here, but natural instincts have not thus been entirely overcome.

Many infants were very much overclothed—eight garments upon one infant; seven upon another of three months, "so as not to make a bundle." A weak infant of two months, whom the mother felt was gradually getting worse, enveloped in nine hot, moist garments. One mother had four children die of "bronchitis." Therefore she covered her baby's thorax heavily with woolen garments; so that it has no doubt since gone the way of the rest. Another had a reddened face and it puffed laboriously. The mother wanted to know why it had prickly heat. Its clothing was removed. There was a flannel binder, then two woolen garments, next a cotton shirt, and lastly a heavy woolen cloak. And so on.

Cases of neglected middle-ear disease were too often manifested; as were also enlarged tonsils, adenoids, retracted alæ, contracted chests with resulting oxygen starvation. These conditions, with swallowed excreta (often bacillus-laden) from the upper air-passages, mingled with unwholesome food and fluid, furnished ideal predispositions to tuberculosis.

In my earlier inspections many children were unvaccinated. Latterly most of them were vaccinated. However, the greatest number of unvaccinated children in one of last summer's inspections was thirteen among about 150 children—a proportion much too high.

In my earlier inspections I found granular lids in among 10 to 20 per cent. of the children. The change in this respect was, last summer, very marked. During Dr. Lederle's commissionership, a rigid examination of the eyes of school children was instituted. Very many cases were discovered by the medical school inspectors engaged by the Health Department. Toward the close of 1902 a "trachoma hospital" was instituted in the old Gouverneur Hospital, where, up to last Fall, under the excellent management of Dr. Herbert W. Wootton, more than five thousand operations were done upon children thus

afflicted, and where several times as many received treatment for lighter grades of the affection, with its kindred contagions (conjunctivitis).

My own personal observations during last summer may serve as some sort of index of the result of this "trachoma hospital's" work. In seven inspections, among a total of 1,048 children, there were 52 cases of trachoma. And of these 52, twenty-one were public school and kindergarten children, and 31 were parochial school children—a proportion which becomes greatly magnified when we consider the vast numerical preponderance of public school children over those in the parochial schools.

It was a pleasure to anticipate the benefit these poverty-stricken women must have received from the outings, which lasted from one to two weeks—women who had borne many children, who had chronic affections of various organs; old women going for convalescence after treatment or operation in hospital; or who were going to recuperate in order to undergo operation on their return. Many women regained thus the tidal strength of body which they had lost in the stress of the winter months, having been compelled to draw constantly upon the reserve force which should normally remain latent for emergency or unusual ordeals. Many of these women seemed indeed to be in the condition when the last straw would be fatal.

Among these women one much emaciated was married at sixteen, and her first child was born at seventeen; another was married at fourteen and had a child before her sixteenth year; a mother of twenty-six years had a child of twelve; one thirty-seven years old had had nine children; another of the same age had had eleven children, of whom eight had died; another, aged thirty-one, had had ten children; another at thirty-six, having nine children, had just come from giving birth to a tenth in a maternity hospital. Another had had eight children, but two of whom were living. She wept over "a beautiful baby, with lovely gold hair," that had died a few days after its birth. The other five had died at almost the same time of "diphtheria and scarlet fever, that had been brought into the house." This woman's dissatisfaction with the part allotted to her in the universal scheme was not because of the number of her children, which she had borne, but because they had been taken from her care.

One mother of seven children had to go out to work during the day—and showed it; there were tea-drinking mothers with weak spells, so that they felt "faint-like;" a mother who gave her baby the breast at night, but had to go out to do washing during the day; several manifested tuberculosis. One woman had put up a beautiful fight. She had been playing the game of life with an optimism most pleasing to contemplate. At thirty-six she was the mother of nine children. "Was she well," I had asked. "Sure," was her answer, with a grin and a trifingly impertinent wink, "only for that I couldn't stand the racket." Since then this heroine has died of consumption.

A while ago we were vouchsafed some strenuous expressions—as unquestionable as they were platitudinous—upon the subject of race suicide. When we consider the life-stratum here sketched we must conclude that the matter is not so simple of adjustment as might appear to the superficial observer. Would that the means for nurturing their families were commensurate with the affection these mothers bear their offspring.

As I look back upon these inspections I seem to have been contemplating a truly Hogarthean panorama. Old women, mothers and children passed by me successively: Old women, who could but guess how old they were, and who were suffering from rheumatism, asthma, heart-disease, and the like; a lame woman over seventy, whose leg had been broken in childhood; a child with hip disease, that had two abscesses draining away its strength; a child who was a cretin; another with scoliosis; an infant, thin, weazened, marasmic, that had the bottle given it "whenever it cried;" a child with "stomach trouble" that gripped a huge cracker and had its mouth filled to overflowing with half-masticated food, which was supplied it whenever it wanted something to eat; a child having its face disfigured with impetigo; a large family coming by themselves, their mother being sick in hospital; several members of a family all obviously hysterics; children aged two years still suckling, their mothers hoping thus to avoid pregnancy; a young woman with hysterical paralysis, which came on shortly after her marriage—with a Chinaman; a woman who could not remember if she had three or four children, and had to ask her mother to tell her; a woman who, to her great sorrow, had lost one among eleven children; an idiotic child who had become so after an attack of cerebrospinal meningitis; a child with facial paralysis, which came on as the result of a button having remained for months unsuspected in her nostril; a woman with exophthalmos, fast-beating heart, and an immense goiter; a woman who alone supported her family, her husband having an aneurysm, which must inevitably prove fatal; a mother with paralysis, consequent upon the birth of her child; a girl of twenty, nearly blind from measles, which she had contracted in childhood; an infant with an enormous hydrocephalus, certainly larger than a man's head; a boy paralyzed and imbecile since birth; a woman with hysterical deafness, which came upon her in an instant, and which is likely to leave her as suddenly; a woman whose whole left side had been burned, the cicatricial tissue being so tense that she could not bend forward; children choreic; with tuberculous vertebræ; two syphilitic infants whose father had had "blood-poisoning." A girl in her teens was hopelessly blind, and had been so since three days after birth; she had contracted an ophthalmia neonatorum from her uncleanly mother. An infant a few months old had a specific eruption distributed over its body. The father had been "burned, and the blood turned into blood-poisoning," so the mother assured me. Perhaps she believed this herself. Perhaps she was trying hard to make herself believe it. Here were a feminine subtlety for a de Balzac to dilate upon.

I sketch thus but one among many phases of life such as fall within the experience of all physicians. My purpose is to submit that lack of foresight and of education and unhygienic living were responsible for most of the conditions here touched upon—that most diseased conditions in general are preventable. Haply a fundamental tendency of modern medicine lies in the direction of prevention. Sanitation goes hand in hand with therapeutics and obviates the necessity for the latter whenever possible. And, in the cosmic range of its activities, it is the province of medicine far more than that of any other calling, to supersede the merely animal will-to-live with the optimist's *wille zum guten*.

44 East Sixty-fourth Street.

Appeal for New Cancer Hospital.—An appeal has been sent out by an organization concerned in the establishment of a hospital for women, for the purpose of affording relief to incurable cancer patients, and for the treatment, study, and prevention of cancer. The hospital will be situated in New York City, and will be known as the Fairhaven Sanatorium.

THE SYRIAN CLIMATES.

By HANNA MIKAIL RAHMI, M.D.,
BEIRUT, SYRIA.

This ancient land, decked with its monuments of antiquity, has different varieties of climate, varying from the Alpine to the littoral, from the stimulant to the sedative, and from a temperate to nearly a torrid one; yet all this variety of altitudes and weather is to be had within such a limited area, that in a few hours, or at the utmost a day, a person may go from one to the other with the minimum of expense. It seems that all European and American physicians lose sight of this fact, and omit to mention this beautiful land, having so many varieties of climates, in prescribing health resorts to tuberculous and other diseased persons in their textbooks on medicine.

The air of the land is wonderfully clear; its sun is amazingly brilliant; its invigorating and bracing sceneries are many and varied, yet in a very close proximity one to the other.

Its habits of life are widely different, having European civilization on one hand, the beautiful and hospitable customs of the Arabs on the other, with an admixture of the two between. The romance-inspiring mountains of Lebanon rise abruptly from the golden beaches of the ever-lashing Mediterranean, whose surface emits abundance of ozone that diffuses on the southwesterly slope of Lebanon.

Climates, from a medicinal standpoint, may be divided into: (1) Climates of altitudes: (*a*) Alpine climates, (*b*) sub-Alpine or intermediate climates. (2) Climates of plains: (*a*) inland climates, (*b*) marine climates.

Again, the climate may be divided with regard to the moisture of the atmosphere into: (*a*) stimulant, having a dry atmosphere; (*b*) sedative, having a moist air.

All the above divisions are found close one to the other beneath the sunny sky of Syria. As an insular health resort, the shore of Syria is excellent, being a sedative, especially to those ill with tuberculosis. In Beirut, the seeker finds a humid, mild climate, where snow never falls in the winter. The city has both kinds of life, the Syrian with its gentleness, tinged with modesty, and the European, followed by its train of pleasure and courtesies.

In Tripoli, a city to the north of Beirut, a mild Climate is found. The weather is like that of Beirut, with the exception that it is a little harder; the city is surrounded and filled with orchards of orange and its congeners. On the skirt of the city the land is covered with olive trees.

The stretch in breadth of the Syrian shore varies; in some places it is measured by yards, while the utmost breadth does not exceed six miles.

This littoral stretch of land merges into the mountains of Lebanon, a range of mountains running along the Mediterranean Sea. In Lebanon we get the climates of altitude; on the higher parts we find an Alpine climate, while the medium forms the sub-Alpine.

From Tripoli, with its insular climate, a person can reach Mt. Makmal, the highest peak of Lebanon and Syria, in about seven hours.

The mountain here is studded with villages, the hospitality of whose people is known; the land is verdant during the summer months, as it is abundantly irrigated with springs of fresh water. The historic cedars of Lebanon, which are in this spot, diffuse a balsamic scent of turpentine into the atmosphere.

Just below the cedars is the famous gorge of Kodesha, whose bottom is but little higher than the level of the sea. In the winter months no snow falls in this valley, while the perpendicularly towering Makmal is so heavily covered with snow that it is perpetual on its bald brow. In about two hours' walk, a person may reach the top from the floor of the vale, that is he climbs from an altitude but little above the sea-level to an altitude of about 10,000 feet, as the top of Makmal is over 10,000 feet above the sea-level. From Beirut a person may reach the top of Lebanon in a few hours, and so it is from any part of the shore.

The western aspect of Lebanon has a sedative, moist climate; its eastern flank is somewhat dry. Just at the eastern foot of Lebanon is Coele-Syria, a plateau between Lebanon and Anti-Lebanon. In this tableland, the inland plain climate is found. This plateau is about 4,000 feet above the sea-level; the air here is somewhat dry; the raised plateau is about ten miles in breadth and is quite long, appearing as a valley between the two mountain ranges. At its northern extremity this plateau gradually diffuses into the undulating plains of Hums and Hamah, which in turn widen out toward the Euphrates and the Syrian Desert. This tableland has many ancient ruins, the footprints of the ancient Egyptians, Chaldeans, Assyrians, Babylonians, Phœnicians, Khittes, etc. Bordering on this plateau is the parallel range of Anti-Lebanon. The air of Anti-Lebanon is dry, in some places it is exceedingly so. From this the ancient Damascus is soon reached. From Beirut all this range of variety of climates—Insular, sub-Alpine, Alpine, and Inland Plain Climate with the moist air of Lebanon and the dry air of Anti-Lebanon—may be reached in a few hours, a day to the utmost, by the train running between Beirut and Damascus. In short, Syria, especially that part about Lebanon, has a combination of climates so varied, yet so close to each other, such as exists nowhere else in the world.

A person may enjoy all the varieties of climates in one day, if he wishes, while in Syria.

Experiences with an Iodoform Mass for Filling Bone Cavities.—V. Mosetig-Moorhof reports the results of his experiences with a mass for filling cavities in bone following operations or destructive processes. This is made up of finely powdered iodoform (60 parts), spermaceti and oil of sesamum (20 parts of each), and the mixture is fluid at 50° C. The cavity in the bone about to be treated must be thoroughly cleaned and dry and the mass must be made to penetrate every portion. Drainage is then unnecessary, but if it is deemed essential, it can be best accomplished by narrow strips of rubber tissue. The filling subserves merely a temporary function, and it is either gradually displaced by the growth of new tissue and extruded from the wound, or where the latter has healed by primary union, it is slowly absorbed. As the process is a very slow one, symptoms of intoxication rarely appear, and the increase of pulse and temperature sometimes noted after the injection usually disappear by the third day. The procedure is well tolerated, and the author did not find it necessary to remove the mass in a single instance among a series of 220 cases. The cases most suitable for this method of treatment are those of chronic osteomyelitis of a circumscribed form, tuberculous osteomyelitis and the acute variety with necrosis. In joints it is essential to eradicate all diseased tissues, including the synovial membranes and all involved parts of the capsule and the ligaments, the question of resection being limited as much as possible. The author gives in detail the histories of 195 cases in which the method was used, in some of them a number of times, and closes with the remark that in no instance was the treatment unsuccessful.—*Deutsche Zeitschrift für Chirurgie*, Vol. 71, No. 5.

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THE PHYSIOLOGY OF SIMULTANEOUS AMBIDEXTRAL WORK.

THE late Charles Reade, in the opinion of many the greatest writer of fiction that England has ever produced, was like most men of genius addicted to what ordinary persons called fads. He was in the habit of occasionally airing in the lay journals views with which the every-day individual was not in agreement, in many instances doubtless due to the fact that these opinions were beyond the comprehension of some readers and were looked upon as visionary by others. Among the various subjects in which this great writer interested himself, was that of ambidexterity, and he lost no opportunity of circulating his theories regarding this matter. Read was convinced of the benefit that would result to the individual and the community if the human race could use right and left hand with equal facility and skill.

A lecture was delivered recently in England before the Ambidextral Culture Society by its secretary, Wm. John Jackson, abstracts of which were published in the *Hospital*, March 26. The principles which it is the object of the Society to maintain are: (1) that it is possible to do two things well at the same time, and that every ordinarily intelligent person is capable of becoming an expert in the performance of two concurrent and unrelated acts as he can be in the separate accomplishment of one. (2) That the acts which are thus designated as concurrent or simultaneous are, so far as the senses can determine, absolutely so whatever the refinement of analysis and science may ultimately declare them to be. For all practical purposes they occur precisely at the same instant, though they may be theoretically nothing more than inconceivably rapid alternations of volition. (3) That a certain amount of simultaneous work, under specified conditions, is healthy and expedient. (4) That under other particular conditions, it is necessary and harmless. (5) That whilst it is both proper and advantageous to prepare and qualify children for the execution of two-handed work, and more especially of two-handed writing during their school life, it would be unwise if not pernicious to encourage or prescribe for artizans and others the least amount of simultaneous manual labor, over and above what has hitherto been found requisite for the effective execution of the work to be done in the several industries of manufacturing life.

Dr. A. L. Wigan, in his monograph on "The Duality of the Mind," published sixty years ago, puts forward the following among his twenty propositions: (1) That each cerebrum is a distinct and perfect whole as an organ of thought. (2) That a separate and distinct process of thinking or ratiocination may be carried on in each cerebrum simultaneously. (3) That each cerebrum is capable of a distinct and separate volition, and that there are very often opposing volitions. . . . (20) That every man is, in his own person, conscious of two volitions, quite distinct from the government of the passions by the intellect; a consciousness so universal that it enters into all figurative language on the moral feelings and sentiments, has enlisted into the service of every religion, and forms the basis of some of them—as the Manichean.

Brown-Sequard, in reference to the same question, says: "We have a great many motor elements in our brain which we neglect absolutely to educate. Such is the case particularly with the elements, which serve for the movement of the left hand. Perhaps fathers and mothers will be more ready to develop the natural powers of the left hand of the child, giving it thereby two powerful hands, if they believe as I do, that the condition of the brain and spinal cord would improve if all their motor and sensitive elements were fully exercised." There are many instances which can be cited of concurrent mental processes. "With regard to the question," says the *Hospital*, "of whether the volitional impulses which govern the processes performed simultaneously by the two hands are really themselves simultaneous, or whether the "inconceivably" rapid alternation theory is correct, it is impossible to say, but the proposition is a correct one that these transmissions of will are progressing concurrently from two totally different and independent agencies, each of which is equal to its confrère in every particular, so far as reason and the closest observation can discover.

It is the aim and purpose of the Society to insure that every child at school shall be so drilled in both separate and simultaneous use of his two hands that whatever line of life he may enter, he will be fully prepared with two perfectly developed hands, equally sensitive, equally strong and equally skilful.

There would seem to be no valid reason that the left hand should, at any rate, be put to far greater use than is at present the case. The comparative lack of skill in the left hand is frequently a source of discomfort and even of loss to the individual. An objection brought against the person who possesses a trained and skilful left hand is that according to statistics gathered by Lombrosol, these qualities are very often observed in criminals. It is true that to the left hand has been attached somewhat of a slur, it is not considered so honorable as the right hand. Indeed the Latin name for left hand, sinister, has a place in the English language, and a meaning the reverse of complimentary. However, all this is a matter of tradition, and it could not be but to the advantage of the human race if the left hand was so trained that it might be used with much more skill and facility than is at present the case.

LATENT TUBERCULOSIS.

IN a recent symposium before the New York Academy of Medicine, various modes of infection in tuberculosis were set forth. The periods of infancy and childhood were particularly referred to. Infection by inhalation, at least as regards the involvement of the cervical glands and those of the upper air pas

sages and the bronchi, was generally agreed upon. Ingestion infection was dwelt upon, especially by Ravenel of Philadelphia; and here there was also general agreement, although unanimous opinion was not so nearly approximated. In the discussion Dr. Dowd emphasized in very scientific terms the comparative frequency of infection through wounded tissues. The relative proportion of these various modes was left undetermined.

Two considerations occur to one. In the first place there is the thesis maintained by von Behring, that infants very early ingest bacillus-laden milk and other foodstuffs. His opinion is not to be set aside merely because upon autopsy in children the tissues intimately related to the alimentary tract do not generally evidence tuberculosis. For the point of entry is by no means always the focus of the initial tuberculous process.

Ravenel has demonstrated the tubercle bacillus in the chyle of animals that were fed upon bacillus-laden material. And he and many others very cogently argue that the bacillus may pass in the lacteals from the digestive tract to the thoracic duct, thence to the vena cava, the right heart, and so to the pulmonary parenchyma; so that the initial tubercle in and about the lung vesicle may thus result from ingestion rather than from inhalation infection.

In children, moreover, caries, "white swellings," hip disease, and like lesions evidence tuberculous foci, to which, in at least a large proportion of cases, bacilli have been carried by lymph and blood channels, from remote points of entry, in the digestive tract, wounds, or even, for that matter, through unbroken skin and mucous membranes.

In the second place we note that deaths from tuberculosis are comparatively rare before the fifteenth year. Moreover, before that year pulmonary tuberculosis is very rare indeed. From adolescence to the forty-fifth year every third or fourth adult, in the vast majority of cases, dies of tuberculosis of the lungs. When we consider that infants and children are certainly as much—perhaps more—exposed than adults to tuberculous infection, we must infer that there is a period of latency in this disease, that in many cases the infection must have lain dormant through the earlier years of life, until tuberculous formation has been induced by the advent of some acute, exciting cause.

It may not be *mal apropos* to draw here an analogy between this disease and syphilis. Of course we have here two distinct pathological entities; yet there are not a few points in common, and perhaps there will be more when we have discovered the microorganism which is responsible for syphilis.

When either of the parents is syphilitic the child may manifest the disease at birth; or it may exhibit characteristic lesions within a few weeks; or the specific infection may remain latent and may not show itself until after the fifteenth or twentieth year. In the play *Ghosts* there is set forth in a most gruesome manner the symptomatology of a cerebral gumma in the son of a roué, a young man in whose previous life no specific manifestations had appeared. It may seem poor science to cite as an example a character portrayed for the stage. However, it is said that Ibsen consulted an expert in syphilology for his basal facts; and no medical man will question the ghastly reality of the picture.

Tuberculosis differs radically from syphilis in so far as it seems well settled that in a vast majority of cases it is not tuberculosis itself, but a tendency to this disease, which is transmitted. This vulnerability is exhibited in the scrofulous temperament, and undoubtedly the bacillus engrafts itself with peculiar ease upon strumous tissues. However, even in children born healthy there is no difficulty, as von Behring and others appear to have demonstrated about the reception of the Koch bacillus within the organism. The point here is with regard to the latency of tuberculosis. Here an analogy with syphilis seems complete—that the tubercle bacillus may remain for years inactive in some perhaps remote portion of the organism (a lymphatic gland, the bone marrow, or a joint) until a traumatism, an aberration of adolescence, or some other acute cause may provoke it to pernicious activity.

Campaign against Yellow Fever in Mexico.

In Public Health Reports, March 11, 1904, is published a report by Dr. E. Liceaga, President of the Superior Board of Health in Mexico, of the campaign against yellow fever to be undertaken in that country. The plan of crusade against the disease is founded upon the fact that the stegomyia fasciata mosquito is the principal, if not the only, means of transmitting yellow fever. The methods proposed to be put into practice to prevent the development and propagation of yellow fever are: The isolation of the patient, the destruction of the infected mosquito, and the prevention of the development of fresh mosquitos of the above-mentioned genus. Isolation in Mexico is to be rendered as effective as possible. First, by the obligation, which lies on all physicians under the sanitary code of the United Mexican States, of notifying the sanitary authorities of all patients who are suspected of having yellow fever. Second, by the obligation, which is also legal on all heads of families, chiefs of workshops, colleges, schools, barracks, etc., to give similar notice. Furthermore, strict and continued domiciliary visits have been provided for. The isolation of patients in yellow-fever epidemics in Mexico is absolutely obligatory.

The destruction of infected mosquitos, and the larvæ of the stegomyia fasciata, is to be carried out in the most effective manner.

In order to prevent the spread of the disease from an infected to a healthful locality, no suspected or sick person is to be permitted to leave an infected locality for a fresh one until he or she has been examined by a physician. Should the investigation show that the person who desires to depart is not sick, a passport will be granted stating name, age, sex, and profession, also stating that such an individual was in good health and not suffering from any feverish symptoms at the time when the inspection was made, and destination. The medical committee will keep a register showing all these data, and will duly advise the political and sanitary authorities, if there are any, of the place to which the passenger is traveling. The person traveling under passport will be bound to present it at the sanitary stations through which he may pass and at the termination of his journey, so that he may be under surveillance for five days. Railway carriages or ordinary coaches, or any kind of vehicle will be disinfected before they are allowed to depart, and this disinfection will be continued at every sanitary station. In fact, the object will be to destroy infected mosquitos by every possible means.

The sanitary stations, which it is proposed to establish in suitable localities, are intended to ex-

ercise a vigilance over the passengers who travel by railroad, coach, on horseback, or on foot, and the detention therein of the passengers who are either sick, or suspected of being so, are sufficiently efficient when well established. "This was proved," says Dr. Liceaga, "by the results that were obtained in the State of Sinaloa when the port of Mazatlan and neighboring villages were invaded by bubonic plague."

The scheme suggested by the Superior Board of Health of Mexico to stay the spread of yellow fever appears to be thorough, and when put into practice should have the desired result.

Treatment of Cancer with Radium Bromid.

Mr. H. G. Plimmer of the Lister Institute of Preventive Medicine relates, in the *Lancet* of April 16, the results of experiments carried out by him, with radium bromid on seventeen cases of cancer at the Cancer Hospital, London. The amount of radium used for these cases was 30 milligrams. The cases made the subjects of experiment consisted entirely of carcinoma, many of them being in a very advanced condition. The individual exposures varied from forty minutes to five minutes, and the capsule containing the radium was placed directly on the nodules or lumps, the only thing intervening between the radium and the skin being the talc top of the capsule. The cases were left for a month after the exposures and then examined. The effects in all the cases were negative, either no change or an increase in the size of the nodules. The effect on the skin varied in the different cases; an exposure of ten minutes was generally sufficient to produce blistering, and then scabbing, and under the scabs there was found a very slowly-healing ulcerated surface. The radium had apparently no effect with regard either to causing or relieving pain, and the irritation of the blisters was slight. From three of the above patients who died some of the nodules which had been treated were excised and subjected to a careful microscopical examination. In all these cases no change was found either in the cancer cells or in the fibrous tissue and none were degenerated. There appeared to be an increase in the amount of the subcutaneous round-celled exudation which was greater in amount in those nodules which had been more recently treated, but the irritation of the skin would sufficiently account for this. Dr. Apolant, writing from Professor Ehrlich's laboratory, records, in a recent number of the *Deutsche mediginische Wochenschrift*, some very satisfactory and striking results obtained by treating very rapidly growing nodules of inoculated cancer in mice. Professor Exner in Vienna arrived at similar results in a case of melanotic sarcoma with multiple rapidly growing nodules in the skin. Mr. Plimmer says "it appears as if the emanation from radium can only act upon young and rapidly growing cells, and that older cells, especially if surrounded by fibrous tissue, are less and less easily affected, and if there be an excess of fibrous tissue the cells are not at all affected."

Hypnotism in the Treatment of Chronic Alcoholism.

Hypnotism has been used for some time now in the treatment of confirmed inebriates. Those who have had experience of this form of treatment report satisfactory results. Dr. Milne Bramwell, in his recent work on hypnotism, states that he has treated during the past twelve years seventy-six cases of chronic alcoholism by hypnotic suggestion, and has obtained the following results: cured, twenty-eight; much benefited, thirty-six; unaffected, twelve. Some of the best results have been with women, a contradiction of the popular theory that women are incurable. Dr. Creed of Sydney, N. S. W., has recently drawn up a report on drunkenness and its prevention and treatment in that colony. He insists upon the virtue of hypnotic treatment, and urges that the treatment should be tried in the public institutes of the colony, as well as in private practice, and he is confident it will be found to cure a large proportion of drunkards.

Dr. Chas. Lloyd Tuckey, writing in the *British Journal of Inebriety*, April, gives the following as his conclusions reached by a close study of the matter: (1) Most alcoholics are good hypnotic subjects. (2) To insure reasonable prospect of success, the patient should have a real wish to be cured, and should be placed under favorable conditions while undergoing treatment. (3) He should be kept under observation for at least a year, during which time he should feel himself on probation. In the opinion of Dr. Tuckey the treatment has these advantages: (1) It is rapid in action. After two or three sittings there is generally a marked improvement in the patient's general mental and moral condition. (2) The patient is able to continue his business, and is thus saved the expense and loss incurred by confinement in a retreat. Domestic ties are not broken, and the demoralization which often results from the enforced idleness and evil companionship, almost inseparable from life in a retreat, is avoided. Suggestion should aim at two objects—absence of craving and even physical repulsion toward alcohol, and increase of power of resistance and restoration of self-control.

Tropical Sanitation of Ships.

Mr. A. J. Evans writes in the *British Journal of State Medicine* on this subject. The writer discusses the matter from the standpoint of personal experience, as for some years he has been a medical officer on steamers employed in the West-African coasting trade. The chief of the diseases which attack the passengers and crew of a coasting steamer within the torrid zone is, it need hardly be said, malarial fever. Therefore, the first thing to be done in order to rid a ship of malara, is to rid it of mosquitos. The measures to be taken to bring about this result are the use of nets and fumigation. The owners and captains of coasting steamers are not as a rule willing to incur expense for the sake of their crews, and thus precautionary methods against mosquitos are not generally put into practice. The writer points out that this unwillingness to expend money for the purpose of keeping the crew in good health is a short-sighted policy, and by no means economical in the long run. He advises owners of coasting vessels in tropical climates to give their captains directions to use every effort to keep the crews free from malarial infection. The next step is to make the sailor himself realize the way malaria is transmitted. This is likewise a hard task, as the ordinary seaman is both careless and ignorant, and not likely to be easily persuaded that malaria is spread by the mosquito. Mr. Evans has adopted the plan of endeavoring to impress the fact upon the mind of the sailor, by means of a printed pamphlet setting forth in plain language how malaria is conveyed, and the methods which ought to be taken against contagion. This pamphlet is posted up in a conspicuous part of the ship, so that all can read it. The next point of importance is the prevention of infection while on shore. The writer is of the opinion that a large percentage of the cases of malaria on board ship are contracted by allowing sailors ashore after sundown, when the mosquito is most active.

Lastly, the administration of quinine as a prophylactic in malaria is discussed. Mr. Evans states that a week before arriving at a malarious district the administration of quinine should begin, in order that the system should be saturated with the drug before infection can possibly occur. This should be continued at regular intervals, while in a malarial locality and for at least two weeks after leaving it. The latter point is the one generally overlooked on board ship; it has been usual to take quinine only while lying in a malarial port, and on leaving it to discontinue its use at once.

The other diseases to which those who ply along the coasts in the Tropics are subject are smallpox, yellow fever, and sunstroke. The precautions to be taken against the first-named disease are obvious. Every member of the crew should have been recently vaccinated, and steps should be taken to ascertain this before he is allowed to sign articles. Every care, too, should be taken when embarking black passengers on the coast, that they are in a healthy state; another point of importance is that the vaccine lymph should be renewed every voyage, and that it should be specially stored in a cool place, in order to prolong its efficiency. With regard to prevention of yellow fever, similar efforts to exclude mosquitos, as practised in preventing malaria, should be made.

As to preventing sunstroke, captains of coasting vessels in the tropics should provide their crew with suitable headgear when exposed to the sun, and the men should avoid as much as possible extreme fatigue. In conclusion the writer urges upon shipbuilders the need of turning their attention a little more to the accomodation of the crew in tropical climates. Arrangements in the forecastle appear to be much the same, whether the ship is intended for the tropics or arctic regions. Furthermore, proper hospital accommodation should be provided for at least 10 per cent. of the crew carried.

News of the Week.

New Fordham Hospital.—Plans for the group of new Fordham Hospital buildings to be erected by the city of New York at Crotona avenue and the Southern Boulevard were filed on April 28 at the Building Department. The structures will include the main hospital building, five stories in height and standing on a plot 305 by 43 feet, a four-story power house, which will also contain a laundry and servants quarters; a two-story brick stable and morgue, and a five-story nurses' home. The total estimated cost of these buildings is $560,315, of which $339,000 will be spent for the hospital itself, $129,000 for the power house, $52,315 for the stable and morgue, and $40,000 for the nurses' quarters.

Harbin Most Insanitary.—According to the *New York Times*, a despatch from Harbin, recently received, gives a striking account of the horrible condition of the streets and the entire absence of sanitary arrangements in that town. There is no municipal administration, and the Russian authorities have forgotten to pave the streets, organize a corps of scavengers, or make drains. All these requirements have been left to chance, and now the authorities have been overtaken by the war. Thus Harbin, which was visited by cholera two years ago, and which suffers from typhus every summer, will probably be the scene of an outbreak of plague this year. The wounded are brought from the South to be cared for at Harbin, and out of the enormous sums collected in Russia for their benefit, a large amount must be set aside for sweeping, cleaning, and disinfecting the town in order to render it a tolerable place of residence, as otherwise it cannot, during the summer months, be anything but a center of contagion.

Big Influx of Immigrants.—The second largest number of immigrants that ever arrived at New York port on one vessel came on April 27 on the steamship *Neckar*, from Naples. Besides the 11[illegible] persons in the cabin, there were 2,497 other passengers aboard her. During the same day 8,478 passengers were landed from twelve steamships.

Measles Very Prevalent in Greater New York.—According to the Health Department figures, measles is spreading in Greater New York. The report for the week ended April 23 showed 1,630 cases in the five boroughs, with 37 deaths from measles and 13[illegible] from bronchopneumonia following measles.

Crusade against Impure Candy.—A crusade against the manufacturers and sellers of impure candy is about to be inaugurated by the New York State Agricultural Department. Special agents have discovered that a considerable amount of impure candy is being sold throughout the State.

Legacy for Tulane Medical College.—By a recent decision of the Louisiana State Supreme Court Tulane Medical College receives the bulk of the estate of the late A. C. Hutchinson, President of the Louisiana and Texas Road.

To Get Rid of the Mosquito.—Representative Scudder introduced, on April 28, into the National House of Representatives a bill to create a commission to investigate the question of redemption of swamps and marshes in New York and New Jersey with a view to improving sanitary conditions and exterminating the anopheles mosquito. The measure provides that the commission shall be appointed by the President and serve without compensation.

Strange Ruling of a Sandusky Judge.—In Common Pleas Court Judge Reed ruled that the Ohio State medical registration and examination law is unconstitutional because it limits the right to practise the healing art without the use of drugs or medicines to osteopathy, and by the rule of exclusion Christian Scientists are prohibited from practising such pursuits. He said it should be amended so as to allow for a reasonable examination for Christian Scientists and for their registration. The ruling was made in the case of Oliver W. Marble of Sandusky, who was convicted some months ago and fined on a charge of practising medicine without license. Marble had treated a case of rheumatism according to Christian Science.

Salaried Resident Surgeon.—The Mount Sinai Hospital will appoint a salaried resident surgeon for its private pavilion. Applications will only be considered from those who are graduates of a hospital.

Tri-State Medical Association of the Carolinas and Virginia.—The Tri-State Medical Association of the Carolinas and Virginia met at Danville, Va., February 23 and 24, 1904, when the following officers were elected: *President*, Dr. W. L. Robinson, Danville, Va.; *Vice-Presidents*, Dr. G. DeFoix Wilson, Spartanburg; Dr. H. A. Royster, Raleigh, N. C.; Dr. Southgate Leigh, Norfolk, Va.; *Secretary and Treasurer*, Dr. Rolfe E. Hughes, Laurens, S. C.

Association of American Physicians.—The Nineteenth annual meeting of the Association of American Physicians will be held in the New Willard Hotel, corner Pennsylvania Avenue and Fourteenth Street, Washington, D. C., on May 10 and 11, 1904.

Florida Medical Association.—At its last annual meeting, held at Live Oak, the Florida Medical

Association amended its constitution, making Jacksonville the permanent meeting place of that body. Dr. E. N. Liell of Jacksonville was elected president for the ensuing year.

Peoria County Medical Society Endorses Pure Food Bill.—This society, at its last meeting, adopted resolutions favoring the adoption of the Hepburn Pure Food Bill.

Reëlection of Dr. Hurty.—Dr. John N. Hurty of Indianapolis has been unanimously reëlected secretary of the Indiana State Board of Health for a term of four years.

Ohio State Hospital for Consumptives.—The House passed and made a law the Senate bill by Heinlein providing for a commission to select and purchase a site and erect a State sanatorium for the care of incipient pulmonary tuberculosis. The bill carries an appropriation for the purchase of a site. The hospital will cost about $175,000 more. About 1,000 persons will be treated per year.

Cincinnati Doctors Promoted.—Dr. J. H. Landis has been elected to the chair of general medicine, and Dr. Tilmore has been elected pathologist at the Betts street hospital. Dr. Park Gilmore has been promoted from interne to the chair of pathology and microscopy at that institution.

Internes for Cincinnati Institutions.—The following young physicians from the Ohio Medical college have won interneships at the Good Samaritan Hospital: Dr. Harry Stuntz, Dr. George Sikes, Dr. J. E. Rogers, and Dr. Elbert Weaver, a brother of Coroner Weaver. The alternates are: Dr. Charles Hancock, a brother of Professor Hancock of the University, and Dr. Hubert Ellis of Oklahoma Territory. The interneships at the German Deaconess Hospital were won by Dr. W. R. Martindill of the Ohio College and Dr. Cunningham of the Miami Medical College. Drs. Barker, Heisel, and Southworth have been selected as internes at the Jewish Hospital, and Dr. Fannie S. Hollingshead at Christ Hospital. Dr. J. E. Heap and Dr. H. A. Zimmerman have been selected as outdoor obstetric internes at the Ohio Medical College.

Internes for Cook County (Ill.) Hospital.—Of the new internes for this institution, eight are graduates of Rush Medical College, four of Northwestern University Medical School, and one of the College of Physicians and Surgeons.

Promotion of Dr. Richings.—Major Henry Richings, Rockford, Ill., surgeon Third Infantry, Illinois National Guard, has been appointed assistant surgeon-general, and chief surgeon of the Third Brigade, with rank of lieutenant-colonel.

Bazaar to Aid Chicago Hospital.—The people of South Chicago are preparing to establish in the center of that district a permanent home for the South Chicago Hospital of sufficient capacity to meet the demands of that part of the city. With that object in view, the directors announce a two weeks' bazaar for the purpose of starting a permanent hospital fund. It is the intention to replace the present small and inadequate institution with a hospital building involving the expenditure of $100,000.

American Medical Editors' Association.—The annual meeting of the American Medical Editors' Association will be held on June 6, at 2 P.M., at Dennis Hotel, Atlantic City, N. J.

Contagions Sent to Cincinnati.—It is charged that certain railroad camps in Southern Indiana are making a practice of sending cases of contagious disease to Cincinnati, where it is necessary to care for them in the Public hospitals. Health Officer Clark W. Davis will bring the matter to the attention of the State Board of Health with the request that it have the Indiana Board put a stop to the practice.

Cincinnati's Pneumonia Death Rate.—The statistics at the City Hospital show that the death rate from pneumonia this spring has exceeded 75 per cent.

New York School of Clinical Medicine.—At the meeting of the Medical Board of the New York School of Clinical Medicine, held April 9, Dr. J. L. Adams was elected secretary of the school, and professorial and other distinctions were conferred upon the following in the departments specified: *Mental Diseases:* Professor, E. C. Dent, Superintendent Manhattan State Hospital West, Ward's Island. *Internal Medicine:* Professor, Wm. Brewster Clark, M.D. *Gastrointestinal Diseases:* Professor, Robert Coleman Kemp, M.D. Associate Professor, Graham Rogers, M.D. *Hydrotherapeutics:* Professor, Alfred W. Gardner, M.D. *Ophthalmology and Otology:* Professor, Geo. Ash Taylor, M.D. Clinical Instructor and Assistant, Wm. E. West, M.D. *Genitourinary Diseases:* Chief of Clinic and Associate Professor, C. Stern, M.D. *Dermatology:* Chief of Clinic and Instructor, L. D. Weiss, M.D.

State Board of Medical Examiners.—The examinations of the State Board of Medical Examiners of New Jersey will be held at Trenton, N. J., June 21 and 22. Application for the regular blanks should be made before June 11.

Citizens Object to Erection of a New Chicago Hospital for Infectious Diseases at Proposed Site.—A meeting was recently held by the owners of property in the vicinity of the proposed site of the Memorial Hospital for the Treatment of Infectious Diseases, and the trustees decided to call a public meeting of all persons interested in any way in the project. Dr. Billings explained the great need of such an institution in Chicago, and gave a brief outline of what are known as infectious diseases, their effects, and the best methods of treatment. He said there is no possibility of contagion from a properly conducted hospital. There is to-day in Chicago only one place where infectious diseases can be treated, and that is in the addition to the Cook County Hospital. No institution more beneficial to the public of the city of Chicago has been recently proposed. The aim is to treat certain infectious diseases, such as measles, diphtheria, and scarlet fever, in a scientific manner. This hospital is to be established on a purely philanthropic basis at the place where such diseases can be treated and studied from a scientific standpoint, in order that the germs of the disease may be located and proper means be determined upon for its extermination.

Scarlet Fever in Evanston, Ill.—This city has seventeen cases of this disease under quarantine at present, most of the patients being children who attend the Dewey School.

Chicago Eye, Ear, Nose, and Throat College.—At a recent meeting of the stockholders of the Chicago Eye, Ear, Nose, and Throat College, the following officers and directors were elected: Drs. Wm. A. Fischer, Adolphus G. Whippern, H. W. Woodruff, Thomas Faith, and John R. Hoffman. The directors thereupon elected the following officers: *President and Treasurer*, Dr. Wm. A. Fischer; *Vice-President*, Dr. Adolphus G. Whippern; *Secretary*, Dr. John R. Hoffman.

Rejection of Chicago Inspection Plan.—Some time ago Mr. Hartung, trustee of the Board of Education, made a plea for a more rigid examination of

school children; but the school management committee of the board has rejected the plan.

Physician Accused of Performing an Illegal Operation.—Annie Fitzgerald, a servant girl employed at the Harlem Hospital, died at that institution on April 29, apparently from the effects of a criminal operation. An hour before her death she made an ante-mortem statement to Coroner Jackson, declaring that a physician associated with the hospital was responsible for her condition, and that he had performed the operation. She refused, however, to tell the name of the doctor. At the hospital it was denied emphatically that any operation had been performed there upon the girl.

To Restrict the Spread of Tuberculosis.—The Philadelphia Bureau of Health, in its crusade against pulmonary tuberculosis, has arranged to disinfect all unoccupied houses on the request of prospective tenants. The work will be done at the expense of the city, providing the renter will agree to clean the building thoroughly before moving in. By this means it is hoped a prolific means for the spread of the disease, especially among the poor, will be removed.

The Mayor of New York Vetoes Coroner's Bill.—Mayor McClellan has returned to the Governor of New York State with a veto message the bill abolishing the office of Coroner.

Tenement Law of New York State Changed.—An amendment to the labor law of New York State has been signed by the Governor. This amendment transfers from the Factory Inspector to the Commissioner of Labor jurisdiction over tenement-house factories. It provides that no license for such factories may be issued while there exists in the tenement in question any communicable disease, or any violation of the local health ordinances indicating any insanitary condition.

Dr. Ignatius Friedman, a prominent physician of Cleveland, Ohio, was killed this week in a collison between his carriage and a street car.

Race Suicide in Great Britain.—According to the New York *Sun*, of May 1, the ontroversy which has cropped up in Great Britain at intervals during the past few years has received a fresh impetus from a speech recently delivered, in which the speaker denounced fashionable marriages in which the duties of life were shirked and marriage made a mockery as being more terrible than irregular alliances unsanctioned by the church. The Bishop's outspoken address has given rise to a widespread controversy. Mr. Henry James, the American novelist, who lives in England, disagrees with the Bishop as to the evil effects of a falling birth rate. He thinks that it only shows that people are beginning to think for themselves, and that it is the ultimate satisfactory solution of all social troubles and labor difficulties. Large families are an inexpressible burden to the working classes, and the over-stocked labor market leads to poverty, degeneracy, and crime. With foreign invasion stopped and large families abolished, England will have ten times a happier population and greater individual health. The discussion on the matter proceeds apace, many persons taking the Bishop's view of the question while others support that of Mr. James.

Exhibit of Mosquitos at the St. Louis Fair.—Dr. Frederico Torralbas, a member of the Havana Supreme Board of Health, will exhibit a large number of mosquitos which he has brought from Cuba, for the purpose of illustrating the theory of the transmission of the yellow-fever germs. Dr. Torralbas will also erect a series of tents at St. Louis, provided with wire screens, the same as were used when the American and Cuban surgeons made a series of experiments to show that yellow-fever germs can only be propagated by mosquitos biting human beings. Men will be employed for a practical demonstration.

Falling Off in Immigration.—The total number of immigrants for the month of April who arrived at the port of New York was 70,000. In April of last year the number was 101,000.

Anthropometric and Psychological Exhibits at the St. Louis Exposition.—Dr. R. S. Woodworth of Columbia University has been appointed to go to St. Louis this month to take charge of the anthropometric and psychological exhibits at the St. Louis Exposition. He will be assisted by F. Brunner, also of Columbia, who is now in St. Louis arranging the different apparatus required by Dr. Woodworth in the series of experiments he intends to make.

Cincinnati Chapter of Un Sigma Nu.—The fraternity of medical men held a banquet at the Grand Hotel, Saturday evening.

Obituary Notes.—Dr. JAMES S. STEVENS died in Philadelphia on April 25 at the age of seventy-one years.

Dr. THEODORE BANGE, an ex-coroner of Hamilton County, Ohio, and member of the Cincinnati Academy of Medicine, died Monday of diabetes. Dr. Bange was born in Germany on October 2, 1856, and came to this country when he was seventeen years of age. He was a graduate of the Cincinnati College of Pharmacy and of the Miami Medical College. In 1890 he was elected Coroner of Hamilton County on the Republican ticket and served one term.

Dr. HENRY M. COX, for the past twenty years a medical inspector in the New York Health Department, has recently died, after a short attack of pneumonia. He was a graduate of Union College, Schenectady, and the College of Physicians and Surgeons, Columbia University.

Dr. CHARLES H. WINSLOW, a retired physician, of 44 Manhattan Avenue, New York, died on April 29, at the residence of his son, Herbert H. Winslow, the playwright, in New Rochelle. Two weeks ago he was stricken with paralysis. He was born in Charlemont, Mass., seventy-two years ago.

Dr. LOUIS DRESCHER, at one time a well-known physician of New York, who denounced the pomp and display of funerals, had his last request complied with on May 1, when his remains were cremated at Fresh Pond, L. I. He also asked that his ashes be cast to the winds and that no notice be made of his death in the newspapers. Dr. Drescher was eighty-three years of age and was born in Germany.

Dr. ROBERT MCLELLAN READ of Boston died at Los Angeles, Cal., April 21, at the age of fifty-six years.

Dr. CHARLES F. BRUCKNER of Cincinnati died at his home after six weeks' illness. He was born in Germany, and had lived in this city for thirty years.

Dr. EDWARD LIVINGSTON TRUDEAU, Jr., son of Dr. Edward L. Trudeau of Saranac Lake, died of pneumonia on May 3 at his residence, 722 Park avenue. The deceased was thirty-one years of age and was born at Saranac Lake. He graduated in arts from Yale University in 1896. From Yale he came to New York, graduating from the College of Physicians and Surgeons here in 1900. In December last he was married to Miss Hazel Martyn of Chicago. He was a member of the University and Yale Clubs, and had charge of clinics at Bellevue and Vanderbilt Hospitals.

Dr. E. B. HERR died at Lancaster, Pa., on April 28 at the age of seventy years. He was a member of the Pennsylvania Legislature in 1869–70.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

RELATIONS OF MENTAL DISEASE; INEBRIETY, EPILEPSY—TORSION OF FALLOPIAN TUBE—TINNITUS—INTESTINAL OBSTRUCTION FOLLOWING TYPHOID FEVER—HÆMATURIA—LISTER INSTITUTE—ITEMS—OBITUARY NOTES.

LONDON, April 15, 1904.

DR. ROBERT JONES, superintendent of the County Asylum at Claybury, has given some important facts and opinions on "the relation of inebriety to mental disease." Out of 116,000 cases of insanity in our asylums at the present time, he estimates that not less than 11,000 males and 6,000 females owe their state directly or indirectly to drink. The statistics of the London County asylums for the decade 1893-1902 inclusive, show that during this period 35,916 patients, 16,356 males and 19,560 females, were admitted into these institutions. Of these, 21 per cent. of the men and 11 per cent. of the women owed their insanity to drink alone. At the Claybury Asylum the proportion has been 22.7 of the males and 13.1 per cent. of the females. His experience had been disappointing as to actual recovery, for these patients are so apt to relapse after discharge, if they taste alcohol in any form, and only very few will pass their lives without tasting it.

The mental condition of epileptics in relation to prognosis was the subject of a paper read at the Medico-Chirurgical Society, on Tuesday, by Dr. W. Aldren Turner, who based his statements on 161 colony cases. Sex had not a great influence, but males are more frequently epileptic than females, as 91 to 78 per cent. The highest degree of dementia was more common in females. Family predisposition to epilepsy and insanity favored mental impairment. The duration of epilepsy also influences the mental state, the earlier fits appear, especially in infancy and childhood, the less is the probability of the mental state being unimpaired. The profoundest degree of dementia is mostly met with when major and minor attacks coexist. The more frequent the fits the greater mental impairment. Fits recurring in series are accompanied by a high degree of dementia. Dr. Turner holds that the interparoxysmal mental condition is one expression of a neurosis, the fits being another. Out of his 161 cases he found 13.6 per cent. intellectually normal, 31.6 had impaired memory, 25.4 were feeble-minded, and 29.1 demented.

Dr. Fletcher Beach attributed the greater mental deterioration of cases beginning in childhood to the nervous instability of early life and the want of education. He had observed great improvement in epileptic children as their education progressed. It is well known that mental impairment is often more marked in minor than in major epilepsy.

Dr. Bond said, from his observations so far at Epsom colony, lately established by the County Council, he had noticed that first-born children were more often epileptic than others, and he suggested that this might be brought about by the more difficult labor of the primipara. Another factor he thought might be the youth of parents. The fits were not the disease, the essential nature of which is as yet unknown.

At the Obstetrical Society, Dr. Hamilton Bell read a paper on "Torsion of the Fallopian Tube." As in all recorded cases the diagnosis from twisted ovarian pedicle has never been made previous to operation, and the several obstetric surgeons who commented on the paper agreed that diagnosis was mostly impossible, the subject is of little more than academic interest.

Tinnitus is so distressing a complaint in many cases that patients will ask for severe measures. There is a field for the study of pathologists in this trying malady. In a case described by Messrs. Wallace and Marriage, a young woman of twenty-two suffered so much that an attempt was made to divide the eighth nerve as in the operation for exploring the posterior surface of the petrous bone. Noises were present the next day, no facial paralysis. The wound showed no reaction and continued to discharge. Patient sank and died on the twenty-first day. At the post-mortem a fine strand of the nerve was found to have escaped division. No meningitis; internal ear normal. Dr. F. Buzzard, who examined the nerve, reported that the vestibular and two-thirds of the coeliac nerves had degenerated as a result of the resection. Mr. C. H. Fagge said he had not found it difficult to expose and excise the eighth nerve and mentioned two cases. He thought tinnitus more frequent after mastoid operations than usually supposed, that it had probably a peripheral origin. Dr. P. Weber said Alt had found leukæmic infiltration of the nerve.

Intestinal obstruction is so rare a result of typhoid fever that I do not remember any author mentioning it; but two cases were brought before the Clinical Society on the 25th ult., by Dr. E. W. Goodall. Both seem to have been caused by a local peritonitis after ulceration, which would seem to be an efficient cause, so that it would not be surprising should the lesion be more frequent. The first of the two cases presented was in a boy of fourteen, admitted toward the end of an attack of the fever. There had been some abdominal pain late in the case, and a relapse took place with pains, vomiting, etc. Three weeks later a second relapse proved fatal, and at the post-mortem the small intestine was partially obstructed about 2½ inches above the valve by a fibrous band arising out of a patch of local inflammation opposite a deep ulcer. The other case was even more noteworthy It occurred in a young man of twenty-two, who was operated on for perforation on the twentieth day of the fever, and then there was no peritonitis. A fortnight later symptoms of obstruction appeared, and he died suddenly from another perforation. At the post-mortem many small bands were found compressing and kinking the intestine, and the second perforation, about six feet above the valve, in an ulcer just above the highest band. The president said he had never seen or read of such a case.

At the same society, Mr. Walter Spencer related a case of fatal hæmaturia in a man of forty-four, admitted in an almost pulseless state, extremely anæmic and dyspnœic and a history of a fortnight's duration of the bleeding. Temperature fell to subnormal and he died within twelve hours of admission. Careful post mortem failed to find the origin of the hemorrhage and microscopic sections of the kidney, bladder wall, and aorta revealed nothing except that the wall of aorta seemed rather thinner than usual at his age. Mention was made of varicose veins in the ureter and minute ulcers in the bladder, undiscoverable when it was collapsed as lesions which might possibly have existed.

The sudden death of Sir Philip Smyly this day week cast a gloom over Dublin, and also over many professional circles here, for he was well known to many of us and greatly esteemed. He was seized, when at dinner the previous evening, with cerebral hemorrhage and did not recover consciousness. He was the son of Josiah Smyly, a distinguished Dublin surgeon and great nephew of the late Sir Philip Crompton Bart. He was an alumnus of Trinity and took his M.B. in 1860. In the same year and the next he took the licences of the two Dublin colleges, and then spent some time on the continent. On returning he obtained the surgeoncy of Meath Hospital. In 1863 he added the M.D and the Fellowship of the Surgical College to his diplomas. In 1878 he was elected president of that college, being then only forty years of age (as he was born in 1838). From 1893 to 1900 he represented his college in the General Medical Council, the meetings of which gave us the opportunity of renewed meetings with him. He was knighted in 1892. In 1895 was appointed surgeon-in-ordinary to Queen Victoria, and in 1900 the appointment was continued to King Edward. Many other distinctions came to him, and his professional position was in the front rank for many years, and his practice as a surgeon one of the most extensive. All the highest honors fell to him and no one felt jealous of his great success, so that he passes from us unenvied and leaves behind the regrets of the whole profession and thankfulness for a noble example.

Last Friday also died Deputy-Surgeon General Edmund Eyre Lloyd, I.M.S., aged seventy-five. He retired in 1885 after thirty years' honorable service. He was for some time Zillah surgeon and superintendent of the Tanjore gaol.

Intelligence comes to hand of the death, at Lucknow on March 24, of Colonel Robert de la Cour Corbett, D.S.O., Principal Medical Officer of the Oude and Rohilcund districts, aged sixty. He was educated at Queen's College, Cork and Trinity, Dublin, joined the A. M. S. in 1867, became surgeon-major in 1879, served in the Burmese expedition, 1886-87. He was mentioned in despatches, received the Burma medal and clasp and the Distinguished Service order. He was gazetted colonel in June, 1898, and the following September appointed administrative medical officer in Bengal. He was elected F.R.C. S.I in 1880.

A nonogenarian surgeon, Joseph May, F.R.C. S., of Devonport, passed over to the majority on Sunday. He qualified in 1830, and has died at the age of ninety-six. When Charles X fled in 1831, he went to Paris and helped attend the wounded in the hospitals. Later he entered the Polish army, was Surgeon-Major at Mjordowa Hospital, and was present at the siege and fall of Warsaw. On his return to England the next year, he settled at Devonport, where he has lived ever since, and was of late spoken of as the "oldest inhabitant." He took an interest in municipal affairs, had been a member of the Corporation since 1861, and was four times elected mayor.

Inspector-General W. T. J. Haran, R.N.K.H.S., died on Sunday, aged seventy-four. He entered the Naval Ser-

vice in 1850, and retired in 1888. He had a distinguished career, had taken part in the suppression of the slave trade. In the Crimean War he had much service; was at Eupatoria, the capture of Kertch, and in various night attacks on Sebastopol. He held the Turkish and Crimean medals with clasps for Azoff and Sebastopol. Later he accompanied the mission to Dahomey. He also held the Gilbert Blane medal.

The death of Dr. Arthur Garrington, Edinburgh, 1859, Surgeon to H. M. Prison at Kingston, near Portsmouth, has occurred at the age of sixty-eight. He practised throughout his life at Portsea, of which he was a native and where his father had practised for some fifty years.

Dr. E. Donaldson, surgeon to the Londonberry Eye and Ear Hospital, died on April 7, aged forty-nine.

At the meeting of the Hospital Saturday Fund, it was reported that the receipts had reached £23,674, the largest amount recorded in the history of the fund.

The Lister Institute has issued an illustrated pamphlet giving an account of its work and containing notes on serumtheraphy by the medical staff. There is a convenient account of the origin and use of the several sera and directions as to their application.

A child sent for a doctor in the night, on ringing the bell, was asked what was wanted and replying, "It's me," ran away. As the patient died, an inquest was held, and for once the coroner did not blame the doctor—nor did the jury.

Another sapient coroner, objecting to order a post mortem, said, "if the doctor is not able to give an opinion I will give one myself. It is monstrous to say a post mortem should be held in such a clear case." If that is an inquiry —what is the the use of a jury or any opinion besides a coroner's?

THE OLD-TIME GENERAL PRACTITIONER HAS NOT PASSED.

To the Editor of the Medical Record:

Sir: In these modern days of highly-refined specialism, when the human economy has been resolved into districts of suitable size and parceled out among properly differentiated experts, that somewhat modest and self-abnegating individual known as the general practitioner would appear to have lapsed into a state of more or less complete obscuration. One might gather from the current prints that he has "passed" altogether, even in the country districts. And in good truth if our willing and obliging confrères, the specialists, get all the work they appear to consider themselves entitled to, the all-round main portion might well be limited to an occasional case of diarrhœa or general debility.

These, however, your correspondent is constrained to believe, are mere surface indications. He who is willing to scratch down a little bit will find that the old-time general family doctor is still doing business at the ancient stand, quite unmoved by the multiplex proliferation of new species in his environs. To be sure, he has been aided in many sections by new and improved methods of communication and locomotion. He can secure the assistance in an emergency of a neighboring practitioner in his own or the next town, village, or crossroads with greater facility in 1904 than in 1850, or even in 1880. But his work still covers most of the departments of medical practice, and self-reliance must be his watch-word. The writer is well acquainted with a medical practitioner in a small town in Alabama, whose round of duties on a recent day comprehended, in addition to his customary medical cases, a difficult forceps delivery, the reduction of a dislocated shoulder, the sewing up of a scalp wound, the lancing of a tonsillar abscess, the tamponning of the posterior and anterior nares for a bad nose-bleed, and the extraction of a decayed and refractory molar. The doctor is his own druggist, and he is obliged to prepare and supply his own prescriptions. Possibly, his operative cases were not all handled with the same degree of nicety they would have received in a New York surgical amphitheatre, but the patients are all alive, and no doubt willing to trust the doctor in future exigencies.

But his duties among his neighbors are far more varied than is indicated by the above showing. He is consulted about all kinds of diseases occurring among the four-footed and feathered residents of his bailiwick. When times are a bit dull and his work among his human patients not too pressing, he is willing to give the farmers roundabout the benefit of his anatomical knowledge in such little matters as castrating colts and young bulls; and he has certainly performed more than one successful feline oophorectomy. As the doctor is the superintendent of the local Sunday-school, it is beyond question that he is quite capable of administering proper spiritual comfort, or in case of necessity, of conducting a satisfactory funeral service. He is the one indispensable man of his community, and can bear anything his neighbors are able to give him. This is by no means an isolated example of the twentieth-century country doctor, but a type of which our country is filled. Because they belong to a later period is no sufficient reason for differentiating them from practitioners like good old Doctor Rial Strickland mentioned in your editorial column last week. These men may not be quite so "bustling," but they are just as resolute—just as courageous, independent, and self-reliant and, withal, a good deal wiser, than their predecessors of the century just passed.

The city general practitioner does not, of course, embrace so varied a scope in his work. He resorts with far greater frequency to his friend, the specialist, and the trend is but seldom upon the domain of the dentist or the druggist. But the advance of knowledge along special lines has detracted nothing from his dignity, his carefulness, or his importance. He holds his position of trust and esteem in every home, and it is he and not the specialist who is sought when grim pestilence crosses the threshold and the hearts of the family circle are wrung by fears and forebodings. It is the family doctor who sits enthroned in the confidence and affection of the people, and sad, indeed, is the lot of the specialist who has no following in his ranks.

The general practitioner may face the future with serenity. His calling is older than the dawn of history, and while the lines of specialism will no doubt be variously recast, the family doctor with his cheering presence, his sympathetic friendship, and his unhesitating devotion will always hold that position of honor and love which constitutes the sweetest reward of his strenuous and unselfish life.

J. K C.

New York, April 26, 1904.

STATEMENT BY PROF. AUGUST FOREL.

To the Editor of the Medical Record:

Sir: From August, 1879, until March, 1898, I was the director of the Burghölzh Insane Asylum and professor of psychiatry at the University of Zurich, and desire to make the following statement: Dr. Carl Bertuhringer, who has designated me as a representative of the so-called Koenig Medicine Co. of Chicago, and who incidentally represents himself as a former assistant of Professor Forel at the Burghölzh Asylum, was *never* my assistant and never an assistant at the Burghölzh Asylum. He did, indeed, study medicine in Zurich, and, like other students, studied psychiatry with me, and practised in the clinic as a so-called "Practikant," as did other students. Under these circumstances I once permitted him to hypnotise one patient. But he was never either my asylum or my private assistant, and hence has no right to publish himself as such.

Another Dr. Bertuhringer (Dr. Hans Bertuhringer) was actually assistant physician in Burghölsh, and is now second physician at the Rheinan Asylum, Canton, Zurich. But this is quite another person.

Dr. August Forel,
Former Professor at the University of Zurich.

Chiguy, Switzerland, April 6, 1904.

Tubercle-like Bacilli in the Discharge of Chronic Purulent Otitis.—A. De Simoni says that it has recently been shown that bacilli exist which are quite similar to those found in tuberculosis, as far as morphology and coloring reaction are concerned. They can be differentiated by a peculiar growth on artificial media and by animal experimentation. These bacilli occur very frequently in milk and in commercial butter. They were also found present in infusions of several field herbs, and in the fæces of herbivora, particularly in the fæces of milk cows, who let fall the bacilli in the milk during the act of milking, united with little bits of fæces that adhered to the skin. The knowledge of these bacilli is important from a practical point of view, for it is evident that the simple morphological examination of acid-resisting bacilli is no longer a sufficient evidence nor a proof of the tuberculous nature of a lesion, and does not invalidate the necessity of further researches, which will be sure to demonstrate the widespread occurrence of this tubercle-like bacillus. Acid-resisting bacilli are found in the discharge of purulent otitis; they are non-pathogenic and resemble bacilli found in milk and in bovine fæces. They should not be confounded with the smegma bacillus, which cannot be cultivated on artificial media.—*Annals of Otology.*

Progress of Medical Science.

The Boston Medical and Surgical Journal, April 28, 1904.

The Use of the Cystoscope in Determining What Operation Is Advisable in Prostatic Hypertrophy.—F. C. Balch declares that the use of the cystoscope in connection with other methods of examination commonly used, often gives very valuable information in regard to the treatment of prostatic hypertrophy. A general anæsthetic is not usually necessary, as cocaine takes away nearly all the pain. The urethra must be large enough to admit the instrument, and the bladder must be capable of holding about five ounces of fluid without trying to expel it. Otherwise, general anæsthesia will be required. The view of the prostate may save serious mistakes. So many improvements in instruments have been made that the process has been greatly simplified. The value of the cystoscope as an aid in operation is more apparent when the galvano-cautery is to be used than when the more radical operation of enucleation of the prostate is intended. It is a great help to know just what the condition of the bladder is, and whether there is to be considered only an enlarged prostatic gland or some complication in combination with it, such as a stone or some tumor of the bladder wall.

Journal of the American Medical Association, April 30, 1904.

A Case of Parasitic Hæmoptysis.—A. D. Mackenzie reports the case of a Japanese with hæmoptysis due to the Distoma Westermanii. He calls attention to the necessity of recognizing this cause of hæmoptysis, as infection with the parasite causes emaciation, general weakness, and anæmia, such as are observed in early tuberculosis. The microscope shows the absence of the bacilli and the presence of the distoma. The author believes this to be the first recorded case of the kind in America. It occurred in Oregon, the patient having been employed in the fish canneries of Vancouver and adjacent regions, but it was concluded, from a study of the case, that the infection had been contracted in Japan.

Surgical Results in the Philippines.—From an extensive army service, J. M. Banister concludes that the prognosis of operations in the Philippines is practically as good as it is here at home. He advances the following propositions: (1) Aseptic results will just as surely follow aseptic methods in the Philippines as in the United States or in Europe. (2) Should septic infection occur in any clean case subjected to operation in the Philippines, blame the technique, not the climate. (3) Successful attainment of the object, for which operation has been undertaken, will follow careful and skilful surgery in the Philippines with the same regularity that we have been accustomed to observe in such work at home. (4) Convalescence after surgical operations in the Philippines is rapid and satisfactory, when such operations have been carefully and skilfully performed. (5) The danger of mortality after a skilfully performed surgical operation, in which all the details of a rigid aseptic technique have been carried out, is not increased by the influences of the climate of the Philippines unless the patient is, at the same time, the victim of some other serious disease.

Routine Method of Detecting and Differentiating Reducing Agents Found in the Urine.—The following are the conclusions of W. G. Doern: (1) The copper and bismuth tests are reliable negative tests, but a positive reaction must be confirmed. (2) Trommer's test is not always reliable. (3) Fehling's solution is not permanent. (4) Haines' solution is the most convenient of all copper solutions. (5) Bismuth solutions are not reduced by the alkaptons, and serve to differentiate them from other reducing agents. (6) The fermentation test is in itself not characteristic, nor is it very delicate, but it serves to differentiate lactose, glycuronic acid, hippuric acid, the alkaptons and the pentoses, which do not ferment, from levulose and dextrose. (7) If the completely fermented urine should still reduce the copper solution, it indicates the presence of glycuronic acid or alkaptons. (8) Phenylhydrasin test is good, but the technique is complicated. (9) Pentoses may be recognized by the orcin test. (10) Alkaptons are recognized by the characteristic ozonized alkali test. (11) Finally, we can differentiate dextrose from levulose by a polariscopic examination.

Cæsarean Section for Placenta Prævia.—J. B. Deaver has found recorded twenty-five cases. In sixteen in which delivery by cæsarean section was a method of choice, and not of necessity; the maternal mortality was 18.75 per cent. and the fetal mortality 56.2 per cent. as against 25 per cent. maternal and 87.5 per cent. fetal in the remaining cases in which delivery by the natural method was impossible. But in this last series—in which cæsarean section was imperative—of seven fœtuses so delivered, no less than six were already dead or not viable, only one in the series recovering, thus making the improved fetal mortality 50 per cent. In view, therefore, of these figures, Deaver declares cæsarean section is not a method to be unreservedly recommended in placenta prævia, but that it should be confined, when a choice between it and obstetric delivery is possible, to those patients whose cervix is with difficulty dilatable, whose birth canal is rather contracted, in whom immediate extraction of the fœtus is necessary, and in whom further hemorrhage would almost certainly kill either mother or child, or both. He records one personal case seen in consultation in which both mother and child were saved. The operation was called for in the judgment of the consultants, on the following grounds: Previous deliveries by forceps, all of which were difficult, in addition to forced dilatation, version and perhaps forceps again; the risk to the child's life, danger to the mother, both from hemorrhage and injury to maternal parts; and in favor of delivery by abdominal section, the much less risk to the mother and the practical certainty of saving the child, labor being but a few days of full term.

Medical News, April 30, 1904.

Treatment of Bronchopneumonia in Children.—W. P. Northrup emphasizes the following points in the treatment of bronchopneumonia in infants: (1) Castor oil clears the field of operation. It is the first aid to the injured. (2) Fresh cool air reddens the blood, stimulates the heart, improves digestion, quiets restlessness, aids to ward off toxæmia. The temperature of the room should be regulated inversely to that of the child. The patient's feet must always be warm, and the head cool. (3) Plenty of water should be used, both inside and outside; the temperature should be regulated by that of the child. (4) The child must have quiet and rest, and undisturbed sleep. (5) Correct feedings are necessary to avoid fermentation and gas in the abdomen. If there is need of them, hot salines should be used. (6) No coal-tar products should be used. Heart stimulation is not always needed. Hot salines and hot foot-baths relieve the embarrassment of the heart.

A New Method for Transillumination of the Stomach by Means of Fluorescent Media; the Value of Fluorescin, with a Research into Its Properties.—Robert Coleman Kemp describes this method as follows: The patient is given 8 ounces of water in which xv to xx grs. of sodium bicarb. are dissolved to neutralise stomach acidity. This is followed by 8 ounces of water in which are dissolved gr. xv–xx sod. bicarb., 1 drachm of glycerin, and gr. ½ of fluorescin. The patient is then taken into the dark room and the Lockwood electric light (gastrodiaphane) is introduced like the stomach tube. A certain amount of manipulation is necessary in order to determine the lower margin of the stomach at the point of maximum intensity of the light. By pressure on the abdomen and manipulation in forcing the light into the organ for the full length of the carrying tube, the lower border can be accurately located. Moreover, manipulation is at times necessary to determine the relations of the lesser curvature to the diaphragm, a point of differential diagnosis between simple dilated stomach and gastroptosis. With the new method of transillumination with fluorescent media, especially with fluorescin, it is generally unnecessary, and comparing the results with those of water as formerly employed, the writer believes the improvement to be marked as well as a scientific advance. The differentiation of tumors of the stomach, liver, and intestines is rendered easier.

The Behavior of the Costal Arch in Diseases of the Abdominal Organs and Its Importance as a Diagnostic Symptom.—Ellsworth Eliot concludes that: "The symptom of costal resistance may always be elicited in the acute and subacute inflammatory processes of the contiguous underlying organs. In chronic inflammation of these same organs it is present irregularly, either generally when the organ is increased in size, or during a transitory exacerbation of the chronic inflammatory process. In neoplasms or cysts, increased costal resistance may be obtained only when the tumor has reached a sufficient size to mechanically interfere with the movement of the arch. The degree of resistance is in direct ratio to the intensity of the inflammatory process. The increase of costal resistance is most marked in that segment of the costal arch which is situated closely to the original point of infection, or, in the case of neoplasm, to that part of the arch which lies over the most prominent part of the tumor. Its value as a diagnostic symptom is greatest in pathological conditions invading the upper half of the abdominal cavity, especially of the liver, stomach, pancreas, gall-bladder, spleen, duodenum, kidneys, and in extensive aneurysm of the abdominal aorta. In cases of empyema, only when the abscess-cavity occupies the lowest part of the thoracic cavity is there resistance of the costal arch proper. The presence of asymmetry in the elastic

recoil is very much less frequently observed than asymmetrical increase in the costal resistance, the former being present only in cases of cysts, neoplasms, and inflammatory exudates in which the acute symptoms have subsided, while it is invariably absent in all the acute and subacute inflammatory. With the subsidence of the inflammatory process, whether by radical or palliative procedure, the costal resistance again returns to its normal condition. The presence of this symptom is very valuable not only in facilitating accurate diagnosis, but also in serving as a useful guide to that incision through which the inflammatory focus may be most rapidly exposed and satisfactorily treated. The proper and skilful technique in determining the presence or absence of this symptom may be easily acquired, and therefore the application of the symptom may be utilized by the general practitioner and not confined to those engaged in the pursuit of any particular specialty.

New York Medical Journal, April 30, 1904.

Epigastric Hernia.—C. G. Cumston defines this variety of hernia as a rupture occurring at any part of the linea alba between the tip of the sternum and the navel. He reports two cases due to subperitoneal lipomata, two to a preformed defect in the fibrous tissue of the linea alba, one due to trauma and coming on acutely, and one due to pregnancy. He regards the prognosis in all such groups as good. Trusses are of little value. The proper plan of treatment is to do the radical operation, which simply consists of a cutaneous incision over the tumor, which exposes the lipoma that is practically always present, and when this is dissected out the neck of the sac should be sought for. The sac is then opened, and the contents, if any, are returned into the abdominal cavity. The sac is then ligated behind the neck and the linea alba closed by any device that may suit the surgeon, but it has always seemed to the writer that overlapping and mattress sutures have given the best results.

A Plea for the Earlier Diagnosis of Uterine Cancer.—E. H. Maier shows that the mortality from uterine cancer is undergoing a reduction. This reduction is due to earlier diagnosis and a greater willingness on the part of patients to submit to operation. He believes that we can conservatively accept in the absence of a more tangible explanation the view that trauma is often responsible for at least the propagation if not the cause of the disease. The fact that women suffering from the so-called condition of "cancerophobia" are comparatively free from the disease should be regarded not altogether in the light of a coincidence, but rather the relation between this immunity and the constant medical surveillance which the patient is under, should be considered. Finally, since the healthy uterus is less liable to undergo progressive malignant changes, a highly important element in prophylaxis should be to keep the uterine mucosa in as normal condition as possible, and under no circumstances to neglect lacerations, inflammation, and erosions, especially during the menopause.

American Medicine, April 30, 1904.

Temporary Sutures for Hæmostasis.—William C. Wood explains the method he uses to control bleeding. It consists of the application of a temporary deep suture passing under the artery, either in the wound itself or above it. The suture may be of catgut, of silkworm gut or of silver wire, or in a great emergency of strong linen thread. Thus with little more danger of sepsis than would result from giving a hypodermic injection, the physician can control the bleeding, and then have time to proceed with preparations for an aseptic operation if this is necessary. This is an emergency method and a most valuable one.

Surgery of Urinary Tuberculosis in Women.—Guy L. Hunner presents the following general summary of his paper: Tuberculosis of the urinary system is a surgical disease, being, as a rule, unilateral, and often the only focus of tuberculosis in the body. If the disease is bilateral and there are no pronounced symptoms referable to the kidneys, the treatment should be that usually accorded tuberculosis of the lungs, viz., suitable climate, nutritious diet, and proper regulation of the patient's rest and exercise; but if one or both sides begin to cause marked local or general manifestations, surgical intervention is often of great benefit. In case of bilateral disease, or in associated disease of the lung, the anæsthetic is of great importance. Local cocaine anæsthesia may be used for nephrotomy, and nitrous oxide gas for nephrotomy, nephrectomy, or nephroureterectomy. Thickened ureters are generally tuberculous, and should be removed with the kidney if the patient's condition justifies. Bladder disease in these cases is often non-tuberculous, and removal of the diseased area should not be attempted at the first operation. If the bladder fails to heal within a year under ordinary methods of cystitis treatment, the disease is probably tuberculous, and if not occupying more than half of the bladder, it should be excised.

Family Periodic Paralysis.—George E. Holtzapple reports his observations of this disease which he has seen in a family extending now along some branches, through a period of four generations. A typical case of this peculiar affection is characterized by periodic flaccid motor paralysis involving all the voluntary muscles, except those of the face, eyes, tongue, organs of speech, of deglutition, and of the sphincters of the rectum and bladder. The paralysis may be partial or complete, local or general. It may be confined to the neck, or half of the body may be completely paralyzed, while partial paralysis affects the other half. The attack may be partial in the morning and become complete during the day. There are absolutely no psychic symptoms. The mind remains perfectly clear. The onset is almost always at night, and is ushered in during sleep, with either very slight or no premonitory symptoms. The patient may retire with a feeling of weakness in the extremities, or he may have a voracious appetite which, if satisfied by rich food, is sure to precipitate an attack. Many of the patients have suffered from periodic sick-headache, which the writer regards as equivalent to an attack of paralysis, both having a common cause, whatsoever that may be. None of the special senses has been involved in these cases. It is not uncommon for one of these patients to be perfectly helpless at 7 A.M., and at 11 A.M. be engaged in doing a hard day's work without the slightest inconvenience. The writer believes that the disease is not considered serious. A number of the cases which he has observed have died in an attack. The pathology of this disease is not understood. The writer regards this condition as a vasomotor neurosis, affecting the blood-supply to the anterior horns which are almost wholly supplied by the anterior spinal artery. He has treated these cases with large doses of bromide with caffeine. This treatment has been followed by unmistakable relief, and has a very decidedly abortive influence.

The Lancet, April 23, 1904.

Reno-renal Reflex Pain.—D. Neuman reports three cases of this peculiar condition, in which the symptoms pointed to the sound kidney being the diseased one. Case 1 presented pain simulating renal colic on the left side, of five years' duration, but other signs and symptoms pointed to calculus of the right kidney. Operation showed stone in the latter. In Case 2, symptoms of calculus on the right side had lasted a year and a half. The *x*-ray detected stones on the left side. These were removed and the right-sided pain disappeared. Case 3 was one of pyonephrosis limited to the right side. Albumin and pus were found in the urine, while pain was most marked in the left lumbar region; nephrectomy resulted in cure.

Anthrax Infection of a Compound Fracture.—P. Paterson's patient was a man whose work was to mix animal's hair with lime in making mortar. He fell and received a compound fracture of the humerus. Two days later sloughing appeared about the wound, and, owing to his serious condition, disarticulation was done at the shoulder. His subsequent history was uneventful. Cultures made from the wound discharges showed anthrax bacilli and staphylococci derived probably from the materials in which he worked.

The Mental State in Myxœdema.—H. Wolseley-Lewis declares that the changes in the mental condition of those suffering from myxœdema are almost confined to the sphere of action. It seems necessary to suppose that either some toxin in the plasma surrounding the motor cells inhibits the chemical processes which originate a motor impulse or that the absence of some substance from the blood interferes with the discharge. This toxin is neutralized or this essential substance is supplied by the administration of thyroid extract; the patients get well, and keep so as long as they continue to take thyroid. He has observed that the simultaneous exhibition of syrupus ferri iodidi appears to assist its action. We see this class of patients described by such terms as dull, listless, apathetic, taking a long time to comprehend and to answer questions, of sluggish ideation, of sluggish mentation, demented, depressed, moping, lethargic, suspicious, of impaired memory, sleepy, torpid, discontented and irritable. He suggests that this proves on careful inquiry to be but part of the truth, and that the majority of these cases are sent to an asylum in error and could be as well treated outside one.

Some Forms of Pseudo-appendicitis.—According to Professor Bollentint appendicitis attacks may be simulated by entero-typhlocolitis, or, as he styles it, intestinal lithiasis. Differential points are the following: The subject who is attacked by appendicitis is nearly always seized unawares in the midst of robust health. In attacks of entero-typhlo-colitis there has nearly always been a period of digestive troubles which the patient will remem-

er even if he has never examined his stools and if he is naware that he is suffering from entero-typhlo-colitis. le will recollect, when interrogated, that he has already ad attacks of pain in the left side or in the transverse gion of the abdomen. He will say that he is subject to testinal troubles, constipation, diarrhœa, especially nder the influence of cold or departure from regular diet. n appendicitis the maximum of pain is in the cæcum ry near the appendix, but in entero-typhlo-colitis the ain is not definitely localized; it radiates over the path f the colon, principally on a level with the hepatic flexure nd splenic flexure. There is another point often very ainful between the umbilicus and the ensiform appendix. n this case it is the transverse colon which is the seat of he pain. Diagnosis, then, will embrace examination of he stools to see if they contain slimy substance or even ibe membrane or sand. When the diagnosis is once etermined and all idea of appendicitis is rejected, treatent will be given for a paroxysmal attack of entero-yphlo-colitis. But it will be well to watch carefully cBurney's region and always to bear in mind the possible nflammation of the vermiform appendix with its protean orms which are so deceitful.

British Medical Journal, April 23, 1904.

The Use of Radium in a Case of Rodent Ulcer.—J. A. B. Hammond reports the following case: The patient was a man of eighty-five years, and was suffering from rodent ulcer. When first seen by the writer, it was the size of the top of a teacup, but limited to the area supplied by the second division of the fifth nerve. It was determined to try the effect of radium bromide. A small tube of 5 milligrams was used. Treatment was begun by giving an exposure daily of fifteen minutes, holding the tube within half an inch of the ulcer, without any screen, and slowly moving it over the surface. After four or five days, although there were no visible effects, the patient said the pain was less troublesome; and the exposure was then given twice a day. The discharge which had been considerable, rapidly decreased. The granulations were more healthy, but the edges of the ulcer remained unaffected. The patient finally refused to be bothered with any treatment at all. Since then the ulcer has spread deeply, the pain increased, and the discharge returned. This proves that even in such a desperate case as this, radium has a distinctly beneficial effect.

On the Administration of Chloride of Ethyl and Somnoform, Alone or in Conjunction with Nitrous Oxide or Ether.—G. W. Bampfylde Daniell describes (with diagram) a simple inhaler made by attaching together the facepiece and angle-mount of a Clover's portable ether inhaler and introducing the agent through the tap commonly found in the angle-mount, used for gas in the nitrous oxide-ether sequence. The writer states that after using this clover method, he adopted the following modifications: Instead of the hole and wooden plug in angle-mount he prefers the tap with metal tube continuation. A tap is easier to manipulate than a plug and cannot get lost. At the commencement of the inhalation instead of projecting the fluid through the tap directly from the bottle, a definite quantity is first measured out into a small tube made of thick glass. To this measure-glass is attached a short piece of red rubber tubing, by means of which it is accurately attached to the end of the tap of the angle-mount. The writer mentions a few of the advantages of this inhaler and describes the method of administration. The inhaler is so regulated that the patient inhales a dilute vapor to which he soon grows accustomed, when it may be made stronger. Accuracy of dosage is assured. The anæsthetic can be given gradually, and that after the facepiece is adjusted; this prevents coughing, holding the breath, etc. More can at any time be added if necessary, either by projecting the fluid through the large open tap or by measuring off more in the tube. The facepiece does not have to be removed at this time. The tube, if any contents remain, can be used again in hospital practice. In the event of voluntary struggling, it is easy to empty the tube by tipping it up with one finger. If the tap is turned off before the tube is fixed on, the patient will not smell the narcotic when the mask is applied. A free airway, no lint, sponge, or wool to breathe through, and no freezing vapor near the mouth or nose is of advantage. Nitrous oxide can be given as a preliminary. Bromide of ethyl can be given and measured by this apparatus. The ether chamber may be retained. Finally, the economy in the amount of anæsthetic used is an advantage. The writer has given chloride of ethyl by this apparatus with satisfactory results.

Deutsche medizinische Wochenschrift, April 7, 1904.

Ankylosis of the Maxillary Articulation Treated by Wedge Incision of the Ramus.—Konig reports a case in which, as a result of osteomyelitis in childhood, ossification of the masseter took place, with great restriction of motion of the jaw. Several operations were done without affording permanent relief, and when the patient came under the author's observation the jaw was almost entirely immobilized. On exposing the bone it was found of ivory-like hardness, so that it could not be cut with a saw. Accordingly a series of holes was made along the lines of projected section by means of the electric drill and a wedge-shaped segment of bone with its base at the edge of the maxilla chiseled out of the ramus. After the operation forcible dilatation was first employed and after that, by practice, the patient was able to secure and preserve a very good range of motion.

Decortication of the Kidney.—Thelemann stripped the capsules from the kidneys of dogs and rabbits and made sections through the cortex at varying lengths of time after the operation in order to determine the nature of the reparative process. He found that the capsule was restored in a comparatively short space of time from the remnants of the old capsule adhering to the surface of the kidney, the septa entering the renal parenchyma and the fatty capsule. The author is uncertain as to the degree of vascularization present, but as the former conditions are reproduced in fourteen days after operation, he expresses doubt as to the permanent effect of the procedure when performed for nephritis. A temporary benefit is no doubt produced by the relief of the intrarenal tension which the operation effects.

Exohysteropexy (Kocher) after Myomectomy and for Prolapse.—Lauper and Kocher describe an operation devised by the latter in cases in which fibroids have been enucleated or in which serious prolapse exists. The principal feature of the innovation lies in the fact that the uterus or its stump is brought into position extraperitoneally and under the fascial layer. For simple prolapse the organ is drawn up into the median incision until the peritoneum can be united at the upper and lower wound angles at about the level of the internal os. The ovaries are left in the abdomen. The peritoneum on either side of the uterus is affixed to it by several sutures. The fascia is then united over the uterus. In myomectomies the uterine body or the stump is similarly treated, except that a drain is carried down to the peritoneum, and in some cases the fascia also is sutured around the organ so that it comes to lie above this layer. Eight cases have been treated in this way with results satisfactory to the authors, who claim that danger from secondary hemorrhage is avoided, that there is less risk of infection, and that the operation is easy to carry out.

Berliner klinische Wochenschrift, April 11, 1904.

The Use of Scopolamin Hydrobromate in General Practice.—Liepelt warmly recommends this drug in excitement of nervous origin, mental aberration and delirium tremens. Its sedative action in these cases is more effective and reliable than that of morphine or chloral. Scopolamin belongs to the tropeins, paralyzes smooth muscle, dilates the pupil, inhibits secretion and the inhibitory cardiac nerves. In contradistinction to the other tropeins scopolamin diminishes the excitability of the cerebral cortex and is a narcotic. The author uses it hypodermically in doses of from 0.4 to 0.8 mgm., and says that it is always well borne, produces its effect promptly, and that he has never found it necessary to exceed the maximum dose of 0.001 g. Like all agents of this sort, in some instances it fails completely, but this does not often occur.

Therapeutic Attempts with Electro-magnets.—Toby Cohn describes a series of observations made on patients suffering from nervous diseases in order to determine the value of the electro-magnetic field as a means of treating these conditions. The apparatus used is complicated and produces a change of the polarity of the magnetic field many times a second. Thirty patients were subjected to systematic treatment of various neuralgias, neuroses, etc., with improvement in eighteen of the number. This was in some cases only slight and in others of short duration, and even in the most striking instances it was only symptoms that were relieved and the underlying cause remained unaffected. The author ascribes the good effect of the treatment to suggestion alone, and says that its value is yet to be demonstrated.

Münchener medizinische Wochenschrift, April 12, 1904.

Experimental Observations on Agglutination in Tuberculosis.—Schwarzkopf describes a series of investigations made on the agglutinating power for tubercle bacilli of the blood of healthy and tubercular rabbits. His results indicate the unreliable nature of the reaction. The test fluid was a preparation of human bacilli, and the animals were innoculated with either human or bovine tubercle bacilli. Healthy rabbits never agglutinated the bacilli, but the reaction failed in about one-half of the

infected animals and was especially uncertain in those treated with the bovine form. It was only after the third week that the reaction was frequently positive, and in cases tending to recovery or near death agglutination seldom occurred. Some of the infected animals gave the reaction though no demonstrable lesions were present.

The Precipitin Reaction with Material from Mummies.—Meyer made extracts of muscular tissue obtained from three different Egyptian and Greek mummies. The age of the first of these was 5,000 years, that of the second, 2,000 years, that of the third is not given. It was not possible to obtain a perfectly clear filtrate from the second specimen, so it could not be used for the experiments. Speciments one and three gave perfectly distinct and typical precipitation reactions with the serum of rabbits injected with human hydrothorax and ascites fluid. While of no direct practical value the observation is of great theoretical interest and may also be of service in solving certain anthropological and archæological questions.

Is There a Physiological Albuminuria?—Oswald cites the figures of Leube and others which show that the urine of healthy individuals who have been subjected to over-fatigue contains small quantities of albumin in a large percentage of cases. On the other hand, albuminuria is a very rare condition in those who have not been over-exerting themselves, and Henschen found on examining ski-runners that a large number of those in whom the exercise had produced albuminuria also exhibited acute dilatation of the heart. An over-fatigued person cannot therefore be regarded as in a normal state, and if the labor be pushed too far not only albumin, but casts appear in the urine. It has been found that serum albumin diffuses much more rapidly through animal membranes than does serum-globulin, but the albumin found in these cases of so-called physiological albuminuria is a mixture of globulins often without any serum albumin at all, therefore the view of those who strive to explain the phenomenon as being due simply to a less efficient "renal-filter" is untenable. Furthermore in cases of acute parenchymatous nephritis the first albumin to appear is englobulin, whereas this is rare in the chronic forms. The author therefore concludes that albuminuria appearing after exertion is not to be regarded as physiological, and that it is a more significant phenomenon than is usually supposed, since it indicates distinct parenchymatous irritation.

French and Italian Journals.

A Case of Hydrocephalus.—Chaigneau describes this case that he observed. The mother entered the hospital in the eighth month of her pregnancy. The membranes had ruptured two days before. The patient was greatly fatigued on account of the journey she had taken, and on account of the prolonged labor. The abdomen was tense, very large, and so painful that palpation was very difficult. The fœtal parts could not be made out externally. Vaginal palpation revealed a hand, and the buttocks. Dilatation proceeded quickly. The feet were easily seized, and the body was born all but the head, which remained immovable. On introducing the examining finger, a sensation of fluctuation was clearly felt on top of the fetal head. The sutures were enormous. By means of the basiotribe the head was punctured, and a large quantity of liquid flowed out. In a very short time the head was born spontaneously. The mother's condition was good. The head of the child measured 53 cm. about the large circumference; the biparietal diameter was 16 cm.; the occipito-mental, 19 cm.—*Gazette Hebdomadaire des Sciences Médicales*, March 13, 1904.

A Choreic Family.—Antonio D'Ormea records the histories of eleven members of one family, of four different generations, all of whom were affected by hereditary chorea of the grave form, and several of whom died insane. In the first two generations only one person was choreic. In the third generation four were affected, one of whom became insane. The fourth generation had four members choreic and insane, and one with chorea alone. The fifth generation were still under thirty years of age, the age at which the others became affected with chorea. The choreic movements were typical of Huntington's chorea, rendering the patients helpless and unable to speak. Not all of them had suicidal impulses, although two had them. In the fourth generation one member did not suffer from chorea, and this child was never nursed by the choreic mother, because she died at his birth. It is considered possible that this may have had some bearing on the absence of chorea in this child. The degenerative nature of the disease, its seat in the cortex of the cerebrum, and the predisposition to nervous disease acquired from the parents, indicate that the child may be affected by the poor condition of the parent and the poor quality of the milk furnished to the babe.—*La Riforma Medica*, March 23, 1904.

The Seat of Tonic and Clonic Epileptiform Convulsions.—Nino Samaja, from his experimental work, believes that the motor cortical zone is the exclusive center of clonic convulsions in the adult dog and cat. The rest of the cerebro-spinal axis can in these animals give rise only to tonic convulsions. The bulb or isthmus of the encephalon in the rabbit is the seat of clonic convulsions. In the green frog the bulb isolated from the isthmus of the encephalon is still the seat of a clonic convulsive center. The medulla in all its extent, in all the mammalia, is the seat of an exclusively tonic center; it never provokes clonic convulsions. In the green frog, the medulla provokes, on the contrary, clonic convulsions. The clonic convulsive center rises progressively in the animal scale from the medulla to the cerebral cortex. In man, the seat of tonic convulsions is exclusively basilar; that of clonic convulsions is cortical.—*Revue Médicale de la Suisse Romande*, March 20, 1904.

Two Cases of Tuberculous Enteritis with Perforation into the Peritoneal Cavity.—Chappet reports two cases. The first patient was a man thirty years old. The family history was negative. He had an attack of pleurisy in 1901, and since that time he had had a cough. When he entered the hospital he was very much emaciated; in both lungs were signs of cavity formation. Abdominal meteorism developed, and severe vomiting. There were several stools a day, very loose in character. At autopsy when the abdomen was incised, much gas escaped. A part of the small intestine was glued to the colon. A yellowish liquid escaped from the peritoneum. About thirty cm. from the ileocæcal valve a round perforation was discovered. The stomach and the duodenum were in normal condition. In the last part of the ileum there were some characteristic ulcerations. In the center of each of these there was a perforation. Ulcerations were also found in the large intestine. The second patient was also tuberculous. At autopsy nothing abnormal was found in the duodenum or stomach, but there were numerous tuberculous ulcerations in the stomach.—*Lyon Médical*, March 6, 1904.

Early Diagnosis of Vesical Tuberculosis.—Guyon declares that the diagnosis of vesical tuberculosis at an early period is before all to be made by cystoscopy. The factors are to be considered in cystitis: The frequency of micturition; pain; suppuration. The combination of these three determine cystitis. Any one symptom by itself does not clinch the diagnosis. Tuberculous cystitis may appear, however, late in vesical tuberculosis. The writer then relates the history of a patient, a young woman of twenty-one years. She had for some time suffered from hæmaturia, more abundant near the menstrual period. There was no pain. The kidneys were healthy. Cystoscopic examination revealed vesical ulcerations. At first they seemed like simple ulcerations, but they were later seen to be tuberculous. These ulcerations often heal very quickly. The treatment consists in a general tonic medication (arsenical), which aids in the cicatrization of the local foci. In this case which the writer reports, the affection is primary tuberculosis of the bladder. There is no pain. The ulcerations have a tendency to heal rapidly, so there is need only of general treatment. Surgical interference is useless.—*Journal des Praticiens*, April 16, 1904.

Blenorrhagic Vulvovaginitis in Children.—Giovanni Raffaelli writes an exhaustive paper on blenorrhagic vulvovaginitis in babies and children under twelve years. The condition is quite frequent among the lower classes who live together promiscuously. Its frequency may also be ascribed to the delicacy of the vaginal epithelium, which renders the entrance of the poison doubly easy. Direct contagion by rape is fortunately comparatively rare. The indirect may arise from sleeping in the same bed as the elder members of the family, by baths, toilet articles, clinical thermometers, public conveniences, etc. There have been severe epidemics also in children's hospitals from the use of articles in common. Autoinfection may occur from blenorrhœal conjunctivitis. The process usually involves all of the urogenital organs, though sometimes limited to the vulva, or that and the vagina. Touton and Jadasson have demonstrated that in some pathological and physiological conditions the gonococci pass directly through pavement epithelium. The author thinks that as a rule the uterine neck is not affected. This results in part from the fact that this part in children is not functionally active, that it is in an embryonic condition, and that the uterine orifice is so small, and filled with a tough plug of mucus. The symptoms are usually local; the vulva and vagina are hot, swollen, and bathed in a greenish yellow mucopus. If the urethra is involved, pus exudes from this on pressure. If the uterus is involved, there is hypogastric pain, tenderness on rectal pressure, and fever. The course of the disease is usually from a few weeks to three months. It has a tendency to become chronic especially in weak subjects. For a positive diagnosis from

ther forms of vaginitis it is necessary to find the gonoccus in the discharge. The most serious complications those involving the uterus and the tubes, and even ath has been known to occur from peritonitis. Articular eumatism, endocarditis, and pleurisy may occur. The gnosis is usually favorable. Treatment consists of ections and washes of permanganate or protargol two three times a day.—*Rivista Clinica di Pediatrica*, March, 4.

e American Journal of the Medical Sciences, April, 1904.

A Case of Prenatal Appendicitis.—W. Fred. Jackson orts the case of a girl baby who died with symptoms metallic poisoning when about forty hours old. The position is that the child died of poisoning from the inistration of bichloride of mercury with citric acid, some unknown manner. Post-mortem examination ealed an appendix much elongated and congested, g upon the cæcum, and bound down upon it by erous and firm adhesions. The surfaces of the apdix, where it was reduplicated upon itself, were firmly nd together. The small intestine and the colon w the ileocæcal opening presented no evidence of mmatory action. The mother's labor was normal. child was strong and apparently well up to a very rt time of its death. The writer thinks that the inmatory condition must have occurred previous to the d's birth. The inflammation was evidently in the e of resolution.

rcinoma of Abdominal Cavity; Remarks on Cytodiag-.—Norman B. Gwyn, after describing a case of this re, says that we are at present much nearer an accu- working knowledge on the subject of diagnosis of ignant disease by means of the character of the cells d in the exudate than ever before. In a majority of nces one may suspect malignant disease if large num- of unclear figures, typical or atypical, are present; their absence by no means excludes the possibility of gnancy. Occasional unclear figures are to be found other conditions. Endothelial cells with many nuclei probably but not certainly more numerous in cancer- exudates. Cells of exudate tending to appear in ches or groups with intercellular fibrillæ are to a e, suspicious. Small groups of lymphocytes or pus are often seen. Unusual cells of glandular or other must be given a significance of their own. Mechaniexudates show more often numbers of large endothelial , often in large plaques, the "placards" which Widal Ravant consider pathognomonic of mechanical exus or transudates.

e Clinical Behavior of the Lymph Glands in Typhoid r.—David L. Edsall declares that typhoid fever s its part so largely in lymphatic tissues that it is to pected that it should at times produce widespread dular enlargement, readily recognizable at postem, particularly since the disease is well known to be neral bacterial infection and not a local process. ically, however, in cases in which it is necessary to inguish between typhoid fever and other diseases ich glandular enlargement is common, the discovery many readily palpable glands is usually accepted as g a point in favor of the latter diseases and against hoid fever. The writer has made numerous observas on this point, the results of which he mentions in paper. He believes that in a considerable number ases, widespread glandular enlargement—slight, but palpable—occurs in this disease. It is as marked in instances as that which usually occurs in certain r infectious diseases, which is usually looked upon as ewhat distinctive of those diseases. The regions that has especially observed are the groin, the axilla, and anterior and posterior parts of the neck. In some the epitrochlear and the brachial glands were en- d. The enlargement of the glands in typhoid fever s to occur late, and often so late as to be of no diagic importance; it is also often so slight that it can rely be of much help. The writer does not believe slight enlargement of the lymph glands which he has rved can be of great importance in distinguishing condition from other infectious diseases. The chief rest in his observations he believes to be in their tion to diagnosis. Glandular enlargement, unless marked, cannot be considered a strong point against hoid fever, for enlargement of the degree usually in syphilis is not very uncommon in typhoid fever, a somewhat lesser degree is very common.

marks on Gastrosuccorrhœa and Tetanic Attacks urring with Chronic Ulcer of the Stomach.—J. Kaufn states that there are two varieties of gastrosucrhœa—the periodic and the chronic. In the periodic re are attacks of vomiting of gastric juice coming on spasmodically and lasting from a few hours to several days. The condition has been attributed to a morbid overactivity of the secretory nerves of the stomach, which is regarded as a neurosis by itself, as a symptom accompanying hysteria or neurasthenia, or as a symptom occurring in the form of gastric crises in tabes and other spinal diseases. The remaining symptoms occurring with such attacks, pyrosis, headache, gastric pains, and vomiting, are classed as secondary manifestations. In chronic gastrosuccorrhœa the conditions are entirely different. It is not of a nervous character but is dependent upon anatomical changes of the stomach or duodenum. Some authors apply the term gastrosuccorrhœa to all cases in which gastric juice is found in the fasting stomach. Others maintain that there should be a distinction between the cases in which the presence of gastric juice in the fasting stomach is only a symptom, and another well-defined group of cases for which they would reserve the term gastrosuccorrhœa. Besides gastric juice in the fasting stomach, there must be the symptoms—pyrosis, vomiting, etc.—to justify the diagnosis. As to whether this condition is a disease *per se*, a consensus of opinion has not been reached. Whenever an operation or an autopsy has afforded an opportunity to gain an anatomical basis, it has revealed ulcer or its sequelæ. As long as there is no proof that gastrosuccorrhœa may occur as an independent disease, it will be well to regard it merely as a symptom. The condition is treated by freeing the stomach from its stagnating contents. The methods usually resorted to in gastric ulcer are also used. Tetanic attacks are of serious import and often lead quickly to a fatal issue. In the latest summary of these cases by Albu, forty in all, there were thirty-one deaths—77½ per cent. mortality. It may be possible to end the attack by means of salt infusions. A recurrence can be prevented only by removing the cause. Whenever it is impossible to correct the motor insufficiency by internal means, it should be overcome by operation, either by pyloroplasty, gastroenterostomy, or resection, as the case may require. This is the rational treatment for gastrosuccorrhœa, as well as for tetany.

Empyema of Frontal Sinus, Followed by Extradural Abscess of Frontal Lobe; Operation and Death from Hypostatic Congestion of the Lungs.—Paul S. Mertens reports this case which came under his care. The patient was a man aged forty years. He was suffering from an abscess in the region of the glabella. This abscess was incised and about one ounce of pus evacuated. There was then complete and immediate relief of pain. But in a few days the pain returned. On probing the wound, necrosed bone was found, and in several places the probe seemed to enter the cranial cavity. A diagnosis of extradural abscess was made, and operation was performed. A three-inch incision was made in the integument of the forehead through the seat of the abscess. A half-inch trephine was applied to the center of the necrosed area and a button removed. An extradural abscess was found. Removing the necrosed bone opened the left frontal sinus and about one-half ounce of pus was found in it. The wound was irrigated and an iodoform gauze dressing applied. Several days later the right frontal lobe was aspirated. Pus and broken down brain tissue were evacuated. The patient's condition slowly improved for about a week, when a marked change for the worse occurred. The lungs became involved and he finally died twenty-one days after the operation, from exhaustion. The writer believes, from the condition of the brain at autopsy, that this patient would have recovered from the abscess. The pulmonary complications were without doubt the cause of death. The abscess was the direct result of the empyema of the frontal sinus.

Renal Disease of Pregnancy and Retinitis Albuminurica.—Leo Jacobi gives the history of this case. The patient, a woman of thirty-three years, was delivered twice of a macerated fœtus. The husband had had syphilis. After an interval of about two years, the patient conceived again. At about the sixth month she began to suffer with severe headaches. Other symptoms supervened—nosebleed, vomiting, diplopia, blurred vision, and impaired hearing. A right-sided facial paralysis developed. She passed but little urine. Ophthalmoscopic examination showed the presence of "retinitis albuminurica." Although the patient was kept in bed on a milk diet and treated with hot baths and antiluetic as well as eliminative medication, no improvement followed, so labor was induced. The child lived for two weeks and showed no signs of syphilis. A striking improvement followed delivery. The writer believes it most likely that a small central hemorrhage was responsible for the paralysis. He also thinks that the renal disturbance originated in the last pregnancy. He concludes that future conception in this patient will have to be prevented a tout prix.

Book Reviews.

TREATISES ON DISEASES OF THE SKIN. For the Use of Advanced Students and Practitioners. By HENRY W. STELWAGON, M.D., Ph.D., Clinical Professor of Dermatology in the Jefferson Medical College and Woman's Medical College, Philadelphia; Dermatologist to the Howard and Philadelphia Hospitals; Member of the American Dermatological Association; Associate Member of the French Society of Dermatology and Syphilography, and of the Italian Society of Dermatology and Syphilography. Third Edition. With 220 Illustrations in the Text, and 26 Full-page Lithographic and Half-tone Plates. Philadelphia, New York, London: W. B. Saunders and Company, 1904.

THOSE who are familiar with Stelwagon's Dermatology will not be surprised to learn that a third edition has come out within a little over a year after the appearance of the second. This is hardly more than a reprint, however, for dermatology is not making such rapid strides as some other of the branches of medicine. Mention has been made of the newer applications of radiotherapy, the Finsen light, Röntgen rays, and d'Arsonval currents. The illustrations, particularly the plates, are very good, some of them excellent. The colored plates are hardly as faithful as those taken from original photographs, but all will be helpful to the student and non-specialist.

DIRECTIONS FOR LABORATORY WORK IN PHYSIOLOGICAL CHEMISTRY. By HOLMES C. JACKSON, Ph.D., Assistant Professor of Physiological Chemistry in the University and Bellevue Hospital Medical College. Second Edition. Rewritten and Enlarged. New York: John Wiley & Sons; London: Chapman & Hall, Limited, 1903.

THE second edition of this manual appears as the result of a thorough revision of the original, which was issued in 1902; numerous additions to the subject matter have also been inserted. It is supposed that the use of the book will be supplemented by lectures, hence the text has been contracted within the smallest possible space. The tests for the various carbohydrates, fats, and proteids are first considered, following which muscular tissue, nervous tissue, and bone are taken up. Several chapters on the chemistry of digestion follow. The book terminates with sections on the physiological chemistry of the blood and urine, of which the latter is by far the most complete. The work is not designed to be a treatise on physiological chemistry, but essentially a collection of experiments for the use of the laboratory beginner. The author has successfully accomplished this purpose, and the work will certainly find a place in its appropriate field

DISEASES OF THE GALL-BLADDER AND BILE DUCTS, Including Gallstones. By A. W. MAYO ROBSON, F.R.C.S. Assisted by J. F. DOBSON, M.S. (London), F.R.C.S. Third Edition, 485 pages, illustrated. Wm. Wood & Co., 1904.

THE very recent progress in the domain of surgical affections of the gall-bladder and bile ducts has warranted a new, revised, and extended third edition of Robson's classical work upon this subject.

The chapter dealing with the operative technique in gallstone disease is especially good; many of the author's suggestions are excellent, and their adoption will much simplify the operations upon the biliary system of ducts. He works with a small incision through the fibers of the right rectus muscle (2 to 3 inches), prolonged, if necessary, upward and inward to the ensiform cartilage. By lifting the liver in bulk and rotating it at the same time that traction is made upon the gall-bladder, the ducts and gall-bladder are brought into one straight line, and raised up toward the abdominal wall. Access to the hepatic and common ducts and the deep parts of the cystic duct is thus rendered much freer.

Cholecystostomy is considered by Robson the operation *par excellence* in gallstone disease. Cholecystectomy is only performed in which there is extensive or malignant disease of the gall-bladder and when the cystic duct is stenosed or occluded. For exploration of the common duct Robson like all others prefers to use his index-finger, resorting only to the probe or scoop when the duct is not sufficiently dilated to permit of the introduction of the finger.

Differing from most other authorities, Robson still adheres to suture of the choledochus, after it has been incised for the removal of calculi. Suture of the duct does away with the great benefits derived from drainage, which is to-day considered of paramount importance in biliary lithiasis; and accomplishes no especial good, for if the choledochus is patent, there need be no fear of establishing a biliary fistula by drainage.

The entire text has been revised and enlarged; in the appendix at the end of the volume will be found a short account of all the operations on the gall-bladder and bile ducts (539 in number) performed by the author.

The book is well made, the illustrations are numerous, and the type is large and clear.

THE VALUE OF URETERIC MEATOSCOPY IN OBSCURE DISEASES OF THE KIDNEY. By E. HURRY FENWICK, F.R.C.S. 219 pages, illustrated. Philadelphia: P. Blakiston's Son & Co., 1903.

THIS book will be read and studied with great interest by all who use the cystoscope. The author has exceptionally well described and pictured the appearance of the ureteric orifice in diseased conditions of the kidneys, and his large experience in this field gives great value to his conclusions.

The surgeon of to-day does not rely on physical examination of the kidney, and chemical examination of the urine to establish an accurate diagnosis of kidney disease. He is frequently called upon to make a diagnosis of the health or disease of the kidney long before there are physical evidences of its enlargement or chemical changes in the urine; and to accomplish this the appearance of the ureteral orifice promises to afford considerable aid. The book opens with a chapter on the technique of ureteric meatoscopy; this is followed by brief descriptions of the appearance of the ureteric orifice in healthy and diseased conditions of the kidney—amongst the latter are considered painless renal hæmaturia, calculous disease, and tuberculosis.

The attempt on the author's part to associate a definite appearance of the ureteric orifice with each class of diseases of the kidney, is now for the first time made; although the presence of irregular ulcers around the ureteric orifice has long been recognized as pathognomonic of renal tuberculosis.

Further substantiation of the author's findings must be at hand before his conclusions can be accepted, and it is to be hoped that the seed which is sown by this work will fall upon fertile ground, and that in the near future further data bearing upon this all-important subject will be at hand.

AN ATLAS OF HUMAN ANATOMY for Students and Physicians. By CARL TOLDT, M.D., Professor of Anatomy in the University of Vienna, assisted by Prof. ALOIS DELLA ROSA, M.D. Translated from the third German edition and adopted to English and American International Terminology by M. EDEN PAUL, M.D., Brux, M.R.C.S., L.R.C.P. Second Section, Arthrology; Third Section, Myology. New York: Rebman Company, 1904.

WE noticed in these columns some months ago the appearance of the first volume of this best of anatomical atlases in existence at the present time, and now are glad to welcome the second and third sections, with the publication of which the work is half completed. The second section treats first of the articulations in general, illustrating the various kinds of joints, and then the individual joints are pictured in order, beginning with the trunk and passing on to the head and the upper and lower limbs. The same order is followed in illustrating the muscles in Section III. First we find general considerations of myology—the structure of muscle, the principal muscle forms, the relations of muscles to joints, and the fasciæ; then the individual muscles and muscle groups of the trunk, head and neck, and upper and lower limbs.

There is little to add to what was said in speaking of the first section of this excellent work. Toldt's Atlas was favorably received by anatomical specialists the world over immediately upon the appearance of the first edition, for the fidelity to nature and the artistic excellence of the plates were recognized at once as never having been surpassed in a work of this kind. The illustrations are all carefully drawn to scale from actual dissections. The work is a pure atlas with no descriptive text, but for this reason will probably prove more useful as a book of reference for the physician as well as the surgeon, than would the ordinary anatomical treatise. At all events it will admirably supplement the latter.

COOKERY FOR INVALIDS AND THE CONVALESCENT. Third Edition. Revised and enlarged. Compiled by HERMAN SENN, G.C.A., author of "The New Century Cookery Book," "The Practical Cookery Manual," "Recherché Side Dishes," "The Culinary Encyclopædia," "Ices, and How to Make Them," "Practical Gastronomy," "French Menus," etc. London, S. W.: The Food and Cookery Publishing Agency.

THAT this book is now coming out in its third edition is evidence of the popularity with which it has been received. Among the chapters are those containing special diet lists for patients afflicted with diabetes and gout. Diet for corpulency and diet in old age are treated in other chapters. The volume is a very handy one for those having the care of the sick.

THE COMMONER DISEASES OF THE EYE. How to Detect and How to Treat Them. For Students of Medicine. With 250 illustrations, many of them original, of which seven are colored plates. By CASEY A. WOOD, C.M., M.D., D.C.L. Professor of Clinical Ophthalmology in the University of Illinois; Professor of Ophthalmology in the Post-Graduate School, Chicago; Ophthalmic Surgeon to St. Luke's Hospital, Chicago; and THOMAS A. WOODRUFF, M.D., C.M., L.R.C.P., London; Professor of Ophthalmology in the Post-Graduate Medical School, Chicago; Ophthalmic Surgeon to St. Luke's Hospital and Dispensary and to St. Anthony de Padua Hospital, Chicago. Chicago: G. P. Englehard & Company, 1904.

THIS work of 491 pages is intended to succeed a short treatise entitled "Lessons in the Diagnosis and Treatment of Eye Diseases," published many years ago by but one of the present authors. This, the later volume, is greatly enlarged upon, and the subject of ophthalmology is considered solely from the standpoint of the physician in general practice.

The authors have certainly carried out their plan successfully, for seldom has there appeared a work on the eye more simply and yet more comprehensively written. It is well printed on good paper, and is made attractive by its compactness and by its neat cover. It is not always an easy matter to simplify a difficult subject like optics and ophthalmology and still make it practical and interesting and profitable reading to those little conversant with the science; yet, it must needs be, certainly, a very stupid or negligent general practitioner who cannot fully comprehend by a little persistent effort the commoner diseases of the eye met with in connection with his general practice and so well depicted in this work.

The illustrations, though often not new, are plentiful and to the point, and the table of contents and index are complete and well-arranged for quick reference.

The newer remedies are fully referred to, and the chapter on the pathogenic bacteria invading the eye is thorough and up to date.

A PRACTICAL TREATISE ON NERVOUS DISEASES FOR THE MEDICAL STUDENT AND GENERAL PRACTITIONER. By F. SAVARY PEARCE, M.D. New York: D. Appleton & Co., 400 pages, 91 illustrations, many in colors.

THE object of this book, the author tells us in his preface, is to furnish the general practitioner and student with a textbook in which doubtful points in neurology are curtailed and practical facts are presented in small compass. In the judgment of the reviewer, the object has not been attained. It is particularly in the chapters that offer opportunity for some originality of presentation, those in which diseases of the nervous system are delineated, that the shortcomings are most striking, for the introduction devoted to anatomy, physiology, and chemistry is admittedly compilation, and that not well done. For instance, on page 17, is a paragraph entitled "Pons Varolii," etc.: "This is situated between the medulla and the crura cerebri. It is a white body in the form of a half ring. Its size depends upon the size of the hemisphere with which it has to do. It weighs about 250 grains. It has six faces. The anterior face rests upon the basilar process of the occipital bone, and presents a median groove for the basilar artery. The posterior surface forms a part of the floor of the fourth ventricle." Not another word of its topography or connections: To what the "et cetera" in the title refers is not apparent. "The hemisphere with which it has to do" refers probably to the cerebral hemisphere projections from which form constituents of the pons, but why the size of the pons *depends* upon it, is not apparent. To be told that the pons has six faces, even though it had, cannot possibly convey anything worth while to him who is seeking to learn something of the pons, its connections or functions. "Irritation of the pons will cause convulsions; therefore it *contains a convulsive center*." Breathing upon the skin of individuals in certain pathological conditions will cause convulsions, but it does not follow that the skin contains a convulsive center. No more does it follow that the pons contains one for the reasons stated. In his chapter on "Symptoms and Methods of Examination" the author says the sense of the application of weight is determined by the piesmeter. This by way of simplifying matters for the student who cannot find bricks or stones to test the sense of weight. Neither "Foster's Medical Dictionary" nor the catalogues of popular instrument-makers mention piesmeters. In the chapter on "Treatment and Prevention of Nervous Diseases" the author says "Consanguinity should be avoided, nor should intermarriage take place between families of highly nervous temperaments." We do not favor one family's marrying another in any event, even though they have lymphatic temperaments. The prevalent method of two individuals marrying seems best adapted to our present needs, and inasmuch as Congress now investigates the legality of one individual marrying more than one individual, so it is likely that if one family attempted to marry another, considerable agitation would result.

"The overuse of tea, coffee, tobacco, and alcohol must be remembered as causes of various functional or organic nervous diseases, such as optic atrophy or chronic neuritis." Which of these is the functional and which the organic nervous disease, the author does not tell us. "Alcoholic abuse stands next to syphilis as a cause of a legion of diseases of the nervous system." As there are only about two score nervous diseases all told, and as in only one of them, multiple neuritis, has it been shown positively that alcohol is the cause, it may truthfully be said that the author permits himself some latitude. He may have had arterial sclerosis and its sequelæ in mind, then there would have been two—on the way to legion—but then that is not a nervous disease.

We cannot pass without protest the statement "in cases of atrophic dry skin, I have so often seen in women at the climacteric suffering from general nervousness, Turkish bathing does a great good," because it isn't clear who has the nervousness. Perhaps the writer is speaking "metamorphorically," as he accuses "Kraft-Ebing" of having done (page 362).

The following may be taken to represent the writer's understanding of nervous diseases. "By Myasthenia gravis is meant the peculiar condition in which the patient loses power periodically and suddenly, in the muscles without any definite neurological symptoms. It is closely allied if not identical with periodic paralysis." Now we maintain there is not a word of truth in that statement. But enough. We do not often permit ourselves to say all that an unworthy book deserves, and this shall be no exception to the rule. Every page reveals amateurishness and incompetency. Not one feature has the reviewer been able to find that commends it to favorable notice.

BURDETT'S HOSPITALS AND CHARITIES. Being the Year Book of Philanthropy and the Hospital Annual, 1904. By SIR HENRY BURDETT, K.C.B. Author of "Hospitals and Asylums of the World;" "Hospitals and the State;" "Pay Hospitals of the World;" "Burdett's Official Nursing Directory," etc. 12mo, 1131 pages. London: The Scientific Press, Ltd.

THE present volume shows careful editing and is up to date. In the preliminary chapters will be found some new information and an exhaustive review of the chief questions which are engaging the attention of the managers of every group of institutions, which collectively constitute the field of charity. The book contains a review of the position and requirements, and chapters on the management, revenue, and cost of the charities. A record of Hospital work for the year. A guide to British, American, and Colonial Hospitals and Asylums, Medical Schools and Colleges, Nursing and Convalescent Institutions, Consumption Sanatoria, Religious and Benevolent Institutions and Dispensaries. The section on American Hospitals comprises about 50 pages, and that on American Hospitals for the Insane, 12 pages. Information is given on the following points concerning each institution: Date of Incorporation; Name of President; Governing Body; Superintendent; Secretary; Medical Staff; Resident Medical Staff; Nursing Staff; Beds; Income; Expenditure; Special Features.

DISEASES OF THE INTESTINES. A Textbook for Practitioners and Students of Medicine. By MAX EINHORN, M.D., Professor of Medicine at the New York Post-Graduate Medical School and Hospital, and Visiting Physician at the German Hospital, New York. Second revised edition. New York: William Wood & Company, 1904.

THIS work has undergone the necessary revision, but due to the recent appearance of the first edition, little has been added.

The book is divided into chapters, the first of which gives the anatomy and physiology of the digestive tract with the exception of those already described in the author's work on "Diseases of the Stomach." The methods of examination and general treatment compose the second and a most valuable chapter. Acute and chronic intestinal catarrh, dysentery, ulcers of the intestines, neoplasms, hemorrhoids, appendicitis, intestinal obstruction, nervous affections, and intestinal parasites, are the subjects of the remaining chapters.

Throughout the work the author has endeavored to make his volume a practical one, giving the needed instruction on diagnostic points, and going into detail regarding the treatment. He has so balanced his work as to give the main bulk of it to the ordinary diseases, at the same time not ignoring the less important conditions.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held April 7, 1904.

DR. ANDREW H. SMITH, M.D., IN THE CHAIR.

THIS meeting was held under the auspices of the Section on Pediatrics.

Modes of Infection in Tuberculosis.—Dr. PHILIP S. SABINE read this paper. He considered the modes of infection in the male and in the female, reviewing a great deal of literature upon this subject. He said that many cases had been reported in which tuberculosis was present in children prior to birth, but there was an absence of clinical evidence to prove the infection to be from the male, while maternal infection was an established fact. Baumgarten claimed that the majority of cases of tuberculosis was due to heredity. There was no doubt in the minds of investigators that congenital tuberculosis was very common. Dr. Sabine then considered post-genital types, giving a statistical review of evidences of this disease as it occurred in the uro-genital tract, through coitus, through inoculation, through the air passages, the nasopharynx, the tonsils, etc. He believed that the tonsils were the chief portal of entry.

Infantile Tuberculosis; Its Portal of Entry, Topography, and Clinical Manifestations.—Dr. ROWLAND G. FREEMAN read this paper and said that tuberculosis in young children was fairly common; in 1,448 successive autopsies at the Foundling and Nursery and Child's Hospitals 158, or nearly 11 per cent., showed tuberculous disease, and this was a much lower rate than given by other writers.

Portal of Entry.—The point of infection in most cases was a subject on which the widest difference of opinion existed among the highest authorities, but the assumption that the tubercle bacilli most often gained access to the human body by the respiratory tracts seemed well founded. It was still a question to what extent the tonsil was ordinarily a point of entry of the tubercle bacilli, but the lymph nodes of the neck might be safely considered as frequently the first lesion noted after the third year, and tuberculosis of these lymph nodes often existed when there were no evidences of other tuberculous lesions. Tuberculous bronchial lymph nodes certainly formed the most common lesion found at autopsy, but they were usually associated with tuberculous lesions elsewhere. Regarding the frequency of tuberculosis due to the ingestion of food containing the tubercle bacilli, so far as he knew nobody in New York believed that he had ever seen many cases at autopsy evidently due to intestinal infection, though observers in Europe reported an entirely different experience. He thought this difference might be due to a more careful search for tuberculous lesions or to a different judgment as to what was sufficient evidence of intestinal origin. It was evident that tubercle bacilli which gained access to the body by the intestines were readily carried by the lymph stream to the thoracic duct, into the superior vena cava, the right side of the heart and out into the lungs. Living tubercle bacilli had been found to exist fairly frequently in ordinary milk, and it had been shown by Ravenel and others that bovine tubercle bacilli were pathogenic for man. It had been demonstrated that the tubercle bacilli survived the action of the gastric juice, and the fact that we found lesions of undoubted intestinal origin confirmed the fact that they could pass through the human stomach uninjured.

Topography.—The statistics regarding the distribution of tuberculous lesions in children showed that the abdominal organs were fairly frequently involved. After quoting various statistics of Froebelius, Schwer, Carr, and Biedert, he thought that we must conclude that it was impossible to state the original point of invasion. He himself had tabulated the results of 158 autopsies on tuberculous children, and these showed that there were between 1 and 3 months, 4 cases; 3 and 6 months, 21 cases; 6 and 9 months, 21 cases; 9 and 12 months, 15 cases, or a total of 61 under one year. Between 12 and 18 months, 18 cases, and between 18 and 24 months, 16 cases, or a total of 34 between the first and second year. The average age at death was later among tuberculous children than among other children, and in infancy the disease was sufficiently acute to cause death very often before marked emaciation took place. The nutrition of the tuberculous cases was not materially worse than that of the non-tuberculous cases. The distribution of lesions in his 158 cases of tuberculosis in young children showed involvement of the bronchial lymph nodes in 126, lungs in 112, spleen in 90, liver in 66, mesenteric lymph nodes in 44, meninges in 30, small intestines in 30, mediastinal lymph nodes in 28, kidneys in 20, cervical lymph nodes in 14, and large intestine in 7. As to the general distribution of the series of 158 cases, 36 had thoracic lesions only, 92 had abdominal lesions and 25 cranial lesions. In another table that showed the distribution of the lesions in 52 cases involving the mesenteric lymph nodes or intestines or both, 6 cases showed thoracic lesions but no other abdominal lesions, while 29 cases showed involvement of other abdominal organs and the thorax and 12 cranial lesions in addition.

Clinical Manifestations.—The tuberculosis of infancy was usually an acute, widely disseminated affection which, in a considerable number of cases, involved the bronchial lymph nodes and lungs. It was usually a most obscure disease for diagnosis and often a definite diagnosis could not be made until the meninges became involved. The lungs usually showed merely râles or slight changes from normal respiration, and it was only in advanced stages that consolidation appeared. The involvement of the meninges gave typical symptoms. The duration of the disease was two to three or four weeks. An unresolved pneumonia, which often it was unnecessary to differentiate from this disease, could usually be distinguished by the marked physical signs, the higher temperature, the slow course, and the much more marked emaciation.

Summary.—Tuberculosis in infancy arose most often from either the respiratory or the alimentary tract, but the comparative frequency of these two modes of infection had not yet been definitely determined. The tuberculosis of early life was most common during the first year when children were on an exclusive milk diet; and much milk contained tubercle bacilli, and bovine tubercle bacilli were pathogenic for man. At this period, owing to the structure of the intestinal wall, bacteria could probably pass through, although it was uninjured. Experiments on animals showed that inhalation tuberculosis caused usually lesions of the bronchial lymph nodes and lungs alone, and wherever the portal of entry might be, these structures became very early involved. Inoculation experiments proved that the mesenteric lymph nodes might be tuberculous without the presence of any gross lesions in them. Mesenteric or intestinal lesions could be detected on gross examination in 26 per cent. of the autopsies which he had done at the Foundling and Nursery and Child's Hospitals. The tuberculosis of infancy, unlike that of later life, was usually an acute, widely disseminated, general disease with moderate temperature and few symptoms and physical signs unless the invasion of the meninges gave rise to symptoms. Tuberculosis of the cervical lymph nodes and of the joints was rarely seen under the third year. The power to overcome a tuberculous infection that had invaded the organs apparently did not exist in infancy. While the tabulated autopsies showed a very wide distribution of the tuberculous disease in these infants, they probably indicated a much less general distribution than really existed; for the data were based on hurried gross examination without microscopical confirmation. A series of autopsies in the same institutions in which the intestines were carefully examined without separation from the mesentery, and with microscopical examination of all suspicious thickenings, he said would probably show a much greater proportion of intestinal

involvements, and a still larger proportion could be found by animal inoculations.

The Influence of Bovine Tuberculosis on Human Health.—Dr. MAZYK P. RAVENEL read this paper, and referred to the correctness of his belief in the intercommunicability of the disease, such as he had advanced for years, and he said that he had established certain facts and conclusions which were irrefutable. The study of the cultures of the tubercle bacilli in man and in animals showed no difference that could aid us in determining the origin of the disease. The tubercle bacilli had greater pathogenic power for all animals except swine. He considered the increased susceptibility in animals, the virulence of the bovine tuberculosis, the effects of bovine tuberculosis on man, etc. He reported cases in which there was great resistance to ordinary methods of treatment and cure only obtained after radical excision of the affected parts. He said that the belief that the dried sputum spread tuberculosis was the commonly accepted one, but this was not supported by clinical evidences. He said it was the bovine tuberculous material taken as food that played a part in causing human tuberculosis. Experiments had shown that the tubercle bacilli could penetrate the healthy mucous membrane and not leave any track, and the lungs might become affected through infection by way of the intestines. The figures regarding primary lesions were not at all to be relied upon because they were not at all uniform. He thought that no doubt the tonsils was the portal of entry for the tubercle bacilli in many cases, although he greatly believed in infection from the ingestion of tuberculous meat from cows. Bovine tuberculosis was a scourge, especially on farms near large cities.

The Prevention of Tuberculosis in Children.—Dr. HERMAN M. BIGGS read this paper. He thought there could be no question that the factor of so-called heredity in the causation of tuberculosis was largely explained through house infection, and this view most authorities accepted. In a family in which a case of pulmonary tuberculosis existed, an infant was seriously exposed to the danger of infection through breathing the air which might contain the bacilli, through kissing, or through the transfer of food from the mouth of the mother to that of the infant, as was frequently done, especially among the lower classes As the child grew older, it was exposed even to a greater extent because, while crawling on the floor, the hands were likely to be soiled by the expectoration carelessly discharged on the floor, or the dust that was wiped up from the floors and near-by objects, and which was transferred directly to the infant's mouth. There was also the possible infection through the use of infected eating utensils and the taking of milk from tuberculous cows. He said the infant of an infected family was more exposed to the possibility of infection than any other member of the family. There was comparatively little danger that young children would be sufficiently exposed to tuberculous disease to acquire infection until after the child had at least reached the age of four or five years—that was, outside the family. If, then, the preventive measures which had been adopted in recent years for the restriction of tuberculosis had had any considerable value, this should first be indicated in a reduction in the death rate from tuberculosis in children under fifteen years. He said the preventive measures which had been adopted in New York City during the past ten or twelve years and which consisted chiefly in the provision of hospital accommodations for advanced cases of consumption, in the disinfection of apartments, and in the education of consumptives and their families as to the nature of the disease and the proper disposal of the expectoration, should result in a lesser degree of house infection and should be followed by lower death rates from tuberculous disease in the early periods of life. Certain data showed that during the ten-year period ending in 1902 there had been a decrease of more than 40 per cent., and that during a period of twenty years the decrease had considerably exceeded 50 per cent., in the death rate from pulmonary tuberculosis and tuberculous meningitis in children under fifteen years of age.

With the extension of the regulations which were now being enforced, and a wider dissemination of information for the care of advanced cases, he looked for a still further rapid reduction in the death rate in this early period of life. It seemed to him that these data afforded perhaps greater encouragement in the crusade for the prevention of tuberculous disease than any other which were at command.

Dr. THOMAS DARLINGTON, Commissioner of Health, said there was no question in his mind that the entrance of the tubercle bacilli was by way of the lungs, and illustrated his belief by references to post-mortems that he had made upon those who had died during the construction of the Croton Aqueduct. He found, in the smaller bronchioles and practically all through the lungs, a great many particles of ground rock and dust. He believed that if the dust could so penetrate almost every part of the lungs, certainly the tubercle bacilli could gain ready access in the same way. To show how readily cattle could acquire tuberculosis, he related an instance that occurred in an institution near to New York. Consumptives were allowed to play quoits in a pasture near the hospital, and they then did not use their spit-cups but spat upon the grass. Ten cows grazing in the same pasture were killed, and it was found that nine out of the ten had general tuberculosis. He emphasized the importance of removing children from surroundings which exposed them to tuberculosis. The question of nostalgia should always be considered in such cases. In a recent epidemic of measles at the Foundling Asylum eighteen deaths occurred among the thirty-six children that had just been admitted; these eighteen had constantly fretted and were victims of nostalgia. Therefore, if these children were to be sent away they should not be sent so far that their parents could not see them occasionally. Because it had been proven that tuberculous milk could infect children, he advised that all milk be Pasteurized. The great treatment for these children he believed to be fresh air, good food, and rest. When confined to hospitals they did not do well, but when sent to the country they, as a rule, did very well.

Dr. WILLIAM P. NORTHRUP cited instances to show what the New York Board of Health was doing to prevent the spread of tuberculosis by the dissemination of knowledge regarding this disease. He did not wish them to underestimate the importance of the respiratory tract in the production of tuberculosis. In 125 autopsies on tuberculous patients, the bronchial glands were involved in all and the mesenteric glands in but one. Dr. Bowdich of Boston made 369 autopsies, and in only 1 per cent. were the mesenteric lymph nodes involved.

Dr. CHARLES N. DOWD said that among 100 cases of surgical tuberculosis which had been followed for years, it had been noted that only one patient showed evidences of pulmonary tuberculosis. Among these were cases of cervical tuberculosis, tuberculosis of the hip, of the axillary lymph nodes, etc., but in only one was there any pulmonary tuberculosis. Of this series of 100 cases, 87 were infected directly from the tonsils or pharynx. The last 1,000 cases seen at St. Mary's Hospital showed that 212, or 21 per cent., of them had tuberculosis. The distribution of these were as follows: 158 occurred in bones and joints; 40 in the lymph nodes; 5 in the genitourinary tract; 5 were perineal; 2 were lupus and 2 were of tendon sheaths. There had been 10 instances of infection of the iliac and femoral lymph nodes from foot wounds.

Dr. HAMILL of Philadelphia, in discussing the mode of infection, spoke of the possibility of the entrance of tubercle bacilli into the circulation without the development of localized lesions at the portal of entry. That such an occurrence was possible was shown by the frequency of cases of tuberculosis of the bronchial glands without discoverable lesions in the lungs or elsewhere. The same

possibility of cryptogenic infection through the gastro-intestinal tract was evidenced by the frequency of tuberculous disease of the mesenteric lymph glands, without the occurrence of intestinal lesions. While this kind of infections had not been shown to be of frequent occurrence, the possibility of their occurrence should be borne in mind in cases of tuberculous disease of deep-seated organs in which the mode of infection seemed obscure. The feeding experiments of Ravenel also aided in enabling us to venture the statement that infection through the alimentary tract might result in lesions far removed from the point of entrance of the infecting microorganism. That tuberculous lesions of the tonsils with secondary involvement of the deep cervical lymph glands might result from particles of infected food being retained by and absorbed from the tonsillar crypts has been definitely demonstrated. Tuberculous lesions of the intestines, together with tuberculous involvement of the lymphatic glands, as well as tuberculosis of these latter glands, without demonstrable lesions in the intestines, had been proven in like manner. It had been shown definitely by experimenters that tubercle bacilli could penetrate the intestinal tract and pass into the circulation without any evidence of lesions of any nature in the walls of the intestine. The bacilli once in the circulation might produce a generalized tuberculosis or might be deposited at some susceptible point and give rise to a localized tuberculosis. The bronchial glands being more susceptible to tuberculous invasion than the lungs, we might be justified in assuming that the bacilli having gained access to the lymph ducts were borne by them to the bronchial glands and likewise if the bacilli had gained access to the circulation they might be carried through the heart to the lungs and there gain access to the lymphatic channels by which they could be conveyed to the bronchial glands. Another possible mode of infection of the bronchial lymph glands through the medium of the intestinal tract was by the conveyance of the bacilli from the mesenteric glands through the medium of the thoracic duct to its point of junction with the efferent vessels of the bronchial glands, and their conveyance from this point by means of a reverse current to the bronchial glands. In view of these possibilities, we could not deny that many of the generalized or pulmonary tuberculoses which developed as a sequence to the various infectious diseases of infancy and childhood primarily had their origin in the intestinal tract. Bronchial lesions might remain latent for an indefinite period, and new foci might in the meantime become so far advanced as to entirely mask the point of original infection.

Dr. JOHN H. GIRDNER said that he had had occasion to observe people who lived in the mountainous regions of Tennessee and North Carolina, and he had been surprised to find what a large number of the children suffered from cervical tuberculosis, *i.e.* tuberculosis of the cervical lymph nodes. Young adults could be seen with the characteristic scars which had resulted from the breaking down and discharge of the tuberculous glands. This region was but sparsely settled, and there was but little opportunity for the infection to occur by way of the air passages. They lived upon the dairy products, such as milk, cheese, and butter. The cattle had been bred there for generations, and they were the so-called "scrub-mountain cattle." He believed these children had been infected for years by the milk of these cattle, and he had no doubt but that a large majority of them could be found to be tuberculous.

Peculiar Phenomena Accompanying the Growth of Bacteria in Media Containing Serum.—Dr. LIBMAN demonstrated a very marked example of coagulum production by a streptococcus in a medium containing glucose-bouillon with blood.

He also demonstrated some fluid which had been aspirated from the chest of a patient suffering from pneumonia. The fluid on withdrawal was light straw-colored, very slightly turbid, and contained pneumococci and a very few pus cells. After allowing the fluid to stand twenty-four hours in the thermostat it began to turn green. After forty-eight hours it was decidedly green and showed a very heavy, tenacious albuminous deposit.

Dr. Libman said he believed the observation was of interest in indicating that changes in fluids which are found to occur in the body might occur in a similar fashion by the growth of bacteria outside of the body.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, Held April 1, 1904.

DR. ROBERT T. MORRIS IN THE CHAIR.

Two Cases of Osteoplastic Craniotomy for Epilepsy.—Dr. H. D. COLLINS presented the following cases:

CASE I.—An Italian, fifty-seven years old, whose father was an epileptic, giving no specific history, was struck on the head and remained unconscious for several hours. He appeared to recover, but after five years he began to have headaches, which were followed by vertigo and convulsions. Two hours later he had another convulsion. He then had from two to seven convulsions daily, then an intermission of from several days to a week or two. On one occasion he had an unusually severe convulsion, followed by paralysis of the left side. He gradually recovered from the paralysis, and later these attacks of paralyses became more frequent and he showed less tendency to recover from them. It was supposed that there was some lesion at the site of the scar, probable hemorrhage in the deeper portion of the brain. An incision was made at the site of the injury, with the usual osteoplastic flap over the motor area. An extensive broken-down blood-clot was found, extending one and one-half inches into the brain substance. Since this operation, which was performed ten weeks ago, he had had no convulsions. The leg paralysis had improved.

CASE II.—A man who had been treated three years previously for cardiac trouble was taken with convulsions, followed by paralysis, which he attributed to an overdose of medicine. He had constant, dull headache, spasticity of the left leg, disturbance of the reflexes of the right arm, and some optic neuritis, which was supposedly of syphilitic origin. It was anticipated that operation would reveal meningitis or gumma. Some pulp-like substance was found. The interesting point in this operation was that during manipulation the bone flap was torn off, immersed in salt solution for some time, and then replaced. The union was good. It was ten weeks since this operation and there had been no convulsions.

Dr. ROBERT T. MORRIS had seen large pieces of bone replaced which united perfectly. The lymph circulation seemed to retain its vitality to an unusual degree. For the prevention of adhesions of the brain meninges after operation sterilized, chromaticized peritoneum could be used with better results than gutta-percha tissue, silver or gold.

Dr. PECK related the case of a boy who had shot himself through the roof of the mouth eleven years previously, the ball passing out through the frontal bone. He became subject to epileptic fits, and craniotomy was performed over the scar. A cyst was found in the frontal lobe. The epileptic seizures disappeared for about two months and then gradually increased in frequency.

Dr. Collins, in closing, said that he had not claimed cures, as in these cases epilepsy was likely to recur. The points of interest were the large surface of brain exposed and the large piece of bone that was removed and then replaced so successfully.

A Case of Fracture of the Zygomatic Arch.—Dr. WARREN S. BICKHAM said that he had had a collision in which he had sustained such a fracture. In searching literature on the subject of zygomatic fractures he had found very little. Scudder only mentioned the subject once and then only incidentally. In Beck there was only ten lines in regard

to the fracture and nothing as regards its treatment; in Stimson there was one and one-half pages in conjunction with malar fractures and a statement to the effect that it was seldom that they could be replaced. After the accident he was very much stunned, the noise was tremendous, due to the proximity of the middle ear, and he could not move his lower jaw. Dr. Matas gave him one-quarter of a grain of morphine and, on examination, found that he could put his thumb between the fragments. Under a general anæsthetic, he cut down on the arch; with a Hagerdorn needle he penetrated one inch above the zygomatic arch and, carrying the needle deeply into the temporal fossa, came out one-half inch below the arch. The needle carried silver wire, and on traction the bones were drawn into place. To keep them in position an ordinary microscopic slide was placed over the malar and temporal bones. A dentist made a vulcanized rubber plate, which was introduced in place of the slide on the following day. In such fractures Dr. Bickham suggested putting a dressing of collodion or rubber adhesive underneath, as this would prevent the deformity that was liable to occur.

Dr. JOHN F. ERDMANN considered this an ingenious device, which ought to be followed by good results.

Dr. MARTIN W. WARE had had two cases of fracture of the zygomatic arch and had only strapped the parts firmly together. His experience had led him to believe that no radical operation was necessary. If there was a marked depression, it might be well to resort to such an operation.

Dr. Bickham said that the procedure was so simple that it could easily be employed wherever there was any prospect of deformity, and should certainly be employed in compound fractures.

A Case of Hypertrophic Papillary Colitis; Right Inguinal Colostomy.—Dr. A. A. BERG presented this case. The patient had presented himself for treatment in November last, after suffering for nine months from frequent evacuation of blood and mucus from the bowels; he had lost thirty pounds, and was much weakened. Rectal examination showed a large number of villous growths. The sigmoid flexure and *caput coli* were distended and there was considerable tenderness. A right inguinal colostomy was performed. The anterior wall of the cæcum was sutured to the peritoneum. The opening made was no larger than for an appendectomy. The results, however, had not been brilliant, the bowel was washed twice daily with silver nitrate solution, and while the patient had gained strength, the bleeding began as soon as the washings were discontinued. A number of the villous growths still persisted, and the question that now presented itself was whether he should resect the entire colon and sigmoid flexure.

Dr. JAMES P. TUTTLE said the pathology might be interesting, as the growth might be partially epithelial or it might be an adenoma, in which case it might have the same degeneration eventually. If the case was one of papilloma, prospects of cure were remote unless the growth was removed, and in such cases the ascending and transverse colon was usually involved. Washings with silver nitrate, iodine, or astringents might allay the symptoms somewhat, but were not very effectual.

Dr. R. H. DAWBARN asked Dr. Berg if he had any objections to the technique of Dr. Weir—the appendix operation. The condition of the appendix must decide the choice of methods. He irrigated with a glass cannula, and if there was slight inflammation he waited until it subsided before introducing a soft rubber catheter. He secured the best results by that method and would advise its adoption accordingly.

Dr. ROBERT T. MORRIS thought that if we used Weir's method the lymphoid layer might not swell fully. If the appendix was amputated near enough to the cæcum the method might be desirable.

Dr. Berg, in closing, said that the affection was not specific; that there were a number of small papillæ, but we could not decide whether they would become malignant or not. If we feared malignant disease we should remove the colon. He thought Dr. Weir's use of the appendix good if that organ was healthy, but it seemed a half-way procedure. In flushing the bowels we wanted an opening large enough to admit a 26 or 28 Fr. catheter. If the *caput coli* was used there would be no more inconvenience if it became necessary to establish an artificial anus. Regarding the patient's hernia, he had it on getting up, and a pad had been applied to retain the hernia and keep the piece of gauze over the wound.

Dr. Tuttle said that, if the appendix was drawn well up into the wound, it could be readily dilated to such a size as to give admittance to a 28 Fr. catheter.

A Case of Movable Kidney in a Child.—Dr. A. ERNEST GALLANT presented a girl, fourteen years old, who had consulted him in December, 1902. She was very much run down and had lost much in weight. She had attacks of vomiting, severe pains in right side, and had never menstruated. Examination showed a floating right kidney; the pylorus reached to the umbilicus. She had been fitted with a corset; it was just like an ordinary corset except that it was long and had been fitted with the patient in the recumbent position with hips elevated. The lower part was tightly laced and the upper part left loose, giving full liberty to lungs and stomach. Since wearing the corset she had gained twenty pounds in weight, had grown four inches, and the kidney no longer came down and she no longer had the severe attacks of pain. She now menstruated.

Dr. ROBERT H. M. DAWBARN asked why we should take it for granted that a case of nephroptosis was necessarily accompanied by a gastroptosis. It had not been his experience that one was a necessary concomitant of the other.

Dr. ROBERT T. MORRIS said he had observed two classes of cases, in one of which the kidney alone wandered, and in the other, the liver began to descend about as soon as the kidney; the pylorus also descended.

A Case of Tenorrhaphy and Neurorrhaphy of Flexor Tendons and Median and Ulnar Nerves.—Dr. WM. A. DOWNES presented this case. A girl, twenty-three years old, in falling thrust her hand through a glass door, causing a very extensive injury above the wrist, dividing the flexor tendons and median and ulnal nerves. The wound was so severe that the hospital interne would not attempt its repair and she had waited over night for attention. The tendons and nerves were sutured with chromicized catgut and the wound healed by primary union. In four months she practically regained sensation of the ulnar nerve, in eight months of the median nerve, and, at the end of one year, function was nearly restored and sensation was entirely regained. She could write, sew, and play the piano, though the cosmetic effect was not all that could be desired.

A Case of Fibroma of the Popliteal Nerve.—Dr. WM. A. DOWNES presented this case. A woman, aged forty-nine years, said that fifteen years ago she began to have pains in the right leg and foot. They would continue for a day or two and then might not recur for four, five, or six weeks. About seven years ago, during pregnancy, the trouble was aggravated, the leg became discolored, and she had difficulty in using it; but it became better after her labor In March he had removed a tumor from the internal popliteal nerve, a fibroma of the nerve sheath; it was centrally situated, and the nerve fibers could be seen stretching over it longitudinally and completely covering it. It was this that made the case especially interesting. It was peeled out without injury to the nerve. There were no nerve elements in the fibroma. No other evidences of fibroma were found.

Dr. ROBERT H. M. DAWBARN said that he had learned that in tendons and nerves severed by a dirty instrument we should dissect out the ends of the sheaths; a tendon could get along without its sheath. If the dividing force were infected with streptococci we could not depend uopn

any rapid mode of disinfection. He sewed the tendons at the time of operation, but did not tighten; then the wound was packed with gauze wrung out of a bichloride solution, and at the end of twenty-four hours the work was completed.

Dr. ROBERT T. MORRIS suggested that this was another case in which sterilized peritoneum could be used with advantage in separating the tendons.

Dr. MARTIN M. WARE said the regeneration of tendons emanated from the sheaths, and if the sheath was removed function necessarily would be impaired. To obviate this he permitted the tendon-ends to merely approximate one another and then placed the sutures through more remotely from the ends, leaving the middle part open to avoid infection.

Recurrent Sarcoma of the Brain.—Dr. FREDERIC GRIFFITH presented this case with the following history: J. S., was a Hebrew aged forty-one years. The man's history had been negative until July, 1903, when a small papillomatous growth upon the scalp attracted attention. His physician at this time advised removal, which was refused until in September, when an extensive operation for removal of the rapidly growing and extending growth was performed at one of the large city hospitals, diagnosis of sarcoma of the dura having been confirmed. Return of the growth became manifest in November, since which time until the present *x*-ray treatment, three times a week, also injection of Coley's toxins in the back and directly into the growing mass, had been employed with no effect. The growth seemed to cover the whole top of the brain with elevation of the vault of the skull. Involvement of the temporal region upon the right side was present. The patient suffered but little discomfort considering the great size of the cancer. Aside from slight contraction of the pupil of the right eye and headache with discharge of fluid through the large cranial opening upon the right posterior segment of the skull the patient suffered but little inconvenience.

Auto-retraction and a Method for Facilitating the Dissection of Ruptured Abscess Gland Cavities Occurring During Operation for Removal of Such Glands from the Neck, with Cases.—The histories of the cases presented were as follows: M. S., a gardener, aged forty-three years, had had enlarged and suppurating cervical glands over twenty years upon both sides of his neck. Operative treatment undergone in Ireland for the cure of those upon the right side consisted of incisions with cauterization. Three years ago he underwent operation, for removal of the chains of enlarged glands upon the left side at the New York Hospital. A dissecting operation lasting over a period of five hours in an attempt to clean out the neck spaces, was performed. The patient was operated upon by Dr. Griffith upon March 25 for a new growth of glands which had enlarged about the sites of the old operations. Cocaine anæsthesia, using a ½ to ¼ per cent. strength solution of cocaine, hydrochlorate in warm, weak soda solution, was employed. The patient was shown, the wounds having healed, in demonstration of a procedure which was used to anchor the gland mass, which, while deeply situated, was very movable. By having the patient open his mouth, Dr. Griffith was enabled to complete the dissection and remove the gland mass through a comparatively small incision. When operating alone, as in this case, the problem of how to retract and dissect at the same time may often be readily solved by employing the method described.

The second case shown was H. K., aged eighteen years, a packer, who was operated upon for enlarged cervical glands by Dr. Griffith in March, 1903. A bilateral operation under cocaine anæsthesia was done. In January, 1904, the patient returned with a new growth of glands upon the left side. He was shown at this time for the purpose of describing a method of dissecting gland masses which have gone on to abscess formation and ruptured during operation. By stuffing the evacuated sac with gauze or cotton Dr. Griffith had been enabled to make clean dissection, the contour of the mass being retained. Local anæsthesia in the form of the weak cocaine solution was employed during the operation.

Dr. DAWBARN said that he had found recurrence of tuberculous glands in the neck after careful operation to be a rarity, and would advise the members of the section not to hesitate to sacrifice the sternocleidomastoid muscle, if need be, in performing a complete operation.

Dr. Griffith replied that a good surgeon had worked five hours in an endeavor to be thorough.

"Pro and Con Nephropexy."—Dr. A. ERNEST GALLAUDET read this paper and said that the real art of modern surgery lay in knowing when *not* to operate. The unsatisfactory results obtained by many leading surgeons had led them to discourage nephropexy for the relief of prolapsed kidney; the 150 or more methods of operating, and the rapidly increasing number of observers who of late have accepted Glenard's theory that a movable kidney was but an index of a more general ptosis of several of the intra-abdominal viscera, notably the stomach, colon, liver, and spleen, compelled a more careful consideration and differentiation of the symptoms induced by each, in order to arrive at a satisfactory plan of treatment.

Symptoms.—The symptoms produced by a prolapsed kidney were characterized by their acuteness, remittent from day to day or less often, rapid subsidence after the kidney had been replaced and the patient maintained in inclined dorsal posture, the early return of the symptoms when, soon after, the patient resumed the upright posture. Pain originated in the hypochondrium, extended through to the back, and down the loin, rapidly becoming very intense, with distension on the same side of the abdomen. Nausea and vomiting soon came on and continued even after the stomach was emptied. Constipation, or diarrhœa, with dark or light stools, might be present. The urine was scanty, dark, acid, with or without albumin. The pulse was rapid, small, and of high tension. Hydronephrosis or jaundice, or occasionally hæmaturia, intervened, and the patient was seized with a maddening desire to remove all clothing and lie down. Within two or three hours or less the pain would subside. The patient then may rise, dress, and, barring some tenderness along the loin, feel as well as ever. She might pass large quantities of urine. These Dietl's crises might recur from day to day, the severity depending upon how long a time intervened before she could lie down. He said that jaundice was most often met with in women who had recently borne children, or multipara, with lax, flabby abdominal walls. The lower half of the right kidney presenting a fixed mass projecting below the chondral border, easily mistaken for a distended gall-bladder or the lower edge of the liver. These attacks resembled those of stone in the common or cystic ducts. The kidney could be gradually replaced by gentle manipulation, and when the foot of the bed was raised ten inches the severe symptoms soon subsided and the jaundice rapidly diminished. Should the patient sit up for a few hours without abdominal support the attack would soon recur with all its former severity. The gastrointestinal group of symptoms, on the other hand, were notable in that they appeared slowly and insidiously, ran a chronic course, were seldom, if ever, relieved by ordinary means, and were the common to gastrointestinal atonia, viz., chronic gastritis with dilatation or ptosis of the stomach and colon, food retention, fermentation, epigastric and cardiac pain, loathing of food, etc.; each and all pointed to the stomach directly as the source of discomfort. Malposition of the intestines led to chronic constipation, followed by auto-intoxication paralyzing muscular, mental and moral activity, loss of flesh and strength, and a condition of chronic invalidism, often characterized as neurasthenia.

Conclusions.—In endeavoring to answer the question "To operate or not to operate," he formulated the following conclusions: That, as the large majority of observ

now agreed with Glenard "that the movable kidney is merely an incident in a general ptosis, and the symptoms referred to the kidney are much more liable to be the result of the intestinal displacement, as is also the case in troubles caused by deformity or abnormal mobility of the spleen, liver or kidney and dilatation of the stomach;" and as symptoms due to kidney motility could be differentiated from those of gastrointestinal origin, nephropexy was justifiable on displaced kidneys after operations on that organ or its ureter for any cause. Nephropexy, hepatopexy, splenopexy, gastropexy, gastroplication, suture of the recti, etc., might occasionally be indicated; but multiple operations on the same patient were not to be recommended. The chief cause of failure after nephropexy was that the kidney could not be fixed high enough above the waist line to avoid the constriction of the waistbands and drag of the clothing, and ought not to be employed when the kidney laid above the waist line. Nephropexy could but relieve the symptoms due to kidney instability, and in order to overcome the general ptosis, Dr. Gallant, in 1901, evolved "a new principle in the adaptation of the ordinary corset for the treatment of Glenard's disease," viz.: Visceral replacement, by gravity, with patient in the dorsal position. Support of the replaced viscera by a made-to-order corset, constructed from measurements taken while the woman was lying down, laced with two sets of strings, from above down, put on while in the semi-prone posture and fastened from below upward. By this plan the organs were supported *in situ* and could not fail while the corset was on and fit snugly enough over the suprapubic area, loosely above the waist line and curving gracefully at that point. With the support of all the viscera, nephropexy for movable kidney, per se, was rarely indicated, multiple operations could be avoided, and the woman placed in a curable condition.

Dr. A. H. GOELET said that the position of the kidney after fixation depended upon the suture at the time of operating. When suspension sutures were used it was an impossibility to get the kidney above the waist line. He sutured through the fibrous capsule and attached the kidney to the structures of the back. The sutures were below the center of the kidney and at the upper angle of the wound. If the kidney was abnormally large, care must be taken not to anchor it too high up, especially the right kidney. As to indications for fixation, Dr. Gallant admitted that operation was necessary when there were serious conditions, as hydronephrosis, nephritis, etc., and he wished to emphasize the fact that he had better results by operating early, before such serious conditions occurred. He had operated upon 179 cases with only one failure in securing permanent fixation of the kidney. This failure occurred because an abdominal section was also required, and he first fixed the kidney, then a week or so later did the abdominal section, and the vomiting caused by the anæsthetic loosened the kidney from its attachment. It was not true that nephritis was accompanied as a rule by general prolapsus. He thought belts and corsets were useful after operation and before there was general ptosis. In 75 per cent. of the cases there was nephritis or pyelitis, and, in these cases, a corset seemed to aggravate these affections.

Dr. ROBERT H. M. DAWBARN said that if belts or corsets were used they should be put on in the recumbent position, but he would not like the Surgical Section to go on record as approving such treatment. His objections to corsets were that they encouraged the too common tendency of women to auto-intoxication, as they interfered with peristalsis and constipation resulted, and this threw additional excretory work on the kidneys which might be a factor in the causation of nephritis.

Dr. GALLANT closed the discussion.

An Attachment to Bennett's Inhaler, for Pharyngeal (Crile's Method) and Tracheal Administration and for the Ethyl Chloride-Ether Sequence.—Dr. VICTOR C. PEDERSEN made this presentation. The same presentation had been made before the Section on Laryngology and Rhinology.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON PEDIATRICS.

Stated Meeting, Held March 10, 1904.

DAVID BOVAIRD, JR., M.D., CHAIRMAN.

Presentation of a Case of Recto-vestibular Fistula in an Eight Months Old Baby.—Dr. SARA WELT KAKELS presented this patient. On November 25, 1903, the child was brought to the dispensary suffering from an enteritis, numerous undigested stools of bad odor being passed. There was present an umbilical hernia and a considerable number of adenoids. The physical examination of the abdomen and thorax revealed nothing abnormal. The vulva was found to be covered with a mucopurulent discharge, and, on inspection, there was found a well-formed large and small labia, as well as a normal anal orifice. A funicular depression was noted in the vestibule of the vagina, directly below the hymen, and this lead to a fistulous duct which communicated with the rectum. A probe was readily passed. The fistula was lined with mucous membrane and fecal matter passed through the vagina. The perineum was short and low. No gonococci, diphtheria, or tubercle bacilli were found in the vulvar secretions. There was no history of trauma.

To explain the development of this anomalous condition the doctor referred to the early embryological conditions, and stated that the common cloaca (the common opening of the intestinal and urogenital passages at the caudal extremity of the embryo) persisted until after the fifth week, while the separation of the cloaca into the genitourinary sinus and the anal orifice, as well as the formation of the perineum, took place between the seventh and tenth week of embryonic life. According to certain teachings she said that this was effected by a downward advance of the septum Douglasi, or the rectovaginal septum. This theory was rejected by Reichel in 1888. After he had observed this anomalous condition in an adult woman he made careful researches on human embryos, and was led to believe that the perineum was not formed by the advance of the septum rectovaginali, but was mainly effected by a median coalescence, forming anal protuberances. These protuberances, which originated from the ectoderm, advanced and united in the median line, and they also grew upward and united with the descending septum Douglasi. The raphe perinei remained as a remnant suggestive of this union. Accordingly it was supposed that this anomalous condition was caused by an incomplete union of the anal protuberances with the septum Douglasi, and therefore was an error in development. In the literature but three analogous cases were to be found, one reported in 1863, another in 1886, and the third in 1890.

Report of Case of Hydrocephalus Treated by Drainage.—Dr. ALFRED S. TAYLOR reported the case of an Italian child that was fourteen months old at the time of operation. The family history was one that gave no idea as to the cause of the hydrocephalus. This was the fourth child, was a breech presentation, and so much force was used in extracting it that the child received a fracture of the leg. The child never had convulsions or serious illness during its early infancy. When five months old the parents noticed the head gradually growing larger, and from then until the child was presented for treatment seven months later the head grew steadily. Just preceding the operation the physical examination showed a well-nourished child, with limbs well developed and reflexes normal. The child was thirteen months old when operated upon. The patient had sufficient strength in the neck to roll the head about when on the bed or on the floor. The head was very large, and the anterior fontenelle was wide and bulging. The eyes markedly protruded, and the sclera was visible around the iris. For nine months previous to operation the child had been under the care of a pediatric physician, and during that time the head had increased from 49 to 59 cm.

On March 13, 1903, the operation was performed under chloroform anæsthesia. An osteoplastic flap about two inches in diameter was turned down with its hinge over the base of the mastoid bone. In the lower part of the dura thus exposed a semicircular flap, with base downward and about one inch in diameter, was made. The operation was so planned that the second tempero-sphenoidal convolution protruded through the opening, and through this was inserted a slender aspirating needle, inward and slightly upward, until it entered the ventricle, when clear fluid spurted out. Only a very small amount of fluid should be allowed to escape in this way. A drain was then made of half a dozen strands of No. 1 forty-day chromic catgut, and arranged in a spiral, made half an inch longer than the thickness of the brain substance. Around the shaft of the drain was rolled Cargyle membrane. The drain was introduced with narrow-bladed thumb-forceps into the ventricle along the tract made by the aspirating needle, and the tip was permitted to project from one-quarter to one-half an inch into the ventricle. The free loops of gut were slipped under the dura between it and the brain surface in different directions, but slightly downward toward the great lymph spaces at the base of the brain. A sheet of Cargyle membrane was slipped between the dura and the catgut loops to prevent adhesions. The dura was then sutured with catgut, the osteoplastic flap replaced and held by chromic catgut sutures, the deeper soft tissues were united by catgut, and finally the skin with silk. Over the whole sterilized dressings were applied with firm pressure. The wound healed by primary union. The reaction was moderate, the temperature on the second day rising to 103°, but the child did not appear to be particularly sick.

The interesting feature following this operation was the effect upon the head. Before operation the circumference was 59 cm., and ten days after the operation, when the dressings were first removed, it was the same. The child was perfectly comfortable. After the forty-fourth day two sets of measurements were taken and lost. About the sixty-eighth day there was a noticeable asymmetry of the head, the right side being flattened. On the eighty-second day this asymmetry was even more apparent, and the circumference of the head was 55.5 cm., a lessening of 3.5 cm. since operation. On the one hundred and fifth day the head increased to 57 cm. On the two hundred and fifty-fourth day the head was 61 cm., and on the three hundred and twenty-sixth day the circumference was 61.5. During the seventy-two days preceding this last inspection the head had grown .5 cm. The fontanelle was soft and retracted. The eyes were intelligent, and the exophthalmos had disappeared and the child was playing in the crib.

Dr. Robert T. Morris said that the report of Dr. Taylor's case certainly was one along the lines of progress and pointed to a very interesting field for observation. In 1885 Kirke proposed draining the fluid into the connective tissue, but obtained no good results. Seen later did the same, separating the tissues of the scalp, but all was done external to the scalp. Both these experiments were failures. Dr. Morris experimented with spinal drainage. In 1821 Bernard reported fair results from compression. His report was followed by reports from various experimenters and then further work was abandoned for a time, all operations falling into disrepute. He said that about 1884-85 Morton suggested the use of a fluid consisting of iodine, iodide of potassium and glycerin. At this time Dr. Morris operated upon two Italian patients, but lost track of both. In 1873 the *Irish Hospital Gazette* published a successful case, the cure being produced by the use of seton. In 1890 there were 5 reported cures by seton. In 1834 Conquest reported 9 cases that were drained, 1 was cured and 8 died from sepsis. Blackman in 1854 reported 69 cases with 53 deaths and benefit or cure in the remaining 16 cases. In these cases he believed that if the fluid could be removed cure was possible.

As a bit of negative testimony Dr. Morris reported the following: Recently Dr. Chapin sent him a case of hydrocephalus in which he planned to turn the temporal vein into the lateral ventricle for drainage. This was accomplished, the temporal vein being connected with the ventricle by a small silver tube. Curiously enough he found a reason for his failure to get the desired result. The hydrostatic balance was so perfect that the fluid would not escape from the ventricle while the connection was intact with the silver tube. In further considering the mechanical features of the case he felt quite reasonably sure that if this mechanical obstacle of a collapsed vein could be gotten rid of, he would be able to drain the ventricle into venous channels.

Dr. Henry Dwight Chapin thought these experiments were very valuable and interesting, inasmuch as there was so much confusion regarding the causes of failure in the treatment of hydrocephalus. He had tried compression and found that it was not at all efficacious.

Dr. Churchill Carmalt mentioned five cases treated with and without drainage. Case No. 1 was aspirated every other day for seventy days with apparently no effect upon the growth of the head. The aspiration was continued until the child became pale. The head would diminish in size about ½ cm. and two days later the loss would be regained. After being treated fifty days the head increased rapidly in size and the child later died of hydrocephalus without infection. Case No. 2 was aspirated four times. This was four years ago; the child lived two years and was then lost sight of. Case No. 3 was opened and drained and died of infection. Case No. 4 was opened and drained and did well for two weeks. The drainage was then removed and the child died one month later from hydrocephalus without infection. Case No. 5 was opened and drained and did well for one week or ten days and then died from hydrocephalus.

Of five cases he had seen one was in a child who had, when first seen, a spina bifida; one year later the child was returned with a marked hydrocephalus, the head measuring 45 cm. Although there was no history of syphilis, the child was given mercury and, at the end of one year, was quite well, and to-day was in the office talking and walking. Two other patients died of hydrocephalus and one got well without any treatment. From time to time one met with cases of hydrocephalus which seemed to recover without operation.

Dr. A. Ernest Gallant wished to mention an experiment he had recently made. A seven-month child, born November 11, 1903, was his subject. The mother had had two previous miscarriages, having been pregnant three times during the year. The father was said to be syphilitic. When the child was first seen the head measured 13 inches in circumference and, from ear to ear, 9½ inches. He said that in literature the statement was made that better results were had in syphilitic children. Various methods of treatment had been tried, but those most successful were those in which catgut drainage had been resorted to, passing the drain directly through the scalp into the ventricle, but the complaint had been made that the catgut absorbed too soon, thus stopping the drainage. Therefore, he concluded that silk-worm gut would do better. A large hypodermic needle was introduced into the ventricle, and strands of silk-worm gut was passed into the ventricle and drainage was fairly active. Drainage continued from January 31 to February 13. He then thought that if something larger could be introduced the patient would do better, so he took a fine silver wire and twisted four strands of it together and introduced this through the trocar, fastening the end without by means of a split bullet. This was left in until March 2, when the child died. If the doctors had changed the dressings he believed the child would have lived. The parents had charge of the dressings and believing the child would be idiotic, didn't want it to live. There was no sepsis. The child was placed on iodides, one grain, then two, and

then three grains being given with each feeding, there being eight feedings a day.

Dr. DAVID BOVAIRD, Jr., said that he had been impressed with the remarkable changes in the brain tissues at autopsy in these cases of hydrocephalus, whether drained or not, and he asked Dr. Morris what he meant by a cure.

Dr. Robert T. Morris said that the report was not tabulated and, although it covered a number of years, it was not a clear one. The so-called internal cases were not separated from others. Each case had been referred to as recovered, but the character of the recovery was not given. On careful analysis of the papers, though, he thought cure meant, in a large proportion of the cases, that the secretion had ceased, that the hydrocephalus had not increased, that the mental faculties had developed to a greater or less extent and that the patients had lived.

Dr. GALLANT said that it was not necessary to have the head diminish in size to any extent so long as the tension could be relieved. The important point was that if there was no pressure exerted upon the brain it would develop, other things being equal.

Dr. TAYLOR was interested in what Dr. Morris said regarding draining the ventricle, and wondered if the ventricle was drained into the vein as proposed by Dr. Morris what would happen when the child cried or strained; would the back-pressure within the venous system cause any difficulty with the cerebral pressure? He did not think that aspirating would accomplish anything, because the fluid would be thrown out more rapidly than it could be removed. Again, while infection may not be carried in through the punctures he said that certain elements might be carried in which would lead to a hasty death. He referred to a series of nine cases reported in which accidents had occurred with fracture of the skull, and fluid passing from the ear or nose with resulting cures of the hydrocephalus. He did not believe any external drainage could permanently cure a case because of the danger of infection. If one drained rapidly there would be a rise of temperature and convulsions. Dr. Keen a few years ago had drained the ventricle rapidly by means of a rubber tube, and this was accompanied by rise of temperature and convulsions. Normal saline solution was then injected into the ventricle with a disappearance of these symptoms. He repeated this several times. He said that drainage should be slow, just enough to take off the excessive pressure. One should remember that any damage to the brain tissue can never be repaired, and, therefore, one could only attempt to remove the excessive pressure and keep the child in as good a condition as possible. Treatment to be effective should be begun as soon as the diagnosis was made.

The Limitations of Chemistry in Infant Feeding.—Dr. HENRY DWIGHT CHAPIN read this paper, and said that the past few years had been noted by an attempt to put artificial infant feeding on a scientific basis, a thing greatly to be desired. The European method of determining the number of calories used by an animal, and then giving a quantity of food which, when burned, yielded the same number of calories, had been tried in infant feeding. This method of animal nutrition was not looked upon favorably for adult feeding by modern investigators of the problem of nutrition; they had found that much better results attended viewing an animal as an organism endowed with food preferences, than as viewing an animal as a mere machine in which any food was transformed into heat and energy. In America there has been a tendency, or rather an attempt, to place artificial feeding on a purely chemical basis. The scheme of food preparation, based exclusively upon percentage composition of milk, was now known to have been based on incorrect data. If one attempted to adjust the percentages of fat, proteid, carbohydrates, mineral matter and water to suit the infant, the question naturally would arise, what constituted suiting the infant? Was it to suit its digestion or its general nutrition and development? Modern investigators into the problem of nutrition had come to the conclusion that preferences for certain foods was a very important factor in feeding, and could not be ignored if the best results were to be obtained. It was a matter of common knowledge that there were different forms of fat, and there were also different forms of proteid. The only feature that all proteids had in common was that they contained nitrogen in fairly uniform quantity. 15 to 18 per cent. He said that Van Slyke and his co-workers had their efforts crowned with the brilliant discovery of some of the chemical processes that took place in the formation and digestion of the curds formed from casein. In brief, these processes were that the rennet of the stomach converted the casein of milk into a curd or paracasein, which then formed a definite compound with hydrochloric acid as chloride or bichloride of paracasein, and then, and not till then, would pepsin attack the paracasein. He said that most investigators into the problem of animal nutrition had found that the peculiarities of the species and individuals must be carefully considered or good results in feeding could not be obtained. After finding what kind of food was best suited to the animal's appetite and digestion, chemistry stepped in and aided in determining the quantity necessary to maintain the animal or enable proper growth to be made. Such investigators have shown that there were minimum quantities of different kinds of food which were absolutely necessary for the well-being of any particular animal or species of animal, and a chemical analysis would often be of great value in explaining the lack of proper development or failure to do well. He said that in practice there was little call for frequent analysis of food; that after the minimum food quantities had been determined for a particular species of animal, a general knowledge of the composition of foods and a rough method of calculating the nutritive value of the food was about all that was necessary. Each animal must be fed according to its peculiarities.

In infant feeding it had been found by experience that milk must be the basis of food, as milk developed the digestive tract. Milk diluted more than three times was not a safe food for continuous use for infants, for it did not contain enough proteid or tissue building material. Diluted condensed milk required from 2 to 4 per cent. of fat, and 4 to 6 per cent. of carbohydrates along with tissue builders to ensure proper growth. He said that it should be borne in mind that some persons or animals appropriate their food to better advantage than others. There was no universally applicable food for man or beast, and the successful feeder was the one who got the infant to take some suitable food, and then adjusted the ingredients so that they were in sufficient quantity to carry on the normal chemical changes that took place in the body and allowed storage of tissue other than fat and, at the same time, produce proper functional development.

The Treatment of Tracheotomy Wounds in Diphtheria.—A. E. Jones says that the main lines of treatment are the following: (1) The wound should be kept as aseptic as possible. It should always be covered with a double layer of aseptic gauze, which can be conveniently fastened at one corner to the sternum either by a spot of collodion or by a strip of Unna's zinc strapping. (2) The tube should be removed at as early a date as possible, more especially if any of the laryngeal cartilages be injured. One can usually take out the silver tube after twenty-four hours, and if another tube be required later on for a few hours more, a rubber one should be inserted. (3) Every effort should be made to calm and reassure the child, and in some cases the administration of bromide of potassium is of use in very excitable children. (4) The only contra-indication to the use of heroic measures if the wound does not spontaneously close is a poisoned and dilated heart; when this is present, as it was in the above case, one has to be very careful and proceed at intervals.—*British Journal of Children's Diseases.*

New Instruments.

A NEW ANÆSTHETIC INHALER.

By RICHARD E. MERCER, M.D.

The inhaler consists of two cylinders A and A′, covered by two caps B and B′, into the center of which are inserted tubes C and C′, which project about half an inch on each side of the caps. The inner projections prevent an excess of chloroform or ether from being spilled if the cylinders are inverted. The outer caps have graduated openings D and D′, which control the admission of air to the gauze inside the cylinders, and are regulated by turning caps from which an index-pointer projects to the index on the rim of caps B and B′. At the base the cylinders are connected by a T-shaped tube E which leads to the rubber mask M, through tube

H and inlet valve I (this valve does not show in the cut). It has another valve O which controls the admission of air directly to the mask. The nipple G (guarded by a little screw-cap) is for the attachment of tubing X for connection with oxygen or nitrous oxide cylinders.

The mask M is of soft rubber, shaped to fit any face without undue pressure. It has two openings, one the inlet guarded by the inward opening valve I, the other the outlet by the outward opening valve O.

The valves are very simple in construction, consisting of a thin piece of flat hard rubber held in place by small crossbars, and can be easily replaced when necessary.

The inhaler is simple, easily cleaned, and can be sterilized by boiling. The appliance is made by Geo. P. Pilling & Son, Philadelphia.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending April 30, 1903:

	Cases.	Deaths.
Measles	1398	46
Diphtheria and croup	409	62
Scarlet fever	419	26
Smallpox	6	...
Varicella	44	...
Tuberculosis	490	199
Typhoid fever	40	6
Cerebrospinal meningitis	30	70

Local Asphyxia of the Extremities with Gangrene of the Phalanges and Sclerodactylitis.—Balzer and Fouquet describe this case. The patient was a man of thirty-two years, non-syphilitic, but afflicted with pulmonary tuberculosis. At the age of twenty-eight he began to suffer from pain in the upper extremities, followed by gangrene of the fingers. The end phalanges dropped off. The stumps formed cicatrices very rapidly. All of the digits were affected, excepting the thumbs. The fingers were, besides, the seat of cyanosis and scleroderma. The sensibility was normal. The nose and the ears were intact.—*Archives Generales de Médecine*, March 15, 1904.

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S Marine Hospital Service, during the week ended April 30, 1904:

SMALLPOX—UNITED STATES.

			Cases	Deaths
California, Los Angeles	Apr.	2–9	2	..
San Francisco	Apr.	3–10	2	..
Florida, Jacksonville	Apr.	9–23	6	..
Illinois, Chicago	Apr.	9–23	11	..
Danville	Apr.	9–23	8	..
Indiana, South Bend	Apr.	9–23	7	1
Kentucky, Covington	Apr.	9–23	3	..
Louisville	Apr.	1–14	5	..
Louisiana, New Orleans	Apr.	9–16	3	..
Maryland, Baltimore	Apr.	9–23	11	..
Michigan, Detroit	Apr.	9–23	7	..
Grand Rapids	Apr.	16–23	1	..
87 Localities	Apr.	9–16		(Present)
Missouri, St. Louis	Apr.	9–23	23	2
Nebraska, Omaha	Apr.	8–23	2	..
New Hampshire, Manchester	Apr.	9–16	1	..
New Jersey, Camden	Apr.	9–23	5	..
Trenton	Apr.	9–23	2	..
New York, Buffalo	Apr.	16–23	7	..
New York	Apr.	9–23	3	..
Ohio, Cincinnati	Apr	8–15	5	1
Cleveland	Apr.	8–22	3	1
Dayton	Apr.	9–23	14	2
Pennsylvania, Allentown	Apr.	16–23	3	..
Johnstown	Apr.	9–23	3	One imported
Philadelphia	Apr.	16–23	32	9
Pittsburgh	Apr.	9–23	9	1 One imported
Williamsport	Apr.	16–23	1	..
South Carolina, Greenville	Apr.	9–16	2	..
Tennessee, Memphis	Apr.	9–23	40	..
Nashville	Apr.	9–23	11	..
Wisconsin, Milwaukee	Apr.	9–23	31	..

SMALLPOX—INSULAR.

Porto Rico, San Juan	Mar.	1–31	11	..

SMALLPOX—FOREIGN.

Austria, Prague	Mar.	26–Apr. 9	8	..
Belgium, Antwerp	Mar.	26–Apr. 2	24	3
Brussels	Apr.	2–9	..	2
Brazil, Pernambuco	Mar.	1–15	..	20
Rio de Janeiro	Mar.	13–27	121	75
Canada, Sydney	Apr.	16–23	54	1
Winnipeg	Apr.	8–16	1	..
China, Shanghai	Mar.	5–19	..	22
France, Marseilles	Mar.	1–31	..	14
Paris	Apr.	2–9	17	1
Great Britain, Cardiff	Apr.	2–9	1	..
Edinburgh	Apr.	2–9	3	..
Glasgow	Apr.	8–15	33	3
Hull	Mar.	26–Apr. 9	17	2
Leeds	Apr.	2–9	3	..
Liverpool	Apr.	9–16	2	..
London	Mar.	26–Apr 2	67	..
Manchester	Mar.	26–Apr. 2	6	..
New Castle-on-Tyne	Apr.	2–9	4	1
Nottingham	Mar.	26–Apr. 9	17	1
Southampton	Apr.	2–9	1	..
South Shields	Apr.	2–9	1	1
India, Bombay	Mar.	21–27	..	23
Karachi	Mar.	20–27	2	1
Italy, Catania	Mar.	31–Apr. 7	..	3
Palermo	Mar.	26–Apr. 9	2	..
Java, Batavia	Mar.	5–12	20	1
Mexica, City of Mexico	Mar.	21–Apr. 10	13	4
Torreon	Apr.	10–16	19	35
Netherlands, Amsterdam	Apr.	2–9	2	..
Russia, St. Petersburg	Mar.	26–Apr. 2	7	2
Spain, Barcelona	Apr.	1–10	..	8
Turkey, Constantinople	Mar.	27–Apr. 10	..	6
Smyrna	Mar.	20–27	..	1

YELLOW FEVER.

Brazil, Rio de Janeiro	Mar.	13–27	6	3
Colombia, Barranquilla	Mar.	23–Apr. 3	..	1
Ecuador, Guayaquil	Mar.	19–26	..	10
Mexico, Merida	Apr.	3	3	2

CHOLERA—INSULAR.

Philippine Islands, Manila	Feb.	27–Mar. 5	1	1
Provinces	Feb.	13–Mar. 5	32	20

CHOLERA—FOREIGN.

India, Calcutta	Mar.	12–19	..	58
Karachi	Mar.	20–27	1	One imported
Madras	Mar.	12–25	..	23

PLAGUE—INSULAR.

Philippine Islands, Manila	Feb.	27–Mar. 5	2	2

PLAGUE—FOREIGN.

Africa, Cape Colony	Mar.	12–19	1	1
Johannesburg	Mar.	18–20	22	6
Pretoria	Mar.	29	2	..
Brazil, Rio de Janeiro	Mar.	13–27	..	2
Egypt	Mar.	12–26	126	108
Alexandria	Mar.	12–26	1	1
Port Said	Mar.	12–26	1	..
India, Bombay	Mar.	8–29	..	2,705
Calcutta	Mar.	12–19	..	395
Karachi	Mar.	20–27	426	355
Madras	Mar.	19–25	..	1
Formosa	Feb.	1–29	114	80
Peru, Lima	Apr.	17	..	148
Straits Settlements, Singapore	Feb.	28–Mar. 5	..	2

Medical Record.

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Original Articles.

SOME CHARACTERISTICS OF STEGOMYIA FASCIATA WHICH AFFECT ITS CONVEYANCE OF YELLOW FEVER.*

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It is not proposed here to go into the life history of *Stegomyia fasciata*, but simply to call attention to such of its peculiar characteristics, differentiated from mosquitos in general, which seem especially to influence its rôle as a conveyer of yellow fever.

Here let me premise that only this species of the genus Stegomyia has been shown to act as a host for the conveyance of yellow fever to man. Following the analogy of malaria and Anopheles we would expect that the other Stegomyiæ, of which there are many, or at least some general subdivision of the genus most closely allied to this species, would act in like manner. No attempt to determine this point has been reported. Stegomyiæ, other than Stegomyia fasciata, must then, with our present knowledge, be regarded with suspicion as probable hosts for yellow fever, but against whom the charge is not proven. Similarly, analogy is against any other genus being able to act as host for the micro-organism of yellow fever.

Of the characteristics of Stegomyia fasciata which affect its rôle as a conveyer of yellow fever, the first that we will consider is:

Distribution.—Obviously this is all important. Localities in which this mosquito breeds and feeds on man are "infectible localities" and in them yellow fever is a communicable disease and will spread if cases be introduced without precautions. Here we must note that this form has been of special interest only a short time, and that the account of its distribution is necessarily lacking in completeness; and the fact that it has not been reported from a particular district, unless we know that careful and well planned search has been made, is not conclusive that it does not occur there.

All writers agree that it is widely distributed in tropical and subtropical countries. Theobald, in a recent monograph in *Tropical Medicine*, states that it is found generally between 43 North and 43 South. In North America, at least, we shall find its original habitat is much more limited, and that even where introduced it does not make good its permanent settlement beyond North Lat. 38 or 38½. The writer above quoted gives its Old World distribution as follows:

Asia: India generally, coast and interior, Malay States, Farther India, Celebes, New Guinea, Japan, and Palestine.

Australia: Queensland, New South Wales, Victoria, and South Australia (very abundant).

Africa: West coast from Senegambia to Nigeria, East coast from Port Said to Durban, Pretoria and British Central Africa generally, and Uganda (as it has been found at the Savannah Quarantine Station aboard a vessel direct from Cape Town, this district also must harbor it).

Europe: Spain, Portugal, Italy and the Mediterranean Islands to Cyprus; especially abundant at Gibraltar.

Oceanic Islands: Fiji, Mauritius and Seychelles.

It has not been reported in the Philippines, a matter of interest to us, nor on the Chinese coast, although other forms of Stegomyia are found in both places, and with the communication between these places and Japan, India and the Straits Settlements it seems improbable that this form has not been introduced, and probably it does exist in both countries, at least in the coast cities.

Van Dine of the Hawaiian experiment station reports Stegomyia fasciata as abundant and generally distributed over those islands, having been introduced in the last generation.

Obviously the wide distribution here noted in countries hitherto free from yellow fever, makes it extremely important not to introduce men sick of yellow fever into them. If other forms of Stegomyia can also convey yellow fever, the territory to be guarded becomes considerably increased.

In America this form has been reported from a number of the West Indian Islands and East coast towns in Mexico; Central America and South America as far south as Montevideo. It has been so generally reported where it has been looked for in these limits that it may be regarded as generally present in the coast towns from the Rio Grande to the La Plata.

It is also found at Panama and at Guyaquil on the west coast. But few reports, and I think but few examinations, have been made of the interior towns. It has been found in some of the interior towns of Cuba and in Orizaba and Linares, Mexico, and in Merida. At some interior towns, as at Jalapa and Guatemala, it has been reported absent after search.

To determine its distribution in the United States, correspondence was entered into with gentlemen in nearly every town on the Atlantic, Gulf, and Pacific coasts; as well as in nearly all towns of any size on the Great Lakes and on the Mississippi and Ohio rivers, and a considerable number of towns inland. In quite a number of instances, especially outside of the so-called yellow fever district, no sufficient search known to my correspondents had been made for this insect; but in the majority it was possible to obtain a satisfactory answer, negative or positive; and from quite a number specimens of Stegomyia fasciata were received.

To enumerate all the places at which it was found in the United States would take too long. Generally it is reported as found in all of the coast towns from Norfolk, Va., to Galveston, in which a sufficient search has been reported as made. It was also found at a number of interior towns: Houston, Texas; Shreveport; Franklin, and other towns in South West Louisiana; in Biloxi and Pass Christian and in some other places, in the interior, of Mississippi; in several towns—at all of which search was

*Read at the annual meeting of the American Public Health Association, Washington, D. C., 1903.

made—on the Mississippi River, up to and including Cairo, Ill.; also some interior, towns in Eastern Georgia. It is the less necessary to give the details of this distribution as I had intended doing, as I find Dr. Howard of the Department of Agriculture has also been engaged, with infinitely better facilities and success, in collecting data on the distribution of *Stegomyia fasciata*, and as soon as his report is published we will have complete data on the subject. He writes me: "The list of localities from which I have received it is a long one. In general, I may state that, in my opinion, this insect will be found practically in all portions of the lower austral life zone in the United States. This includes all of the Gulf States, as well as portions of New Mexico and Arizona; it also includes the low-lying portions of South Carolina and North Carolina, and the Southeastern portion of Virginia; it includes also Southern Arkansas and Southern Indian Territory, as well as Western Tennessee and Western Kentucky, the extreme southeastern corner of Missouri and the extreme southern tip of Illinois." Obviously, my district is included in his more complete life zone of this genus.

Within this district mosquitos of this form have been reported absent; that is, not found after sufficient search, at the Quarantine Stations at Ship Island, Mullet Key, Blackbeard Island, at the Savannah Quarantine Station; at the Cape Fear Station, and at the adjacent town of South Port, N. C.; nor have they been found on St. Catherine's Island, Ga. They have been found aboard in-coming vessels at all save one of these stations, but none have been found ashore. We may note that Ship Island has been notoriously "non-infectible territory"; at the others I know of fewer exposures. All of these stations are wind-swept, isolated places, with abundant marsh, fresh and brackish, in the vicinity, with artesian water at the first and last, and cisterns carefully screened at Mullet Key. I do not know the water supply at the Savannah Station. They were found at the Brunswick Station, but have disappeared under kerosening. Here cisterns were used.

The answers received from north of the Ohio and Potomac were decidedly less satisfactory than from points south; the Stegomyia having apparently excited little interest in the former, and hence not having been as carefully sought for. They are reported as absent, after careful search, at Evansville, Cincinnati, Baltimore (except a few larvæ which developed into Stegomyia found at the fruit wharf in early September), Lewes, Del., and the Quarantine Stations of Delaware Breakwater and Reedy Island. They were not found on Staten Island or Governors Island, or at the New York Quarantine Station, or at Buffalo, or Sault Ste. Marie. The writer especially regrets that he cannot say definitely whether they are found in Washington or Louisville, places which are on the border of their apparent range. He is sure that they are at least rare in both places, competent observers, although not especially on the search for this form, not having seen them. Indeed, considerable search has failed to show them at Louisville.

On the West coast they are reported absent at San Diego, and at Angel Island, San Francisco Harbor, and are not reported as present at any port.

In spite of those found about the fruit wharf in Baltimore, it seems that they practically do not occur north of Cape Henry, and that they are found at all of the cities south of Cape Henry at which satisfactory search was made. Thus the old line of division for Maritime Quarantine; a line founded empirically on the spread, in recent years, of yellow fever when introduced, "The Southern boundary of Maryland," was a fairly correct division of infectible and non-infectible territory. Indeed, the old rules of Maritime Quarantine for Southern ports are, except the disinfection of baggage, very generally applicable under the theory of its conveyance by this mosquito.

In America this form has so far been reported found only about the habitations of men (at least the writer has been able to find none elsewhere reported). This was to have been anticipated, because (1) the conditions which prevail about houses are especially suitable for its propagation. (2) Being easily found about houses in districts where it exists, it may not have been looked for elsewhere. Yet it is a matter of importance to determine if it breeds in woods, fields, or swamps distant from human habitations. In the United States the *indirect* evidence of yellow fever not spreading when introduced into new camps in the woods and fields—and cypress swamps as well—is against the natural occurrence of this form in such places in the United States.

If this be true of the tropics as well, Manson's proposition, to de-forest and drain a belt ½ mile wide on either side of the Isthmian Canal to prevent Stegomyia boarding vessels in transit, is unnecessary. It would be wiser to depopulate it.

Conveyance from Place to Place.—Obviously if they are conveyed from one place to another this second place becomes infectible, temporarily, in proportion to the number received; and if the Stegomyia breeds and thrives in its new home, a settlement, more or less permanent, is established; and places which hitherto have received yellow-fever patients with impunity can do so no longer, but become, as long as the Stegomyia prevails, infectible.

This change of infectibility not predicating the cause is fairly common in the history of towns in the interior of the Gulf and South Atlantic States, and not uncommon even in that of coast towns. Thus, Norfolk, Va., prior to 1855, had had yellow fever introduced a number of times, "almost every year," and occasionally there would be secondary cases around the wharves—there was then a large coffee trade. In 1855 there was a severe and general epidemic. Fernandina was the place of refuge in 1876 from the epidemics in Savannah and Brunswick. In 1877, following the advent of a vessel from Havana, a general epidemic arose; and again an epidemic in 1888. Jessup, Ga., gives a similar history.

(*a*) *Conveyance by Railroads.*—The writer has been able to find no conveyance of this mosquito by railroad, nor has he been able to have any sufficient search made for them aboard trains running from towns which harbor Stegomyia, except at Evansville, Ind., by Passed Assistant Surgeon Brown. He has then no *direct* evidence that they are thus transported. As other mosquitos, notoriously the culicids, are transported by trains, it is highly probable that they also are thus transported, and the cases of yellow fever contracted in St. Louis and Louisville, toward the close of the epidemic of 1878, by local railroad men and residents near the stations of railroads from the south is indirect evidence that is very convincing. To what extent this occurs should evidently affect our measures of inland quarantine.

(*b*) *Conveyance by Vessels.*—Conveyance by vessel has been frequently noted. It is fair to say that the Stegomyia not being found aboard a vessel is evidence of its absence, of value only in proportion to the process of search adopted and the care taken in making it; and it seems fair to say that they are conveyed by vessels in small number far oftener than the reports we have would lead us to believe. A negative statement of the crew is of little moment.

People used to the fiery bite and myriad numbers of the "salt water mosquito" (C. sollicitans), which infest the wharves of tropical ports, pay little attention to a moderate number of elusive Stegomyia. Probably the best way to determine their presence is to put out breeding cups or, which indeed is better, to look for such receptacles as may have served for this purpose aboard. Failing this there seems no better way than direct search. Corput of South Atlantic Quarantine Station says: "I personally search all corners, closets, hangings, and roofs of berths. A favorite place is in the corner over the shelf where the water bottle and glasses are kept; also the carpenter's shop on account of the water under the grindstone." In cargo vessels where the cargo is a food for mosquitos, such as bananas, sugar, etc., they would most probably be found in the hold. There would almost certainly be water enough for their drinking in the hold, if only from condensation on the sides of the vessel, if an iron vessel. It is of course in vain to look for a small number of mosquitos in the hold of a vessel, except by breeding cans.

Although conveyance by vessel has been frequently noted, yet they have been found aboard but a small proportion of vessels examined. Souchon's inspectors, in 1892, found Stegomyia on only two fruit vessels in New Orleans out of a considerable number examined; the mosquitos of this variety constituting 2½ per cent. of the mosquitos found, while in the houses at the port of departure they were 40 per cent. of captures, this disproportion is in accordance with what we shall learn of their habits.

They have been found at Ship Island Quarantine aboard three vessels sailing from Vera Cruz. A considerable number of vessels were examined negatively. At Tampa Bay Quarantine Station, aboard one vessel sailing from Buenos Ayres. They had bred aboard in the water tanks, as had those in one of the previous cases. At the Savannah Quarantine they were found aboard two vessels, from Cape Town (direct) and Havana respectively, both sailing vessels, and aboard both "water barrels were alive with wrigglers" which developed into Stegomyia. At South Atlantic Quarantine aboard five vessels, three sail, two steam; from Rio, Buenos Ayres, Lorenzo Marquez and West Indian ports. At Brunswick Quarantine Station aboard three sailing vessels, all from Havana. Larvæ were abundant aboard these three, and aboard four of the five at South Atlantic. Nothing is said of larvæ aboard the fifth, a steamship.

Goldberger, at Tampico, found them aboard three steamers, on arrival from Vera Cruz. None on a considerable number from New York.

The writer has found Stegomyia at Baltimore aboard two fruit steamers, from Jamaica and East Cuban ports, and, as noted, has bred a few of them from larvæ taken from near the fruit wharf, while nowhere else in Baltimore has he been able to find them.

The "Working Party" (Parker, Pothier, and Beyer), from observations at Vera Cruz, believe the transfer by iron vessels is rare, while by sailing vessels it is far more common. They base their opinion upon the paucity of suitable breeding places on the iron (steam) vessels as compared with the wooden (sailing) craft. "The iron ship, on account of its concealed water tanks, acts simply as a mechanical host to those that come aboard, while aboard wooden vessels, on account of the loosely covered deck containers, under proper conditions they propagate." While their observations are not sufficiently numerous to warrant the general deduction that iron (steam) vessels rarely carry this mosquito, yet their estimate of the comparative frequency with which steam and sail vessels convey *numbers* of them is undoubtedly correct. It is in accordance with the few observations given above, and also with the indirect evidence (as has been frequently pointed out by the writer), that yellow fever is contracted aboard sailing far more commonly than aboard steam vessels.

There can be no doubt then, but that these mosquitos are carried from place to place by vessels, especially sailing vessels, for indefinite distances (Cape Town to Savannah) in tropical waters. This is of interest on two accounts:

(1) It is a means of conveying the infection of yellow fever to other countries: (*a*) by mosquitos coming aboard already infected, (*b*) by mosquitos becoming infected after coming aboard by feeding on cases of yellow fever developed aboard, but contracted ashore. Of course if there be no Stegomyia aboard, the occurrence of yellow fever among her personnel will not "infect" the vessel. In the absence of the host yellow fever is not a communicable disease.

(2) The conveyance of uninfected Stegomyia to a country hitherto free from them, where they will propagate is, also a thing to be deprecated, as it renders the country in question "'infectible" if cases of yellow fever be subsequently introduced. Conveyance to a place where they will not increase is of little or no importance.

There is evidence, and it is, I think, generally held, that this mosquito is not indigenous to the United States, but was thus introduced from the tropics, and has from this become a permanent inhabitant of the Southern Atlantic Coast and Coast Plain, and the Mississippi Valley North to Cairo, Ill. The writer also holds this as an opinion, but he does not consider it proven for the southern part of this area. I think, however, that it is unquestionably true that Stegomyia was thus introduced into the Hawaiian Islands, where it is now abundant and widely distributed, these islands being free from mosquitos until 1826, when they were introduced by a vessel from San Blas, Mexico.

We have said that the introduction of the uninfected Stegomyia into an environment where it did not increase was of no moment. This is true, but there is another question. Is this form able so to adapt itself to a somewhat unfavorable environment that it can become, so to speak, acclimated? Can it, after some generations, thrive and increase normally in environments in which at first it could do so poorly, or not at all? Can it by a series of generations in environments increasingly unfavorable—all being unfavorable in the same way—finally propagate and thrive in a place where the parent brood would have died without successors? This is certainly true of other forms of animal life, generally in proportion to height in the scale of life. It was, and I believe is still, held true for the "Texas tick," also the host of a pathogenic parasite, and certainly has some antecedent probability. The Vera Cruz working party believe this to be true and give reasons for their belief; yet to the writer they seem probable rather than conclusive, and he can only say that further observation is needed to answer the question, and that to answer it merits further observation. It is also conceivable that conditions, climatic and otherwise, may suffice for the host to thrive and yet not be such as to suit its parasite, and thus the temperature limits of yellow fever and the Stegomyia not be identical. This, that the host may thrive under conditions incompatible with the life

or development of the parasite, is alleged of the Anopheles and the Plasmodium Malariæ, although I think, not generally accepted.

Method of Propagation.—(*a*) All observers note that by preference this form elects to breed in clear water, not necessarily clean water (Reed added small amounts of fecal matter to his breeding jars) in artificial containers, cisterns, tubs, barrels; cans, etc. Theobald classes them as "almost exclusively a can and pot-breeder."

The New Orleans Mosquito Commission of 1902, in the part of the city where the above class of receptacles were available, found Stegomyia larvæ in 60 per cent. of them, and in only 10 per cent. of gutters. On the outskirts of the city where such receptacles were not available the same commission found them in nearly 80 per cent. of the gutters examined. Other observers, however, have found them far less frequently in gutters and pools even when there were no other breeding places. The "Working Party" in Vera Cruz found Stegomyia larvæ seldom in gutters, almost invariably in water cans. Taylor of Las Animas Hospital, Havana, after finding them commonly in artificial containers, notes that they "are also found in pools," as if it were rare, and this is the general testimony of my correspondents who have found them breeding in the United States.

Muddying and disturbing the water in the pool causes the death of many of the larvæ. Possibly on this account the pools on the outskirts of New Orleans were more suitable for breeding than those in the more inhabited parts of the city, indeed a still, undisturbed pool of water, cleared by standing, should, for this purpose, differ in no wise from a hard walled receptacle. Stegomyia is not a cesspool-breeder.

(*b*) The time from egg to fly is from two to four days shorter than others of its general order, Culicidiæ.

(*c*) Eggs are at times laid above water, and if kept dry, will preserve their vitality a long time. Finlay has kept eggs dry six weeks, Theobald, eggs received from Finlay, over two and a half months. and Reed ninety days, and then hatched them, The latter states that freezing does not destroy their fertility.

Its choice of breeding places indicates the especial danger of open cisterns; water-jars and collections of water in any artificial container; cans, troughs, etc. Thus the measures for their destruction are in contrast with those against Anopheles. In Gorgas' work in Havana the "Stegomyia Brigade" waged especial war in town, and on artificial receptacles about houses. The "Anopheles Brigade" drained and kerosened puddles and pools in the suburbs.

It is well to note that the larvæ are not gotten rid of by emptying the water-jars, as is usually done in daily use. The "Working Party" in Vera Cruz found that when water was poured from a jar the larvæ present sought the very bottom and, unless the jars were tipped up so as to empty them completely, which was not usually done, nearly all the larvæ remained in the jar.

Obviously then the introduction of water by pipes into a l hou es, rendering the keeping of water in containers unnecessary, is a most important measure in freeing a town of this mosquito. Natural pools, however, must by no means be neglected and the advantage of drainage, and with drain underground in place of open gutters, is especially from the observations in New Orleans, equally obvious.

The slightly shortened period in the egg and larval state, and that the eggs are occasionally laid above water and may preserve their vitality almost indefinitely, plainly add to the preservation of the insect and this latter may be a means by which it survives the winter in (for it) north latitudes.

(4) The Habits of the Adult, Female:

In spite of some statements to the contrary, the evidence seems conclusive that only the female Stegomyia feeds on man, or if the male does so, it is extremely rare.

(*a*) She is very long-lived. Theobald has kept them alive two months from the larvæ without food; these specimens finally dying for want of water. Of eleven mosquitos, five days old, fed by Guiteras on a case of yellow fever and hence infected insects, only two had died on the forty-first day, five lived over 101 days and one 154 days.

(*b*) Having acquired the power of communicating yellow fever they preserve it apparently as long as they live. Reed reports yellow fever transmitted on the fifty-ninth day after feeding on a yellow-fever patient.

The conveyance by vessels shown before, together with the long ife and persistence of this mosquito in transmitting yellow fever increases the difficulty in protecting the countries of the Old World, where the Stegomyia fasciata is found, from yellow fever. Because although so distant that it is not possible for a man contracting the disease in America to contaminate mosquitos in, say Japan, yet it is perfectly possible for a mosquito contaminated in America to infect a man in Japan, and from him a number of Stegomyiæ.

Hitherto there has been but little direct communication from the yellow fever ports on the West coast of America with the East (all the coast of America from Payta south and from Cape St. Lucas north is free from infection); but this may not be the case when the inter-oceanic canal is open. Yellow fever introduced into a country like India or the Straits Settlements might well become endemic and if so, such countries would in turn be a continual menace to the rest of the (infectible) world, repeating the history of Rio Janeiro and, probably, that of Havana.

(*c*) They are essentially house mosquitos. Not only do they breed best under the conditions which obtain in and about houses, but having entered a living house, they do not like to leave the premises. Here again their habit is in contrast with that of Anopheles. It was the almost universal existence of this mosquito in the houses of Havana which first led Finlay to select it as the probable conveyor of yellow fever, an essentially house disease. Indeed his early arguments based on the phenomena of yellow fever and the peculiarities of this insect dovetailing in with the theory of its conveyance of yellow fever to man is an extremely beautiful piece of deductive reasoning.

The limitation of infection to the neighborhood of houses which contain or have contained yellow-fever patients is a marked feature in the early part of an epidemic.

(*d*) It requires a considerable interval of time, generally about fourteen days in summer, after feeding on one sick of yellow fever before the mosquito is capable of imparting the disease.

If then the mosquitos be destroyed or all persons be removed soon after the first case of yellow fever develops in a place, no one will have been exposed to infection and these people need not be regarded as suspects. The minimum limit of this "extrinsic incubation" of yellow fever is not certainly fixed. Twelve days is the shortest which has been so far found in experimental cases.

(*e*) *Its Time of Feeding.*—Observers seem to

gree as to its hours of feeding, but the disagreement s more apparent than real. All agree that its prinipal time of flight is in the afternoon: It is "essenially crepuscular." Reed says: "after four o'clock. he New Orleans Commissioner: "especially in the fternoon hours." The Vera Cruz Working Party tates "early in the morning and late in the afternoon. t does not feed in the dark nor does it in a strong ght, and its feeding seems more dependent on the egree of light than on the time of day. If the place e fairly light it approaches its victim on the shadow de, thus especially attacking the ankles under a riting table, or the hand under the head during esta. It bites after dark if there be artificial light the room. It does not bite out of doors in ordiary bright daylight.

The above habits, together with the fact of its ing a house mosquito and the infected insects ing mainly confined to dwelling houses, explain e comparative safety of "day-light communicaon," *i.e.* entering a town only after 10 A.M. and aving by 4 P.M. under pledge to go in only on nny days and to enter no residence; sometimes t to go into the residence portion of the city. The nger of staying all night was really the danger of late afternoon, early evening, and morning urs spent, of course, in residences.

(f) *Hybernation.*—Many species of mosquito are own to hybernate, some as adults, some as wrigrs, and some doubtless as both. L. O. Howard, quoted by John W. Ross, states: "That the egomyia hibernates in the adult stage." I have t seen reported the instances on which this statent is based. Guiteras placed thirty-three mositos in an ice-box at 46.5° to 50° F., without d or water; three of them survived to the hty-seventh day, when they were eaten by ants. That the species habitually hibernates, *i.e.* ists quiescent through the winter, either as adult, va, or egg, is beyond dispute. Admitting that y hibernate as adults, our experience with yellow er teaches us that either but a small proportion *infected* insects survive, as indeed the experience Guiteras would indicate; or else that the power convey yellow fever is generally lost after hiberion. For while there is much evidence, and it s generally been accepted, that yellow fever asionally recrudesces after a winter of quiesce without re-introduction, yet it is certain that is not the rule. In a large majority of places ere this species unquestionably hibernates, reudescence of yellow fever after an epidemic has t occurred, and, even when it is claimed to have curred, only a small proportion of the infection at existed when the epidemic ceased is observed the beginning of the recrudescence. Unquesnably then, Stegomyiæ capable of conveying fection at the beginning of cold weather are only ceptionally—and very exceptionally—capable of aveying it after a winter in the Gulf States. Of urse it may be that the parasite dies in the hiernating host which survives.

(g) *Aërial Conveyance.*—Some mosquitos are carl occasionally great distances by the wind. The iter has personal knowledge of the flights of yriads of mosquitos (Culex solicitans as he remembers) which were carried by wind fifteen or ghteen miles from the Louisiana marshes across andeleur Sound to vessels in the sound and to andeleur Island. In both cases the wind had own moderately and steadily for two or three ys from the marshes. Other instances are reorted; and, in spite of the general opinion of men r abler to express an opinion on the subject, the riter thinks from his observation afloat on salt water in the lee of islands and mosquito-infected shores that the Culex of the salt marshes is quite frequently carried considerably over a mile by light, steady breezes, long continued.

Is this true of the Stegomyia? It is a far lighter insect, more fragile and apparently with very little wing power. It probably never flies high. It is found, by preference, in the lower stories of houses, and would thus be little liable to conveyance by wind, and its feeble power of flight should prevent its passing over any considerable distance by its own wing power. Nearly two years ago, the writer suggested that this problem be taken up, it being of importance in determining the anchorage of vessels in yellow-fever ports. So far he knows of no direct observations on this subject, except those of Goldberger at Tampico, and of Grubbs at Ship Island Quarantine. The latter found Stegomyiæ aboard three vessels from Vera Cruz, two of which claimed to have lain a half mile from shore. He believed they came aboard at Vera Cruz. The observation of Goldberger will be given later.

Although direct observations on this problem are few, yet there are certain indirect ones, bearing, however, entirely on the aërial conveyance of the Stegomyia infected with yellow fever. It is notorious that yellow fever is usually conveyed but a short ways aërially, "across the street," or, more often "to the house in the rear," which is about as far as it was expected to be thus conveyed. This represents a maximum distance of about 75 yards. The two longest distances recorded in recent times of aërial conveyance, one of 225 meters (Mèlier) and one of 76 fathoms—456 feet (the writer) are entirely exceptional. So much for the distance which the (infected) Stegomyia is conveyed—or rather usually conveyed—aërially.

On the other hand it is known that vessels moored in certain districts of the Havana harbor did not develop yellow fever aboard, except in those who had been ashore, or unless they lay close to other vessels which were infected. This experiment has been made on so large a scale—with so many vessels and for so many years—that we must accept as a fact that an infected Stegomyia was not conveyed aërially from the Havana shore to those vessels, or, allowing for errors, was very rarely so conveyed. The distance which had been found safe was something over 200 fathoms—1,200 feet. The prevailing wind was generally slightly on shore, but was not constantly blowing. Whether there is any difference in the distance to which infected or non-infected mosquitos are conveyed, is, of course, entirely a matter of surmise. There is no apparent reason why there should be. Yet the infected Stegomyiæ have almost certainly become so in a house; and with their very domestic habits must be found out of doors, where they would be subject to conveyance by the wind, in much smaller numbers than the uninfected insects, and consequently a lesser *number* of them would be conveyed aërially. Observation is needed on this subject—the distance (across water) that Stegomyiæ are aërially conveyed.

Goldberger, very ingeniously, suggests that on account of its diurnal flight, the direction of the wind during the day only need be considered in estimating this factor in their aërial conveyance, and states that at Tampico he has failed to find Stegomyiæ aboard vessels lying, for ten or fifteen days, about half a mile from a shore where they were abundant, while numbers of Anopheles albipes and Culex pungens were found. The wind was on shore during the day and calm or off shore during the night. The importance of this point is obvious, as

on the coast, except when overborne by the trades, the direction of the wind is very generally different by day and night.

To sum up:

Among the special characteristics of the Stegomyia which affect its rôle as a carrier of yellow fever are:

1. *Its distribution.*—This is generaly between Lats. 43 N. and 43 S. on the coasts and low plains of Africa, Asia, and the adjacent islands; Australia and the Mediterranean basin of Europe. It is also general on the eastern coast of America from 38 N. to 35 S. Lat. On the west coast it is found at Panama and Guayaquil, and its existence is *implied* from Guayaquil to Acapulco. In the United States it is general on the coast and low plains of the Southern States, except Maryland.

2. It is conveyed by vessels indefinite distances (from Cape Town to Savannah Quarantine); in much greater numbers and more often by sail than by steam vessels.

3. It lives a long time—154 days being recorded of an infected insect. Once having acquired the power of transmitting yellow fever, it retains it apparently as long as it lives—59 days being recorded. A consideration of the three postulates above will render it advisable to safeguard the tropical countries of the East when communication is opened up betweeen them and American ports infected with yellow fever, preferably by freeing the American ports of yellow fever.

4. It propagates preferably in artificial containers, but will propagate in pools where such containers are not available.

5. In America it has been reported only in the vicinity of human dwellings, and seems here not to be a sylvan, paludal, or campestral mosquito. From 4 and 5 the war against this insect in America should be waged about the houses of men, and especially against water in artificial containers. The introduction of a water supply, piped to every house so as to do away with cisterns and water-jars, is the most important measure of sanitary engineering to free a town of this mosquito. Next to this is a system of drainage by covered drains to carry off the rain water and prevent pools. Cesspools are not objectionable on this score.

6. It unquestionably hibernates in the United States, but if the infected adult hibernates, either a very large proportion of them die, or else the infecting parasite must *generally* die in the hibernating mosquito. The first seems more probable.

7. It is essentially a house mosquito, and is inclined to stay about the premises where it has fed. Hence the greater safety of the whole district of an infected city as compared with the residence portion.

8. It does not feed in the dark or in bright sunlight. Therefore, in bright daylight or at night without artificial light are the safest times to be in an infected place.

9. The cycle of the yellow-fever parasite in the mosquito before it can be conveyed to man is generally, in hot weather, about fourteen days or over. Prior to the accomplishment of this cycle (once called the "extrinsic incubation of yellow fever" the mosquito cannot convey this disease.

10. It is probably usually conveyed aërially less than 100 yards. In Havana the infected insect is believed to be never aërially conveyed 200 fathoms—1,200 feet—from Havana shore. The direction of the prevailing wind during the day influences its aërial conveyance.

THE UNCLASSIFIED TROUBLES OF WOMEN.

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The advantages of classification are obvious, for classification is indispensable. Psychologically, man is a classifying machine. The disadvantages are only apparent as we advance in experience and find so many borderline examples, overlapping several classifications.

It is to this borderline region that I call your attention, and maintain that certain troubles not sharply defined as gynecological, are really the most important and productive in the specialty; that these troubles are neglected by our leaders, judging by what they write upon and discuss; that the general practitioner, without genecological training, cannot grasp them thoroughly; and that the profession, and back of the profession, the community, are dependent upon us as specialists to study and solve these problems.

First, a brief personal note. Man, in so far as he is an individuality, is a selective principle. We can no more explain this subtle individual quality than we can tell the selective secret of digitalis for the heart or strychnine for the spinal cord. The spirit of a given mass of facts will be refracted differently through the prism of different individualities. My modest conclusions are the result of this selective principle acting upon the material that fortune has thrown under my observation. I give them as supplementing the work of others—not opposing, as some of my confrères have thought. But there is vigorous opposition in my standpoint to the narrow-constructionists—if there be such—who would hold that gynecology is not a science of all the troubles of women, but a branch of surgery restricted to the uterus and its appendages. Such a view would make us simple abdominal or plastic surgeons; whereas the very brilliancy of this big, objective, macroscopic work has established a new branch of medicine and has accordingly brought upon us the responsibility for much that is more obscure, yet as important as the definite work forming the substance of our textbooks. This unclassified work as yet has not been thoroughly exploited and mastered. The principal fact with regard to a woman is her sex, and all that arises from this urgent fact calls upon the responsibility of the gynecologist of the broader conception—whether it be hygiene, physiology, pathology, longevity, or even psychology—for woman has an extremely specialized psychology.

Speaking generally, there are certain important matters connected with that I have called "the feminine element," which make for a woman's longevity, and determine her resistance to many of the inevitables involved by her sex. Though these overlap the borderline of internal medicine, I insist strongly that they are gynecological. They are due to the entailment of sex; they most frequently focus symptoms upon the local organs; and we will fail most signally with them as mere localists.

Before coming strictly to gynecological matters, consider a few general propositions: How much can we do for a dilated heart; for chronic Bright's disease? Who can restore the obliterated calibre of the surface capillaries? We can palliate; we can not cure. And in the acute diseases, is not the breakdown almost always in the vasomotor system, the great tubular works of the body? Pass on pneumonia, on typhoid fever, on peritonitis, meningitis, the ruptured cerebral artery, the sudden heart failure at the top of the stairs where there have been no pain, no murmur, no suspicion to the mere localist—and one can be a "mere localist" at the heart as well

as at the uterine end. One man lives through his pneumonia; another's heart fails. One woman conquers her streptococcus infection; another's heart fails. Who can tell whether it is the integrity of the tubular system, the resistant power, or the strength of the infection; the reason may be all or one of the three. Is the resistant power of the clinched fist, the contracted body of the falling balloonist, greater than the same fist or body in unsuspected relaxation? We almost poison with strychnine in streptococcus infection to enhance vitality, as we say; but do we not rather clinch with our drug the entire fist of the tubular system. Who can say how much is physical condition; how much is dynamic addition? It is the same throughout the entire list of the acute troubles.

Now, if we can reach that heart before it dilates; arrest that Bright's disease before it arrives; force out the blood-vessel rust, so to speak, from the calibre of those surface blood-vessels before entire obliteration of the lumen—if we can underwrite these great tubular works of the body, which wear out in our American civilization long before the rest of the body, and keep them as young as brain and brawn—we can do far more than help our patients through their acute troubles; we can add an effective decade to the life of our adult population. We can postpone the class of hemiplegics, the spastics, the dotards, the superannuated, the back-numbers, to ten years later in life.

Gentlemen of the New York Obstetrical Society, I believe in the heartiest sincerity, that this can be done. Medical men, worn to the limit of their vitality in combating the classified diseases, have given little attention to the unclassified. At every opportunity I shall urge my conviction on this point. Could I accent it to the professional mind, like fire in the night, I would gladly limit my professional contribution thereto, and consider it ample. Once surveying this field, we have imposed upon us, in the language of Professor W. H. Thomson, "a special responsibility; for what ought we to try more to do than to save a fellow creature from awakening some morning with the terrible calamity of a hemiplegia, when it would have been better for many such patients afterward had that night's sleep been their last."

Now, why such a subject in a gynecological paper especially? For the best of reasons. Women are the transmitters of the race; men merely modify. Women suffer more than men in the tubular area, excepting the brain. The tubular conditions are directly hereditary. And women are the hygienists of the race in its infancy; they engrave the habits on the plastic mind. As a man's mother is, so is he. Gynecologists, therefore, must do most of this work if it is to be done.

What sadder picture of professional limitations can be presented than that of a patient in whom the great vasomotor changes have had their obscure beginning—who has her back-ache, her side-ache, her reflex neuroses—who is led to believe that the little cicatricial plug in her cervix uteri is the sum and substance of her trouble? (I am not underrating its importance when it is the sole trouble.) Or again, how terribly futile is the assurance that there is no albumin in the urine, or that there is no murmur in the heart—that "the heart's all right"—that there is "nothing in the parametrium"—when the then present moment is the time, and the only time, for the cure of the foreshadowed Bright's, the coming heart failure, or the pelvic thickening five or ten years off.

Becoming more specifically gynecological, let us consider some facts bearing more closely on the specialty. Consider them with an eye to the relation of gland function to elimination, circulation, arterial integrity, effective longevity.

Grouping the significances, I call your attention to the subtle differences between a stallion and a spayed animal; to the difference between a woman with ovaries and one without ovaries; to the practice of altering hogs to fatten them for market; to the combination of sterility and fat in the hairless man with tenor voice; to the relation of fat to the heart, the circulation, and elimination; to the frequently met condition of what I have called "the self-obliterated feminine element." This last covers two conditions in two different periods of life. In young girlhood, over-expenditure of vitality in intellectual or emotional pursuits will rob the organs and glands—the mammary, ovarian and perhaps thyroid—of their share, and thus leave them disqualified for their function of selecting from the general protoplastic mass that subtle something that constitutes the essence of femininity. This is by no means fanciful; a minor thing; a "cosmetic" question. It is as fundamental and important as the reason why a woman menstruates and a man shaves. It leads directly, as I shall elaborate, to a shortened life when life is most valuable.

The other condition of the "self-obliterated feminine element" is in women from twenty-five to forty, whose increasing lithæmia, growing obesity, conscious hebetude, diminished menstruation, and perhaps slight skin and voice roughening, and the development of a hairy tendency, show a strangling out in function of these important selective principles, which can be aroused from slumber and put to work with almost spectacular effect.

A treatise could be devoted to each of these conditions. This is gynecology in its double distillation; and the profession must reach to us for light on the subject.

There are even more significances belonging to this group, despite my long interpolation. I frequently invite the scrutiny of trained observers to the women in a mixed group of well-to-do persons. Take a Metropolitan Opera House audience on a star night, and scan the couples in the decade of adult summit. Look at the men—agile, keen, quick of movement, still in the game of life, of use to their family, age, and race. Turn to their consorts—save a few exceptions for our chivalry, they are obese or scrawny, hebetudinous or jerking, flabby bundles of tissue hanging in folds; each fold, to the esoteric eye, full of burnt-out tissue juice, poisoning the individual with the ashes of her own life. The difference is a sex difference, though not a sexual difference. It is due to the habits, ideals, environment, and especially the traditions of the sex. And, as such, it is a gynecological problem, the nature of which is not changed even by the conceded greater longevity in the female. There is a distinction between longevity and effective longevity.

Still following up this long line of significances: Take the relation of infantile uterus with Graves disease, leucocythæmia, pernicious anæmia and chlorosis—or with that indefined condition, conceivably pathological, which may be called a "general lusterless hebetudinosity." This muddy, bacon-like condition in a young female obviously modifies her conjugal destiny; I have elsewhere tried to point out the stages by which this condition reaches the operating table; and I earnestly believe that it gives us a notable opportunity to bestow years upon these patients—as definitely and calculably as though we had these years in our safes as entities and were handing them out. Who must work out these prob-

lems? The general practitioner, if he have opportunity and inclination, is qualified to become a gynecologist; but it is only as medical-gynecologist, and not as general practitioner, that he will get the grasp.

Take the relation between pelvic congestion in the female and renal insufficiency. We have theories but no real knowledge why a pregnancy, with its resulting congestion, throws out into prominence an unsuspected renal trouble, or creates a renal trouble: which is it? The obstetrician helps and even cures the renal trouble by emptying the womb—by mechanically relieving the congestion. Thus puerperal eclampsia, or distinct albuminuria, puts up a head big enough to see. But does pelvic congestion result only from pregnancy? And must we have death-dealing eclampsia as a menace before we get to work? Varicose ulcers on the leg, for example, tell how destructive venous congestion can be. And does venous stasis only work injury in the legs and leave the pelvis free? Is it not true that there are numerous causes for pelvic and abdominal congestion in the female; that they have marked bearing upon the organs of elimination even when reaching no inflammatory condition; that they are relatively more important than eclampsia, because insidious and hidden—occurring in thousand to one frequency—and underlying the dreaded general arterial sclerosis; that they belong to gynecology though their results classify them with general medicine; and that these unclassified troubles, none of which rises to the dignity of a disease, are often unseen by patients and their advisers until they grow formidable enough to come under a classification?

Take the important but delicate question of maladjusted sexual relations, with its physical, psychical and sociological aspects. This is a good subject for a valedictory paper if a man would utter his conviction. To quote the *Sun*, "To the pure all things are *im*pure." I personally prefer not to waste the energy of an acquaintance on those "nice persons with nasty minds" who are always "wondering what one means" by almost any simple declarative sentence. Psychologists well understand the essential uncleanness of prudery. Nevertheless, a rich group of unclassified troubles under this head demands the bravest and most thorough work—a work that only a gynecologist can do. These troubles are *functional* merely, as we sometimes lightly say; there may be little that is objective about them. But do we sufficiently realize the gravity of "merely functional" matters? A death-dealing heart-failure is "merely functional"—that is, the difference between the heart that stopped and the heart that went on, is too subtle for material analysis, and we hide behind the term "vitality." I have many details under this heading, which despite brave speech I prefer to withhold for later papers. Much of this "merely functional" disorder reacts on the eliminative and circulatory machinery, and so eventually comes under the life-robbing head.

Then take the menopause. This is well classified as a fact in gynecology, but unclassified as to detail. If the profession agrees with me here, I bespeak its authority for my postulate on this point. Bear a moment with my example, for I consider that a secret lies here that holds years of useful life to woman. We must restrict our consideration to those of higher evolved nervous structure. Unfortunately for the democratic formula, there are decided class distinctions in medicine, and particularly in our specialty. You cannot apply a stolid German theory to a volatile French subject. The deductions from a thousand European peasants might fall short in the case of one highly strung American woman of expanded psychology. This explains why Christian Science, for example, is an American plant, and does not flourish among those of lowly nerve structure. I believe that the secret lying underneath this Christian Science movement can be applied by us here: I mean the power for healing and life in the human mind. Let me not be misunderstood. I believe that this wretched error of Christian Science—which has turned over millions of money and put new architecture in the landscape—has in it a very potent germ of truth, an underlying secret, which we medical men have neglected and should more largely apply. There is an appreciable power for life and healing in the human mind, which I have elsewhere tried to show can almost be computed in material terms—that power which enables the men of brain to outlive the men of brawn in the shipwrecks, disasters, Arctic expeditions in history. And nowhere can this be so beautifully demonstrated as at the menopause. (And I remark parenthetically that Christian Science is principally the cult of those past the menopause.)

We know so well the objective, physical picture of the woman after the menopause—the intestinal fermentation, the hardening arteries, the facial eruptions, the red nose, the herpetic and adhesive vaginitis; the changed shape of the vagina—from triangle with apex down in youth, through the parallelogram form to triangle with apex up in age, so that you cannot tampon readily. This change in the shape of the vagina will typify the change in the general outward shape of the body, which I call—with no disrespect to royalty, but that all may know it—the Queen Victoria figure, a triangle with base below, running to the apex at the head.

This is the physical picture; but what of the psychology of the woman between forty and fifty who finds her menstruation coming irregularly for the first time? It is not necessarily the gray hair, the wrinkle, the eye-glass, the apex of a vagina, or the Queen Victoria figure; for these may reach one without this psychological involvement, years sooner, as in the case of the "self-obliterated feminine element." It is not that the woman loves the monthly infliction, nor that she wants more children—what then is the climacteric anguish?

I believe it to be a psychological matter which aggravates enormously the physical condition. The woman's children are grown and married; her activities have dwindled; she is in the position of a man retired from business. And then, foremost in insistence, is the tradition that tells her she is through with sexual life. And just as male alcoholic paresis gives as an early symptom an unreasoning jealousy of the wife, so in the female at the menopause we have an analogous psychical symptom, often aided by the temporary lull in male sexual power around fifty, when the prostate begins to thicken. Brought to naked daylight statement, the woman's unformulated psychology is that she is through with sexual life, its joys; and, principally, that she is passing from her utility to her husband and her family. And this bows her head to the expected sword. She spends her time waiting for the end in manufacturing lithæmic products. So we have focused on a single point influences that conspire to rob the woman of what should be the best years of her life.

I must again sharply emphasize that I am speaking of women of a certain grade. I must again distinctly state my conviction that there is scant democracy in physical life: much in anatomy; some in physiology; almost none in psychology, which last is the important point. To the brain livers only does this best period of life prove a best period when the psychical joys are appreciated and are as much greater than joys of sensation as the mind is greater than the body. Here Christian Science has stolen

r opportunity; it has few devotees in the tene-nts.

I doubt the kindness in the attempt to add to the bmerged ten years beyond the time of physical ac-vity. With no mental life; with no financial re-urce; with the almshouse, or dependence on those ready engrossed with the care of a new generation, almost seems kinder to view life with them bio-gically.

But with the others it is vastly different. And re we may apply gynecology, and some sociology, its highest form. I want to build some more fire the night on this point. I want to bespeak the gma of the profession that in these foreseeing ovident walks of life, with those who have a house the mind in which to dwell, the menopause is only second commencement—a new graduation day—a woman's life. The child-bearing period, like the hool-day period, is a step toward the period of ult summit, of which the menopause is the thresh-, where should be found the best years of life. st the uncertainties of youth, with its burning pas-ns; past the self-sacrifices of child-bearing; rough the shifting process by which the fittest rvive; in possession of the proceeds of the last neration—the life of greatest utility to the family d community should begin.

We can keep our patients at the menopause from coming uric-acid machines; we can keep their arter-soft; we can abolish the Queen Victoria figure, red nosewings, the boborygmus, the toxic head-hes, and the loose flesh folds which are simply man sewers. And we can thereby add ten years useful life.

The object of my paper is not to show how to do tain work, but to point out certain work to do. has passed beyond the theorizing stage with me; is my daily routine; and so high a mission do I nsider the field that I should personally gladly render the classified field for the unclassified. I ak therefore whereof I know when I call it one of most valuable branches of gynecology. I be-ve that some life is more valuable than some other . Life has an actual and a prospective value. e actual value of an effective life at adult summit greater than that of a hundred infants in a ma-nity hospital. The prospective value of infant life only realized as it joins this actual value group. en the sentiment brought by the child to the rent is a force finding its value in the adult period. course our present subject does not consider the pulating of a predicated heaven with fetal and antile souls.)

If the profession can add an effective decade of the t kind of life to a portion of our eighty millions, Colonel Sellers we can figure the year-value derlying work in the unclassified field.

These troubles are not revenue-producing from a cialist's point of view; they yield no large oper-ng fee; no medical man will send us such patients whom they feel qualified to do as well; and work ng these lines is only possible to those with a per-al following. Nor even will the patients ever know m what we have saved them. But we will know d our intelligent confrères will know; and this is not only point in the profession where our reward is psychical as some of our therapeutics should some-es be, and are not.

Women have lacerations, retained secundines, pus bes, ectopics, fibroids, and cancers. And we oper-e on them brilliantly, with this or that technique, whose minor details we spend much time in dis-ssion. But in all these things—I am not sure that will except even the malignant troubles—we get hind the outward symptom and arrive at first causes when we "get them together" in the tubular system, as we clinch our fist, or contract our body when expecting a blow. We thus symbolize the great passion of the universe—the movement from circumference to center—"the love of a ton of lead for the center of the earth."

Because unclassified these troubles are not "distinctly defined forms"; and because not "distinctly defined forms" they seem non-existent to those without synthetical habit. I respectfully submit this attempt to make them a distinct and manageable entity for discussion and debate.

66 West Fiftieth Street.

A DIAGNOSTIC SYNDROME FOR INTRACRANIAL SYPHILIS. WITH REMARKS UPON PROGNOSIS AND TREATMENT.*

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NEW YORK.

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If there is any one disease possessing an interest and importance common to all physicians in every branch of medicine, that disease is syphilis. More than any other, it constitutes a centralizing factor and stands for a community of interest in the profession. In nervous and mental diseases syphilis is of pre-eminent interest. Indeed, so common is it and of such relative importance as an etiological factor in affections of the brain and spinal cord, as almost to justify a pharaphrasing of the Latin dictum: That man is a neurologist who knows *everything* about syphilis, and *something* about neurology. It is beyond question, the most prolific single cause of disease of the cerebrospinal tissues. In my own experience, covering a period of some sixteen years of special work, it enters as a factor, singly or in a dominant contributory way, into the histories of more than 40 per cent. of all my organic cases. I am not so sure of my figures as to its frequency in mental affections, but it is certainly and admittedly common and with equal certainty quite important. Strictly speaking, it is a paradox to describe syphilis as ever a cause of the neuroses, in that syphilis practically never induces any persistent nervous symptoms except through the medium of some underlying structural changes. As a cause of the pseudo-neuroses, however, its manifestations are legion. Perhaps the most remarkable and interesting attribute of syphilis in neurology is its infinite capacity for simulation. Someone has aptly termed hysteria the mockingbird of disease; to an even more striking degree would this simile apply to syphilis. So varied and widespread are its clinical manifestations and mimicries as to leave outside of its sphere of vicious activity scarcely more than a dozen of the many hundreds of types and subtypes recognized in neurology. Meningitis, encephalitis, myelitis, tumor, thrombosis, hemorrhage, aneurysm, obstructive endarteritis, tabes, and epilepsy are familiar types often due to this specific cause. It is the basis of many of the scleroses. Among mental diseases I have seen occasionally a symptomatic melancholia or mania yield to the iodides or mercury, while paretic dementia is a type well-known as standing in a sequential relationship to this cause, in association or not with other factors. Among functional nervous affections not even hysteria can claim more varied possibilities. Tremors and tics, pseudochoreas, insomnia, and headache are all within its sphere of action. A most striking limitation, remarkable by contrast, appears in the

*Read before the Hudson County (N. J.) Medical Society, February, 1904.

field of peripheral nerve diseases. Within my knowledge, which I believe to be quite in accord with the general consensus of opinion and belief, neuritis, except of the cranial nerves, is quite rarely due to lues.

With an enemy so active, so versatile, so protean in its kaleidoscopic appearances, presenting such varied and inconstant symptom pictures, it would appear to be well-nigh impossible to always, or even often, penetrate the disguise, see through the mask and recognize positively this particular foe. And yet the difficulty is more apparent than real. There are certain peculiarities of conduct, certain earmarks, which are individually suggestive and in association, collectively, constitute a syndrome which, in my experience, is almost pathognomonic. Tested again and again in many hundreds of cases, during the past fifteen years, I have learned to rely with confidence upon its value. *Given a patient between the ages of twenty-five and forty-five, affected with any form of intracranial paralysis, which was preceded by headaches, of nocturnal onset or exacerbation, associated with vertigo and with insomnia, the insomnia occurring during the first half of the night, the paralysis developing during sleep, both headache and insomnia disappearing upon the onset of the paralysis; the cause is syphilis.*

Some little elaboration of this formula may prove advantageous: The age limit specified, for example, should not be adhered to too literally, in that both younger and older patients may occasionally be included. The average age among 160 carefully recorded cases of cerebral syphilis was thirty-seven; the youngest was twenty-two, the oldest seventy-two. The average interval in years between the primary syphilis and the meta-syphilitic nervous accident was seven and one-half years; the shortest interval was seven months (this patient, a case of paraplegic myelitis, being at the time and having been continuously from the time of the initial lesion, under active and most intelligent treatment), the longest interval was twenty-eight years. Only a small percentage of cases of the primary disease are found in patients under the age of eighteen; we do not therefore, expect nervous accidents until six or eight years later. Beyond forty-five or fifty, retrograde tissue changes are beginning, especially arterial degenerations, the cerebral symptoms resulting therefrom somewhat and in some ways, resembling more closely than when younger, those of specific disease.

The headaches vary widely in location and intensity and only rarely possess any diagnostic significance in either of these two particulars. An excruciating, agonizing headache, inducing a semi-maniacal excitement or hallucinations, is suspicious, but points as strongly toward tumor as toward syphilis. Local pain or tenderness may also be suspicious, but it cannot be interpreted with any positiveness. The striking and quite constant feature of a specific headache is its nocturnal periodicity and its persistence. Of the 160 cases quoted 141 had suffered from decided and more or less persistent headaches, and of this number 124 were affected with headaches having an evening onset, increasing toward night, most of them being free from any discomfort during the morning. When followed by cerebral paralysis, these headaches invariably disappear, at least for a time, and a recurrence is to be interpreted as a danger signal, indicating a renewal of hostilities on the part of the enemy. Vertigo is of significance only when present with the headache, an association which is quite constant. It is usually a position vertigo, worse on rising or stooping. Excitement or exposure to excessive heat will also aggravate or provoke it. It is not, as a rule, accompanied with tinnitus, deafness or nausea, is subjective rather than objective, and is dependent presumably upon vascular wall changes. It occasionally merges or lapses into transient unconsciousness.

Some disturbance of sleep is almost invariably present during the developmental period of intercranial syphilis. Broadly speaking, the younger the patient, the greater the tendency to insomnia; the older the patient, the more marked the morbid somnolence. Under fifty, insomnia is the rule, with few exceptions; if over fifty, the rule is somnolence. Insomnia is distinctly associated with and a forerunner of motor or sensory symptoms. Somnolence indicates an impending mental involvement, usually a dementia. Insomnic syphilitics lie absolutely awake during the first half of the night, melancholiacs the last half, and neurasthenics sleep lightly, wake often, sleep again, and dream much. The degree of insomnia in nervous syphilis bears something of a ratio to the intensity of the headache. Occasionally there is wandering nocturnal delirium or hallucinations. Abruptly disappearing with the headaches upon the onset of paralysis, the return of either, singly or together, possesses the same warning significance.

The tendency of syphilitic paralysis to develop during sleep is to me an interesting and enlightening observation. That it is a fact is abundantly attested by a large number of recorded instances among my cases. Nervous syphilis, like some other enemies of mankind, is a creature of darkness, active at night. Witness the nocturnal headaches, insomnia, delirium, and finally the paralysis. In so far as the paralysis is concerned, an explanation which seems to me quite plausible is that the lesion, usually being an obstructive endarteritis, the tendency to occlusion from thrombus or otherwise is greatest during sleep, the heart's action being less, dynamically, and the vis a tergo greatly reduced. When paralysis develops during the day in a syphilitic patient, up and actively about, it suggests ruptured aneurysm rather than thrombus. An explanation for the final proposition of the diagnostic syndrome is not so easy. Disappearance of the headache and of the insomnia abruptly upon the onset of the paralysis is a fact none the less, and of such frequent and almost constant occurrence as to make it distinctive.

For fear of misunderstanding, let me add just here first the statement that this syndrome applies to acquired cerebral syphilis peculiarly, to a much less constant degree to spinal syphilis, and scarcely at all to hereditary syphilis. Let me say further and with emphasis, that its value depends not upon any one, but upon the association of all, the symptomatic conditions enumerated. Careful study and application of this syndrome offers the possibility of preventing the explosion—of forestalling the accident. Persistent nocturnal headache with associated insomnia, properly interpreted and properly treated, should not be followed by paralysis at all or other explosive accident.

Other presumably familiar signs by which we are assisted in recognizing a syphilitic origin for intracranial palsies might be appropriately recapitulated just here. Chief of these signs is the fact of an erratic, sometimes a bizarre, distribution in the paralysis, due to the fact that, as a rule, there are more lesions than one. Fugacious preliminary palsies or paresthesiæ, coming and going for days or weeks before a final culmination, is also highly suggestive. A well-known selective affinity on the

part of syphilis for certain regions and tissues can also be utilized with advantage. The ocular muscles, and especially those supplied by the third nerve, are so prone to syphilitic attack that a ptosis or strabismus, occurring suddenly in an adult, especially if preceded by headaches and insomnia, may be put down at once and quite safely as due to this cause. Localized tremors in the regions subsequently to be paralyzed are quite often observed. Finally, a general malaise with mental inertia, and sometimes a cachectic appearance, not explained by any condition of the kidney, liver, or other viscera, are of some significance in association with others of the symptoms mentioned.

Before discussing the subjects of prognosis and treatment, which latter especially demands but little space because of its simplicity, I should like to recapitulate briefly the practical and often vitally important advantages to be derived from the possession and application of this diagnostic formula: It renders the attending physician independent of the many sources of error and confusion, ignorance and misrepresentation incident to ordinary methods in obtaining a history. You are the more promptly enabled to identify the cause and to begin the proper treatment. It enables you often to modify favorably a prognosis which would be otherwise far worse. Finally, and most important of all, its application will, many times, serve to forestall an explosion, warning the initiated of the storm that is brewing, in ample time for prevention.

The prognosis in syphilitic disease of the central nervous system varies widely, and in a considerable majority of all cases, the outcome cannot be predicted with any certainty in advance of at least some initial response, or lack of it, to specific treatment. Meningitis, gummatous tumors, many cases of myelitis and paralysis due to thromboses or endarteritis obliterans, offer a decidedly favorable prognosis, especially in contrast with these same conditions when due to other causes. On the other hand, locomotor ataxia, specific in origin in from 60 to 90 per cent. is never cured, and but rarely modified except for the worse, by any form of specific treatment. Epilepsy caused by syphilis, if it is to be cured by mercury or iodides, must be recognized and treated promptly, for once the habit is well established, the cause, no matter what it may be, becomes of minor importance, so far as cure of the epilepsy is concerned. Epileptics, syphilitic or not, are relatively intolerant of iodides. In general paralysis of the insane, no matter how clear the history of previous infection, nothing positive can be promised as to the final outcome. I have seen several examples of so-called pseudo-paresis clear up under large doses of the iodide, with or without mercury, these cases not differing essentially in symptomatic details from others which steadily progressed from bad to worse under the same treatment, and with the same etiological history. Promptness in recognizing the underlying cause is a most important factor. No matter what or where the lesion, if it prove destructive, the consequences are permanent. In a large proportion of the cases of intracranial syphilis, the lesion is an endarteritis with proliferative thickening of the intima and proportionate gradual reduction of the lumen of the vessel, an endarteritis obliterans. If the obstruction is not complete (and it rarely is at first) much can be done—indeed everything—in many cases by prompt active treatment.

The treatment of intracranial syphilis, is, as I have stated, quite simple so far as drugs are concerned, and yet a certain nicety of adjustment and familiarity with certain details in the technique, so to speak, are quite important. Two drugs only are of any positive constant curative service, potassium iodide and mercury—of the two, I place infinitely more dependence upon the iodides, and if compelled to make choice between them, should not hesitate a moment in my selection. Mercury is, however, sometimes of service, and in a few cases of more decided service than the iodide. In my own work I have found mercury to be indicated, rather than the iodides, the nearer the nervous invasion is to the primary disease; the longer the interval between the chancre and the paralysis, the more positive the indication for and benefit from the iodides. I use mercury by inunction altogether in my work, employing it almost as a matter of routine during the intervals or interruptions in the use of the iodide. In giving potassium iodide I have, for many years, taught the doctrine that there is no such thing as a fixed or arbitrary dosage. When indicated, give it not with iodism as a guide, but until either the disease yields, or until very large doses—seven, eight, or nine hundred grains daily—without any modification of symptoms, satisfies you that its further employment is useless. To recur to iodism, that stumbling-block in the pathway of so many. Iodism should be a very rare obstacle to the successful treatment of nervous syphilitics. I have had to discontinue the drug in only two cases during the past six years, a success due, I believe, entirely to my method of giving the iodide, which is as follows: I always use the drug in the form of the saturated solution, for convenience and accuracy. I am careful to get a pure drug from a reputable chemist. Beginning with twenty drops (never less) after meals, the dose is increased three, five, or ten drops daily, according to the urgency or gravity of conditions. The vehicle is changed every third day, the first two days water, the next two milk, the next Vichy, then Apollinaris, then back and through the same cycle again and again, the amount of the vehicle being increased *pari passu* with the increase of the drug. Should iodism develop to an annoying or extreme degree, I stop for two days and then start just where I stopped, doubling the ratio of daily increase. Your patient will be thirty or forty grains daily further along before iodism recurs, employing this method. The addition of essence of pepsin in two or three-drachm doses after the iodide seems to be of decided service at times. The rennet mixture advocated by some writers is a vile mess, in my judgment, and is but rarely tolerated for more than a few days. Iodism is much more apt to occur from the continued use of a fixed dose, although a moderate one, than when giving it by the progressive method. I have seen iodism from continuous 20 gr. doses disappear at forty or fifty grains—paradoxical as this statement may appear. Following this method I have repeatedly given six hundred grains and more daily without any special inconvenience, and in one patient affected with meningomyelitis, a daily quantity of 1245 drops of the saturated solution was reached without untoward symptoms.

105 West Seventy-third Street.

Palpation of the Abdomen in the Warm Bath.—Sticker calls attention to this method which he has been using since 1891. By placing patients in a bath of warm water muscular relaxation is promoted to an almost incredible degree and palpation of the internal organs can be practised with remarkable ease. Recourse to this maneuvre frequently permits information to be obtained which otherwise would necessitate an exploratory laparotomy or at least examination under ether.—*Zentralblatt für innere Medizin.*

CLAUDIUS' CATGUT.

A NEW AND EFFECTIVE METHOD FOR ITS STERILIZATION.*

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THERE exist at present so many different methods of preparing catgut for surgical purposes, that no testimony is required to prove that the ideal method has not yet been discovered. It is, however, my belief, that the method of preparation as outlined by Claudius,[1] is so far in advance of all other methods in vogue, that it deserves to be termed at least a good attempt at the ideal. Catgut prepared by this method has been in use almost uninterruptedly during the past seventeen months at Mount Sinai Hospital, for all purposes for which formerly catgut prepared by other methods had been used, and it has stood the test so well, that it will perhaps be pardonable, if I again call the attention of the members of the Surgical Section of the Academy to this method.

An ideal catgut should have the following attributes: (1) It should be absolutely sterile. (2) In the course of preparation it should not lose any of its tensile strength. (3) It should be readily and simply prepared, and without undue expense. (4) It should be absorbed completely, but only after it has served the purposes for which it was intended.

Let us now see how far the catgut of which I speak responds to these four requirements:

Sterility.—My experience with this catgut is limited to its actual use in practice, as we have not made any but the simplest culture tests. The original article of Claudius was so convincing to me at the time, that I thought the method deserved at least a cautious trial. I am pleased to be able to say that examinations by Martina[2] and v. Hippel[3] have brought additional very strong experimental testimony in order to prove the sterility of the catgut. Claudius used for his preliminary experiments some very resistant spores from garden earth; Martina, on the other hand, experimented principally with anthrax spores, and he found an absolute sterility after an exposure of only thirty-five minutes. As, however, there exist certain spore forms even more resistant than those of anthrax, though they are not pathogenic to the human organism, it is wisest, perhaps, to expose the catgut to the action of the iodine solution for eight days, as originally proposed by Claudius.

This much for the sterility of the iodine catgut; but this catgut has an additional and most important qualification, which is, that it is not only aseptic, but owing to its imbibition with iodine, it is also highly antiseptic. Accidental contact infections happen more frequently than one would suppose in all operating rooms, and the infection of catgut is very probable, when a ligature is handled for the purpose of tying it, because as it is passed and handled it rubs off some of the more superficial layers of the operator's epidermis and may become infected from the deeper layers (it is needless to say that this occurs only when operating without gloves). But in such case any germs adhering to the catgut will be efficiently rendered sterile by the iodine.

As already stated, my experience is limited to the practical utility of this catgut. We have used it now for over seventeen months, in all varieties of operations, and we can assert without the slightest hesitancy that our results as regards aseptic healing were fully as good and perhaps better, than when we used sublimate-alcohol catgut. Though at first we used it only very cautiously and hesitatingly, we now use it for all operations without exception, upon any and every part of the body, where we find an indication for the use of catgut.

Tensile Strength.—I regret to say, that I have not as yet arrived at a definite conclusion regarding the second requirement. Claudius claims that the tensile strength of the iodine catgut depends upon the original quality of the catgut, *i.e.* the better the catgut originally, from a standpoint of tensile strength, the better it will be after its preparation, and in addition he also claims an increase in the tensile strength, if the prepared iodine catgut is immersed prior to its use into a 3-per-cent. solution of carbolic acid. Martina, on the other hand, claims that there is an increase in the tensile strength, if prepared by the iodine method alone—after many tests he arrived at the conclusion that the increase is approximately one-seventh of its original strength. Our experience is not quite so favorable, as we have noted a slight loss in the tensile strength, particularly with the heavier grades. I have paid much attention to this point, and I do not believe I am in error when I say that the brittleness occasionally found is due to improper methods of preparation; either the iodine solution was too weak or the catgut was permitted to remain in the solution for too long a time. At all events the loss of tensile strength, if any, is very slight, certainly not sufficient to mar its utility.

Method of preparation.—The preparation of this catgut is simplicity itself. Catgut, just as it is bought from the dealer, is wound, preferably in a single layer, on to the spool, and tied at both ends, in order to prevent unraveling. It is then immersed for eight days in a solution of iodine, 1 part; iodide of potassium, 1 part; distilled water, 100 parts. (The solution is prepared by dissolving the iodide of potassium in a small quantity of the water, to which the iodine, previously finely pulverized, is added, and the whole diluted up to 100 parts.)

Originally, I confess, I lacked the moral courage to use the catgut as bought from the dealers, and therefore I primarily removed the fat with ether, but later on I gained more confidence, and we now use the catgut without any preliminary preparation.

As already stated, this catgut has been found to be sterile even after half an hour's exposure, but, to be absolutely sure, it is perhaps, wisest not to use it before the lapse of eight days. It is preserved without any change in the original solution. It will keep sterile forever, certainly at least as long as the strength of the iodine has not been reduced materially by evaporation. As, however, it has been found that if kept too long, say over half a year, it loses some of its tensile strength, it is wise to prepare at one time only so much as can be used up in six months.

When using it, Claudius recommends that it be rinsed off either in sterile water or in a 3-per-cent. solution of carbolic acid. Martina recommends that it be used directly, without any intermediate solution, as he wishes to avoid a diminution of the iodine strength. We use ordinary sterile water. Any unused catgut is replaced in the original solution, and may be used again in half an hour, or if it is feared that it may have been virulently infected, it may be left in a separate vessel for another eight days.

I am sure you will readily agree with me, that the method is as simple as it can be; it is certainly very cheap, one gallon of the solution, requiring 608 grains of iodine, and an equal amount of iodide of potassium, costs only 42 cents; and as it is not necessary to waste the least bit of catgut, the cost of the method is still more reduced.

*Read before the Surgical Section of the New York Academy of Medicine.

It is important to keep the solution in well-stoppered bottles or jars, because the iodine is volatile, as can be seen by the purple color of the air covering the solution, and in time it deteriorates. Solutions good enough to use should have a deep-brown, almost black color; any solution not corresponding to these physical requirements should be discarded.

Catgut prepared according to this method is of a deep-brown, almost black, color, and still retains the characteristic odor of iodine; it is perfectly smooth, not swollen as one might expect from its immersion in an aqueous solution; it is very strong, yet soft and pliable, and is exceedingly convenient to use, inasmuch as it does not kink or curl up, like catgut which has been kept in alcohol. It has been compared to a fine copper wire, but I think a better comparison would be with a waxed shoemaker's thread.

Absorption.—Regarding the fourth point, I can also speak only from a practical standpoint; the knots stay tight and do not tend to untie or loosen, and we have seen no untoward symptoms which could be traced to a too early absorption. Martina is of the opinion that it is absorbed somewhat more quickly than catgut prepared by other methods, though I do not see on what he bases that assumption, as even his own experiments appear to show that its absorption is slower; at all events we might safely say that there is no great difference either way. This has also been the result of experiments by v. Hippel.

I believe I have now amply proven the superior advantages of this catgut; it is only right, however, that before concluding I shall speak also of its possible disadvantages, and also to refute some of the objections, which might be raised by the more skeptical.

The first question which might be raised is regarding the toxic effects of the iodine introduced; there need be no fear on this account, because (1) even in the most extensive operation the toxic dose can never be reached, and (2) the iodine is divided so minutely that it quickly enters into a chemical combination with the salts of the body fluids, and forms only the innocuous iodides, etc.

Another question which might be raised is, whether the iodine does not act as an irritant. Personally I have never seen such an occurrence, and cannot see how it could occur, for reasons already stated, viz., that the iodine enters into a chemical combination with the salts of the body fluids. It is true that it may act as a slight irritant to the skin, but my experience in this respect is limited, as I do not find any necessity for absorbable skin sutures. Just for the sake of experiment I have used it lately in all cases of skin suture, but found no irritation to result from its use.

The odor of the catgut might be objected to, but this is so trivial a fault that it hardly needs refutation.

Practically the only valid objection I have found is that, owing to the volatility of the iodine, it has a kind of oxidizing action upon metallic instruments. Of course I do not mean during the short space of time that it is in actual use, but only if it is kept in an instrument cabinet; but this inconvenience is so readily obviated that it barely merits consideration. The same is true of the stains which it may cause on linens.

In conclusion I will only repeat that we have used this catgut continually during the past seventeen months at Mount Sinai Hospital, and it has always given us perfect satisfaction. Very little has been written on this subject, but what has been written is uniformly in its favor; reference is here made only to the publications by Claudius, Martina, v. Hippel already mentioned, to that of Senn,[4] and more particularly to the latest article of Claudius,[5] in which the clinical experiences of various surgeons of Denmark are given. I believe this method of preparing catgut to be a distinct advance, and take the liberty to bespeak for it a more extended trial.

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A CASE OF HODGKIN'S DISEASE TREATED BY X-RAYS.

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R. W., male, eighteen, single, had had the usual children's disease, but otherwise was in excellent health up to about two years ago, when he began to suffer with pains in his left shoulder and arm; these kept increasing in severity for some six months, when a swelling was noticed over the cartilage of second rib on the left, not tender to pressure and with no constitutional symptoms. In February, 1903, he was sent to Dr. C. L. Scudder of Boston for operation. At that time physical examination showed the patient well developed and nourished. The heart and lungs were normal with the exception of an area of diminished resonance anteriorly over the base of the heart, extending up to the sternum and half an inch to the right, to two and five-tenth inches to the left of the bone. An indefinite mass could be felt at the sternal notch. Over the cartilage of the second rib was a soft tumor about two inches in diameter, not tender or painful. The spleen was not enlarged. Urine, pulse, respiration, and temperature were normal the only time the patient was seen. Blood examination by Dr. T. F. Lord showed: "Hæmoglobin, 70 per cent.; red corpuscles, 720,000; white, 23,000. Polymorphonuclear neutrophiles, 84.4 per cent.; large, 5 per cent. Basophiles, small, 7.6 per cent.; oxyphiles, 2 per cent.; mast-cells, 1 per cent.

"Red cells normal in size and shape, good color, no nucleated forms. No malarial parasites. Blood plates normal in number. Only abnormality of above is white count of 23,000 with very slight secondary anæmia. Two forms of leukæmia (splenic myelogenous and lymphatic) are ruled out. Most obvious diagnosis is pseudoleukæmia or Hodgkin's disease. Increase in white-blood count may be due to some inflammatory condition in the growth. A moderate leucocytosis as is present here is not uncommon in Hodgkin's disease. Clinical findings, together with blood, suggest lymphosarcoma of the thymus or anterior mediastinal glands."

Dr. Scudder made an incision into the tumor, but finding it could not be totally removed curetted out only a portion of tumor to behind sternum into the anterior mediastinum.

"*Pathological Examination.*—The specimen consisted of several small, irregular bits of yellow, necrotic-looking material and muscle with which the growth appeared to be infiltrating.

"*Microscopical Examination.*—The specimen was for the greater part more or less necrotic, but in the better preserved places the recticulum was increased. The most striking thing was the number of eosinophilic leucocytes present which, in many fields, constituted about one-half the cells. The others were lymphocytes and large cells with irregular nuclei. Many giant cells with reticular nuclei, irregularly placed, were also present. Many forms of degenerated cells were seen, and most of the

fields showed a few leucocytes. Vessels were fairly abundant. A guinea-pig was inoculated subcutaneously with a bit of the tumor on February 10 and died of unknown causes February 26. An autopsy showed an abscess at the seat of inoculation and hyperplastic glands in both groins. No tubercle bacilli could be demonstrated microscopically."—(From a "Pathological analysis of nine cases of Hodgkin's disease," by Channing C. Simmons, in which this case was included).

On July 23, 1903, Dr. F. H. Zabriskie of Greenfield, Mass., sent the patient to me with the diagnosis of Hodgkin's disease, with the request to try the effect of the *x*-ray, having given the iodides, arsenic, and iron a thorough trial with no good results. The patient had every appearance of severe suffering. His complexion was sallow, his eyes dull, his shoulders stooping, and he carried his left shoulder and arm in a fixed position, avoiding movement as much as possible. Over the manubrium sterni and to the left was a soft protuberance about three inches at the base and projecting half an inch, exquisitely tender with a crescent-shaped somewhat hypertrophied scar below, about four inches in length, with a small discharging sinus at the right end, the site of former operation. The lymph glands were enlarged in the neck, axillæ, and groins, from very small, to about three-eighths of an inch in diameter. The spleen was enlarged, but could not be felt below the border of the ribs. The fluoroscope demonstrated beautifully the presternal tumor and the enlarged spleen. Heart, lungs, and urine were normal. At the suggestion of Dr. W. J. Morton the patient was given quinine, though in smaller doses than he recommended, 3 grs. being given three times a day, during the *x*-ray treatment. In addition he was given tonic doses of iron, arsenic, and strychnine. Exposures to the *x*-ray were begun on July 23, a very high tube being used. Each sitting lasted from forty to ninety minutes, the tube being moved at intervals of ten minutes, so that the patient was given practically a general bath in the *x*-ray at each sitting, in accord with the theory that Hodgkin's disease is a disease of the whole lymph system and not of isolated groups of glands, the face and scalp alone being screened off. The exposures were kept up almost daily to September 7. Then followed an intermission of two weeks with only one exposure. The pain in the tumor and shoulder disappeared after the fourth exposure, but slight pain recurred when patient overexerted himself, up to the fifteenth exposure, when it permanently disappeared. On the eighth exposure the glands were markedly smaller and on the fifteenth exposure the cervical glands could not be felt. The presternal tumor gradually decreased in size, and on the sixteenth exposure could scarcely be seen, and on the twenty-ninth exposure, August 28, was imperceptible. The sinus ceased discharging during the first days of treatment and at this time was completely healed, and the hypertrophied tissue in the scar had disappeared. On September 18, exposures were stopped owing to dermatitis, which was not severe, and were not resumed until October 13, and were then kept up until November 3, when the fifty-sixth exposure was made. At this time nothing abnormal could be found in the patient, and he was not seen again until November 30, when exposures were resumed and kept up daily till December 5, when the sixty-second exposure was made. At this time the patient seemed to be in perfect health in every way; looked well, felt well, and weighed 150¾ pounds, a gain of 14 pounds since treatment was begun.

On October 19, at the time of the forty-fourth exposure, Dr. Harlow Brooks made a blood examination and reported as follows: "Hæmoglobin, 86 per cent.; red corpuscles, 3,552,000; leucocytes, 9,200; clot formation, slow but complete; blood plates, few.

"The red corpuscles show slight variation in size and poikilocytes are infrequent, no cells showing cytoplasmic degeneration are present, and no nucleated red corpuscles were found. The erythrocytes are notably deeply stained with hæmoglobin, more so than in the ordinary specimen of normal blood. No malarial organisms are present. The differential leucocyte count shows the following: "Polymorphonuclear (neutrophiles), 87 per cent.; lymphocytes, 6 per cent.; mononuclears, 2 per cent.; eosinophiles, 3 per cent.; basophiles, 0.

"You will notice that while there is no leucocytosis, in the strict sense of the term, the leucocytes are relatively numerous as compared to the number of red corpuscles. This relative increase is, however, in the polynuclear elements, and not in the lymphocytes, as was the case in the previous examination; in fact, there is nothing about the blood which would indicate Hodgkin's or lymphatic leukæmia, for the mononuclears are all relatively below the normal. I am inclined to account for the increase in the neutrophiles as a result of the action of the *x*-rays, for I have seen a similar condition in other cases where the rays were applied in altogether different condition."

During the first two weeks of the *x*-ray treatment the patient's temperature fluctuated within a range of from ½° to 1° F. daily, but after that did not vary from normal.

In spite of the long exposures, only twice a dermatitis of any moment set up; the first of the first degree which lasted only five days; the second of the bullous variety, confined to the axillæ and lasting ten days. The body was kept thickly dusted with stearate of zinc to prevent irritation from the clothing.

At the present time, January 6, there is still a marked tan over the whole trunk; otherwise the patient seems perfectly normal in every way.

The case is reported as one of Hodgkin's disease. The clinical picture was of that disease. The blood analyses exclude leukæmia. Tuberculosis and syphilis were excluded. The only other disease to be considered is sarcoma, toward which the increase in the percentage of the polymorphonuclear neutrophiles would point. However, the pathological examination showed only one kind of tissue attacked, the lymphadenoid, and it extended from one group of glands to another without infiltration. Until a more exact line can be drawn between the two diseases, it seems fair to class this condition as Hodgkin's disease.

The use of quinine as an adjuvant to the *x*-ray, on Morton's theory of its fluorescence in the blood, undoubtedly hastened the favorable result in this case, several cases of Hodgkin's disease having been reported as unsuccessfully treated with the *x*-ray when quinine was not used.

Addendum.—On March 12 the patient returned, presternal tumor having recurred, being almost as large as when first seen in July. No adenopathies could be detected. The pain in tumor and right shoulder was severe. A blood examination, made by Dr. Lord on March 10, showed little difference from that made a year ago, except in the reduction in the white count from 23,000 to 12,000 and the loss of about 1,000,000 red cells.

Exposures to the *x*-ray were given daily to April 2, twenty-one in all. At this time the tumor had entirely

disappeared and the patient seemed to be in perfect health. Fluorescin was used in addition to the quinine as an adjuvant to the *x*-ray. From the marked action of the *x*-ray treatment it does not seem too much to hope that in time the disease will be completely eradicated.

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LOCAL APPLICATIONS IN PNEUMONIA.

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The seeker after specific remedies can but deplore the present unsettled methods in the treatment of pneumonia. Opinions as to the best course to pursue seem to be as varied as was the case twenty or thirty years ago, and results are but little if any better.

The fact that the disease is now generally accepted as an infection by pneumococci has, of course, produced new lines of treatment with the intention of inhibiting the action of the germ and thus prevent the development of toxins. So far results do not seem to show improvement over old methods.

The ideal remedy has yet to be produced. Is there not now, however, one line of treatment better than all others, or can equally good report be made from several remedies? Some medical teachers advise the use of arterial sedatives; some the use of a drug like digitalis to produce more forcible contractions of the heart; others drugs to act as germ antagonists in the blood; while still others state that the course of the disease is practically uninfluenced by any remedy. It is not the purpose of this paper to attempt to prove that one of these methods alone is correct, but they are here considered in their relations to local treatment.

It is probable that the status of local applications would have been settled long ago had the profession been united on a particular mode of internal treatment. At a time when radical measures were employed, blistering was considered a very necessary part of the treatment. This was largely superseded by poultices of different kinds, the ice-bag, or the cotton-jacket. While the jacket was used to maintain an even temperature, and not otherwise expected to influence the course of the disease, it is now apparently much less used than formerly. A gradual change from severe to mild measures has led to the non-use of any for uncomplicated pneumonia by a majority of the leaders in medicine. Notwithstanding this, local applications are still quite widely used.

In a disease so fatal as pneumonia the medical attendant naturally feels that every resource should be brought to aid in the patient's recovery. In many other parts of the body applications over the part affected seem to be efficacious. If so, why will not the inflammatory process in the lung yield to similar treatment? This may be the line of reasoning pursued without stopping to inquire if supported by anatomical and physiological facts.

If local applications are valuable in every case of pneumonia, even during a certain stage only, it ought to become an established fact in medicine. If they are unnecessary, and fail to modify the course of the disease, it is injurious to those trying to work along reasonable and scientific lines to meet with the influence of their continued use.

To determine whether this question belongs in the domain of empiricism only, or can be satisfactorily solved by physiological laws, it is best to consider briefly the relations of the lungs and their blood and nerve supply. They are not connected with the protecting chest wall, except by means of the pleura, and in this way quite indirectly, as the outer side of the outer layer is in contact with the connective tissue while the inner side of the inner layer is in contact with the lung. A moment's reflection should be sufficient to satisfy one that any transmission of blood from the lungs to the muscles and integument of the chest wall, or *vice versa* through the medium of the pleura, must be very slight indeed.

Unlike other organs, the lung has a double circulation, the *nutritive*, and also a *functional* one. The pulmonary arteries convey the blood from the right ventricle to the lungs for purposes of aëration, to be returned by the pulmonary veins to the left auricle. The bronchial arteries which are given off from the thoracic aorta follow the bronchi and supply blood for nourishing the lungs. A plexus from this source on the mucous coat communicates with the pulmonary arteries and empties into the pulmonary veins. Branches also ramify upon the surface of the lung underneath the pleura. The bronchial vein on the right side terminates in the vena azygos major, and on the left side in the superior intercostal vein. Blood is thus sent to the lungs from both ventricles and received from there by both auricles. The nerve supply is furnished by branches from the pneumogastric and sympathetic.

The only logical conclusion that can be drawn from the foregoing is that in order to modify the blood supply to the lungs the agent must act upon the heart itself, or the vessels connecting the two organs. It is supposed and claimed that the main action of local applications is directly on the lung. How can this be? Counter-irritants, heat and cold, and the glycero-clay mixtures vary somewhat in action, but are supposed to be chiefly beneficial by producing hyperæmia of the integument. It is claimed for the cold compress or ice-bag, and possibly other agents, that a reflex action is produced affecting the cardiac and respiratory centers.

Dilating the cutaneous vessels, and perhaps at the same time anæsthetizing the peripheral nerve twigs, may relieve the pleuritic pain which so often accompanies pneumonia, but the small amount of blood drawn to the integument will not relieve the lungs more than would an equal quantity drawn to other parts of the body, as in any case it must be taken from the general circulation and not directly from the lungs.

W. Gilman Thompson has demonstrated, by means of specially conically constructed thermometers, inserted for six or eight inches into the thorax by way of sinuses resulting from chronic empyema, that poultices, applied as hot as could be borne, or ice, modified the temperature in the lung no more than one-eighth of one degree. With no greater effect than this, it can hardly be expected that these agents will influence the inflammatory process in the lung. The claim that local applications by reflex action of the cutaneous nerves modify the course of the infectious process is difficult of proof. Musser says: "The cold compress stimulates the peripheral nerve-endings and reflexly the nervous mechanism of heart and vessels and of respiration." He does not claim this of heat in any form. If such stimulation takes place there is good reason to suppose that it is through the sympathetic and not the pneumogastric and phrenic nerves. A majority of physicians think that the heart is already overstimulated during the stage of congestion and beginning consolidation, and that any measure that will increase the strength

and action of the heart-beat is contraindicated. Can we expect that more forcible contractions of the heart will better force the blood through a consolidated portion of lung with perhaps adjoining congested areas, or will it make the condition worse? Stimulation to the cardiac and respiratory centers should be chiefly valuable when they are showing the effects of marked toxæmia. It must not be forgotten that cold, especially if long continued, will produce anæsthesia of the cutaneous nerves, and reflex action will be abolished. The author quoted does not apply the compresses oftener than from one-half to two hours, and some of the objections to applications are avoided, and he really gets, especially if there is considerable temperature, the alternate action of heat and cold. If the author is correct in his claims, the remedy is chiefly valuable in selected cases. Thompson, however, claims that "it can scarcely be maintained that any deep-seated reflex effect called into play through external applications of heat or cold independently of direct transmission of thermal units, is capable of controlling an inflammatory process in the lung.

At times there may be decided objections to almost any form of external applications, as they may not only fail to help but be positively detrimental by preventing the patient from getting the rest and sleep necessary to recovery. If heat or cold is used the frequent changes necessary to maintain an equable temperature disturbs and practically prohibits sleep, and even mental calm, and yet these are very important essentials to a favorable outcome. The addition of any appreciable weight to the front and sides of the chest must result in loss of strength, for the muscles are obliged to raise it the distance of the expansion upward and outward during inspiration. I once saw a child three years old whose chest was covered with one-half pound of one of the popular preparations. The respirations were 60 to the minute, so the child was lifting the distance the chest moved 30 pounds every 60 seconds, 1,800 pounds in an hour, and over 20 tons in a day. Every unit of strength was needed by the little sufferer to fight the intense toxæmia present, and yet it was recklessly wasted in raising a chest weight which to careful observations had no effect whatever on the disease, and certainly not on the outcome, unless to hasten it.

By baths with friction, rubefacients, etc., more blood can be drawn to the extremities to relieve internal congestion than would be possible by producing hyperæmia of the chest wall.

In conclusion, it may be said that the chief value of local applications is for the relief of pleuritic pain, and that one should usually be selected which affords the most comfort to the patient. When this pain is relieved the service of the application is ended, and it should be discontinued. The cold compress may possibly be of some value in selected cases.

Spontaneous Gangrene of the Hollow Viscera.—This topic is exhaustively discussed by Roswell Park, who emphasizes the statement that in the presence of sudden and acute symptoms, which include intense abdominal pain, collapse, and rigidity of abdominal walls, very little time should be wasted in speculation as to the character of the lesion. This trial of symptoms constitutes a reliable and exacting demand for abdominal section, followed by such suitable measures as the case may permit. No such case as would be lost without an operation would be lost in consequence of it, while every such case must, without it, of necessity prove fatal.

Pipe Smoker's Ulcer of the Hard Palate.—Two cases are reported by A. Rupp who advises the following plan of treatment: (1) The dentist should look after the teeth, to remove tartar and to fill up cavities. (2) After taking food or drink of any kind the mouth should be thoroughly rinsed with a simple salt solution, and the teeth brushed. (3) To the ulcer should be applied, by the patient, at intervals of two hours through the day, a solution of menthol in absolute alcohol (one drachm to the ounce). —*Laryngoscope.*

Spasmodic Asthma.—Arthur T. Wilkinson saw great improvement from the administration of Fowler's solution, mjiii increased to mxv t. i. d., and continued for several months. He finds no advantage in giving hydriodic acid over potassium iodide. For acute attacks, he speaks highly of hot applications between the scapulæ and chest, and also of the nitrates, especially the potassium salt. He finds no advantage in combining it with belladonna. In the nitrites he has been disappointed, and speaks strongly against the use of chloroform or morphine, except in selected cases.—*Medical Chronicle.*

Ultramicroscopic Organisms.—J. J. MacKenzie discusses the existence of organisms which are too small to see with the strongest microscope. Those which have so far been discovered are all parasitic, and thus experiments can be made by animal inoculation and the presence of the hypothetical parasites demonstrated by the disease produced in the animal. Besides, there are filters which can successfully filter out the vast majority of known bacteria. The pores of these filters are so small that bacteria cannot be washed through them. It is by a combination of the method of animal inoculation and filtration through such a filter that these organisms have been discovered. Practically the first knowledge which we have of such minute creatures resulted from the work of Loeffler and Frosch upon foot-and-mouth disease. The contagion, whatever it is, is present in the serum which is found in the vesicles of this disease. Microscopical examination of this fluid does not reveal any organism, although a minute quantity of it was sufficient to infect other animals. The fluid was equally contagious after passing through a filter. In order to show that they were not dealing with an excessively virulent soluble poison, these workers diluted the lymph and passed it through the filter and inoculated an animal with it. From the vesicles which developed upon this animal they collected the lymph, refiltered and inoculated a second animal, and so on through a series of six animals. The amount that the last animal would have received if it had been a poison, would have been far below the infecting dose. Nocard and Roux have discovered another of these organisms in the so-called contagious pleuro-pneumonia of cattle. By the microscope it was possible, however, to see enormous numbers of minute dancing points. This was a parasite just upon the border of visibility. The writer mentions several other diseases of domestic animals which are to be classed as due to ultramicroscopic organisms. The most important of these viruses, as far as man is concerned, is that of yellow fever. As to whether these organisms are simply very small bacteria, it may be said that there is a marked uniformity of size among bacteria. There has not yet been met an ultramicroscopic organism of a non-pathogenic character. The writer believes that the virus of contagious pleuro-pneumonia is the only one of this group that can be assigned to the bacteria. This is just visible and can be cultivated outside of the body. The thermal death point and the effect of disinfectants on these ultramicroscopic parasites do not differ materially from those of the higher and larger bacteria. Much clearer light must be thrown upon the subject before these invisible parasites can be definitely placed in the scale of organized being, and the difficulties in the way are very great—their minute size because we do not yet know how to cultivate them, and because they are all parasites and can be studied only in the living organism.—*The Canada Lancet.*

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ETIOLOGY OF SMALLPOX.

In our time when the importance of scientific investigation is universally admitted and its necessity as a foundation for the evolution of preventive medicine is everywhere acknowledged, it seems strange that the essential etiology of smallpox should have been so long deferred. This becomes the more forcible when we consider that for over one hundred years the prevention of this disease has been firmly established through a preventive inoculation, while in other diseases the essential etiology of which has been well understood, such preventive inoculations have been wanting or have only been brought forward as the result of laborious scientific investigations. Beginning with the marked advancement of biology and the allied sciences which took place during the latter half of the last century research with respect to the causative agent of smallpox has not been wanting. These studies, until very recently, have been principally carried on in Europe and have led to no satisfactory result. All attempts to establish the disease as bacterial in nature having failed, the belief that it might be protozoon in character was advanced in certain quarters. To this end different observers announced the presence of certain bodies which were chiefly to be found in the epithelial cells of the cutaneous lesions and which, more or less, resembled various stages in the developmental cycle of protozoa. As might be expected, these views found vehement adversaries who denied the protozoon nature of these bodies and regarded them as various forms of cell degeneration, artifacts, etc. Up to the present time the matter has remained in this condition, neither side being able to produce facts which should finally affirm their contentions. After a review of the work which has hitherto been done along these lines it does not seem strange that no definite results have been obtained. Nearly all the work has been fragmentary and fails to deal with the problem in a comprehensive manner. Points which have been gained have not been followed up—thus their significance has been lost and the conclusions to be derived from them are wanting. About two years ago this problem was taken up anew by Professor Councilman and a chosen portion of his staff of the Department of Pathology of the Harvard Medical School. One year ago, at Washington, Professor Councilman gave a preliminary report of what had been accomplished. The work in its entirety is published in the February number of the *Journal of Medical Research*, and comment with respect to its significance is appended. Whatever views one may hold with respect to the correctness of Professor Councilman's conclusions, to the unbiased reader two facts are at once apparent: (1) This is by far the most comprehensive, thorough, and intelligent work which has as yet been done upon this subject. (2) Those who would contradict his assertions and receive credit therefor must do so as the result of studies which are as thorough, as comprehensive, and as intelligent as those of Professor Councilman. This at once disposes of all fragmentary and isolated work, and places his conclusions on a basis where they must be accepted until such investigations as mentioned shall have disproved their validity.

It is shown that in the early stages of the specific lesions of the skin and mucous membranes in smallpox, bodies are found which vary in form, structure, and size. They occur in the cytoplasm of epithelial cells, in the nuclei of such cells and free. The forms within the nucleus are subsequent to those which develop in the cytoplasm. They are present in the greatest numbers in cases of the greatest severity and rapidity of course. These bodies do not occur as isolated structures, but one form follows the other by gradual transmissions, forming a cycle which corresponds to the cycle of development of protozoa. In the different cases the same forms are found at the same period of the disease. The same forms are found in corresponding situations in the lesions in different cases. Bodies similar to these may be found in other diseases. In such, however, they show no sequence representing growth development and no complexity of structure. In vaccinia similar bodies are found, but here they are never present in the cell nucleus. The development of these bodies bears a definite relation to the symptomatology of the disease. These bodies must be regarded as protozoa. Otherwise it must be assumed that they are degenerations of a specific character, occurring under no other conditions, and that the products of degeneration undergo a development similar to that of a living thing.

In other portions of the work the supposed developmental cycle of these protozoa is traced with more or less success. Also the consideration of the conjugating forms which are supposed to appear only in the cell nucleus. The inoculation of these bodies into various animals and their presence in the lesions produced, has also been accomplished.

To our mind the vital features of this work are: (1) The demonstration of the presence of these bodies in the epithelial cells in all cases of smallpox examined. (2) The development of the forms which stands in direct relation to the clinical picture of the disease. (3) The inoculation of animals and the reproduction of the bodies in the epithelial cells of the inoculated animal. (4) The presence of similar bodies in the epithelial cells of the specific lesions of vaccinia. (5) The absence of the bodies in other diseases. If these points are admitted they negative the thought that these bodies can be artifacto —every competent person knows that any such regular appearance of artifacto could never take place. They also negative the thought that they represent the products of a specific cytoplasmic degeneration —for if they do, then the essential *initial* lesion of smallpox is a specific degeneration of the epithelial cell. Now, we know of no process leading to an immunity in which the initial lesion is a specific

degeneration of a single isolated body structure. Smallpox, however, is a disease conferring a high degree of immunity. Perhaps the nearest approach to a process producing a specific degeneration and leading to an immunity, is the cheesy degeneration produced by the bacillus tuberculosis—but there the conditions are very different—in the first place, cheesy degeneration is not an *initial* effect of the bacillus tuberculosis; in the second place, cheesy degeneration does not effect any one isolated body structure, as the epithelial cell, but various body structures. It seems certain, therefore, that on the basis of these statements the bodies described must be regarded as protozoa, and in our present knowledge as the causative agents of variola. For many years the causative relation of the malarial plasmodium to malaria was universally accepted on a no stronger foundation than this. Some may think that before Professor Councilman's views can be accepted the complete developmental cycle of the organism must be accurately demonstrated. This however, is far from being the true conception. It is no more necessary that this be done than it was that the conjugation of the malarial plasmodium in the intestine of the mosquito should be proven before it could be accepted as the causative agent of malaria. We believe, therefore, that the acts advanced by Professor Councilman, unless they are subsequently negatived, are sufficient for the opinion that these bodies are the chief causative agents of variola.

MIXED TUMORS OF THE SALIVARY GLANDS.

As the result of a clinical and pathological study, in conjunction with an analysis of the literature, Dr. Francis Carter Wood (*Annals of Surgery*, January and February, 1904) formulates the conclusion that there is a group of extremely complicated tumors occurring in the facial region and containing elements from both epiblast and mesoblast in most intimate relation with each other. The complicated structure of the stroma, containing as it does elements such as embryonal connective tissues, cartilage, bone, fat and lymphoid tissue, and rarely striated muscle, is explained most easily by the assumption of an embryonal misplacement of mesoblast. The structure of the parenchyma is so slightly characteristic in morphology that its epithelial nature in all cases can be considered only as probable; yet in about 24 per cent. of the tumors examined the presence of epithelium is undoubted. The form and relationships of the cells of the parenchyma do not furnish sufficient data to justify the conclusion that these cells are of endothelial origin. The theory of the early embryonal displacement of epiblastic tissue during the process of formation of the parotid and submaxillary glands and the branchial arches may account for many of the morphological peculiarities of the cells of these tumors, especially the lack of many typical features that are associated with epithelium. The same condition may be observed in the epithelial cells of the congenital moles, in which the epithelium is with difficulty distinguished from connective-tissue cells, owing to its close connection with the stroma of the tumors, and its undifferentiated type. The mixed tumors of the salivary glands pursue a clinical course strikingly different from that of the sarcomata and carcinomata in that they grow slowly and are generally benign. The regional lymph nodes are not invaded, and recurrences are likely to remain local in a considerable proportion of the cases.

IS THE GENERAL PRACTITIONER PASSING AWAY?

When we published an account of the work of good Dr. Rial Strickland, the typical general practitioner of the old school, who had worked in willing harness for sixty years, we were quite sure that his example would touch a sympathetic chord in the hearts of many readers. Even in these days of progressive specialism and the necessarily multiplied division of labor, it is pleasant to be assured that the all-round family physician still holds his own and is not yet ready to be relegated to the rear. It would be a pity if it were otherwise, when we consider the many and varied necessities of his existence, as the general adviser and old-time friend of the families that make his large and responsive clientage. In many communities he is still the court of appeal in every emergency of sickness, and is the first to be called in case of accident. His functions in this respect have survived all arguments against his general fitness for their dutiful and skilful discharge. It is comforting also to realize that under the circumstances of his existence he is not altogether the man who is especially dangerous to be allowed to go at large and dispense disinterested advice to such of his numerous patients who place absolute trust in his common-sense judgment. The time has gone by when he needs to officiate as clergyman or undertaker in chance cases, or perhaps draw a will for some unfortunate who may have no other friend, but he still retains many of his time-honored privileges, which few of his patrons would willingly have him relinquish. He is, in fact, the man who must never run when real trouble is to be faced. Nor does he. He must be as ready to perform podalic version, cut loose a strangulated hernia, or give air to a choked windpipe as to right his overturned sleigh, splice his trace or lead his plunging horse through a midnight snowdrift. He must be naturally self-reliant, and indoors and out, by bedside and on highway therein is the constant stimulus for its exercise. It is well that it is so, for he needs the training that fits him for his many and varied duties.

To his credit also be it said, he has learned by long and often painful experience the limit of his talents. In such respects he may be an example for his more pretentiously expert brother, who is constantly striving after impossibilities and risking the application of every new fad to the supposed needs of his trusting victims. He may be a trifle slow in adopting new ideas, but what he loses in one direction he may gain in another. Even here he is safe in being reasonably conservative. The curable diseases are as safe in his hands as in those of the most noted experts, and as for the incurable maladies, the time element, perhaps, is the only one that appeals alike to the small and large fee man. One perhaps may appear to do more than the other, but the general result is quite sure to equal the ordinary statistical level of a general and well-regulated mortality. Thus what is really necessary for actually preserving and prolonging life is as much within the reach of the ordinary working private as with that of his presumably ranking confrère.

It is scarcely fair either to tax the general worker with want of zeal or lack of capacity in meeting the exigencies of his situation. The active competition in his own ranks is a sufficient stimulus for progressive effort in required directions. Improved methods in diagnosis appeal to him in more direct and practical ways perhaps than to the more assertive and complacently confident expert. In applying them to his own needs he makes good use of the conclusions of those who have spent the time and labor in solving the difficult problems of disease causation. While research work may establish principles, the practitioner is able to apply them in the purely clinical way that must make him the successful therapeutist. His mission is to cure disease in the direct and convincing way at the actual bedside of the patient. He is pure and simple the practical clinician who must either make good his prognosis or acknowledge his incompetency as a trusted medical adviser. The microscope and test-tube are always at hand to confirm his conclusions in a sufficiently demonstrative way for his purposes and make him sure of his course.

Thus with the majority of ordinary ailments he is as much an expert as the one who within narrower limits makes equally laudable efforts at precision of judgment. It is admittedly incumbent upon him when no expert help is at hand to be prepared to meet all extra ordinary emergencies. Fortunately these are comparatively infrequent, and when they do occur they can be amenable to ordinary skill, but if not, there is usually abundant time to send for assistance, without very great risk to the patient. Doubtless, on the other hand, the self-reliant and conservative physician is often surprised at the number of apparently desperate cases that eventually recover by the simplest forms of treatment. Thus the experience of the active general practitioner, and particularly that of the country doctor in lone districts, makes the purely medical adviser not only a broad man but a safe one. While the specialists divide the body into rapidly multiplying restrictive regions, the general practitioner unites them in a harmonious constituency, maintains rational autonomy, regulates mutual dependencies, maintains coördination of functions, manures the root and reaches the fruit by nature's simple and long-approved methods. In spite, then, of cries to the contrary, there is still left enough work for him to do, and it is high time that he should be allowed to present his side of the argument.

The Home in Its Relation to the Tuberculosis Problem.

Of recent years there has been a great deal of glib talk as to the comparative ease of extirpating tuberculosis. Article upon article have been written, all to the effect that if only rational methods were followed that consumption would, in the course of time, be, if not an almost extinct disease, at least so greatly lessened in scope and virulence that, as a factor in the mortality statistics, it would be, to all intents and purposes, a negligible quantity. The difficulty lies in the fact that many of the measures recommended are nearly impossible to put into practice. The rich and well-to-do are able to treat the disease as it should be treated, but with the poor the situation is very different. This latter class cannot live under conditions calculated to stay the progress of the disease. A very large proportion of the working population of all countries are compelled to live huddled together in a most unhealthy manner, and are unable to procure suitable food, the consequence being that the victims of tuberculosis become worse, and spread the malady among their family and neighbors. Only a small number of these can be sent away to the country to be properly treated, while the majority must remain in their homes to act as foci for the dissemination of disease germs. Thus, if consumption is to be banished, means must be devised to improve the dwellings of the poor and to effectively treat the indigent consumptives in their homes.

Dr. Osler, in a lecture delivered a short time ago, under the auspices of the Phipps Institute, Philadelphia, discussed this phase of the tuberculosis problem. In his opinion, the measures to be adopted to render home treatment of the consumptive poor efficacious should be on the lines of a sanitary campaign. First, by an educational campaign in the homes. To carry this out efficiently there should be, secondly, in all cities a compulsory notification of cases. Thirdly, in most cities the powers of the health boards should be greatly enlarged, so as to deal efficiently with the question of proper disinfection of the houses occupied by tuberculous patients. Fourthly, the question of the housing of the poor needs attention, particularly in the matter of proper control of tenements, and the regulation, by law, of the number of persons in each house. Fifthly, by placing upon the landlord the responsibility of providing, under the control of the Board of Health, a clean, wholesome house for a new tenant. Sixthly, the wholesale condemnation of insanitary streets and blocks, and the rebuilding by the municipality, as has been done in Glasgow and elsewhere.

Dr. Osler states that the following two points should be strongly impressed upon general practitioners. First, that early recognition of the disease can only come from better methods of practice, and greater attention to the art of diagnosis. The second point is the necessity for a more masterful management of the early cases. The lecturer expressed his firm conviction that more tuberculous patients are injured than helped by drugs.

According to Dr. Osler, these are the essentials in home treatment of tuberculosis in the small towns, and country places and suburbs of our large cities: (1) To gain the confidence of the patient, since confidence breeds hope; (2) a masterful management on the part of the doctor; (3) persistence—benefit is usually a matter of months complete arrest a matter of years; absolute cure a matter of many years; (4) sunshine by day, fresh air by night and day; (5) rest while there is fever; (6) breadstuffs and milk, meat and eggs.

The first, and by far the most important, step in the attempt to drive away consumption is to improve the conditions of life of the poor. If this be not done, tuberculosis will not be checked to any extent. The insanitary, overcrowded buildings in which swarm the poor, in all the large cities of the old and new world, must be torn down, and well-lighted, well-ventilated, and commodious buildings must be erected in their stead. All other methods of combating the disease but touch the fringe of the evil.

The main point is to render the dwellings of the poor healthy; so long as the homes themselves are unhealthy, it is useless to talk about home treatment. Glasgow and some other British cities have set a good example in this respect, and have shown that even municipalities may have consciences. It is time that New York, Chicago, and the large American cities generally should recognize their responsibilities.

Common Sense and Radium.

The real properties and the alleged properties of radium would seem to have overturned the rational reasoning faculties of a large portion of the American public and of some of the medical men. Statements for which there is no foundation whatever are being constantly advanced as to the marvelous events that can and will be brought about through the influence of radium. A French scientist has affirmed recently that the heat rays of radium are capable of melting stones, and of disintegrating, with great celerity, iron and steel, so that the effects of the exceeding heat of its rays will destroy fortifications, crumble battleships, and will extinguish human life like dew before the morning sun, thus rendering warfare impossible. In pseudo-scientific articles and in medical literature, to a certain extent, the most extravagant claims have been made for radium. The *New York Times*, May 8, contains an article by A. Frederick Collins, in which cold water is thrown upon some of the far-fetched assertions made by too enthusiastic or unscrupulous advocates of radium. Commenting on radium in the treatment of cancer, the writer says "that radium cannot begin to compete with ultra-violet light in its healing properties, and even ultra-violet radiations are not positive and absolute in every case by any means. There are no diseases known to the medical profession for which the *x*-rays or ultra-violet radiations are not superior in doing the work better and quicker than radium." It must be understood that the scarcity of radium is an almost insurmountable obstacle to physicians who wish to use it. A grain of radium having a radio-activity of 20,000, costs $1,250. Consequently, few physicians possess the subtsance of this activity, but have to use that having an activity of 1,000, 3,000, or 7,000, and which has so comparatively a slight effect upon malignant growths, that treatment by such means would take too long to warrant its use. As has been said on several occasions in the Medical Record, the properties of radium have not yet been sufficiently tested. It may fulfil all the predictions which its ardent supporters have made as to its curative and other properties, but in the meantime it is useless and harmful to unduly exalt its influence.

The Curability of Leprosy.

The report, published in many of the lay papers of the United States, that Dr. Dyer of New Orleans had advanced a statement concerning the curability of leprosy, was received with skepticism by those who had made a study of the disease. Dr. Dyer is said to have declared that not only was leprosy curable, but that he had himself eradicated the malady. The remedies used by him were potassium chlorate and chaulmoogra oil.

Dr. Albert S. Ashmead of New York contributed to the *New York Evening Post* a letter in which he sharply criticized Dr. Dyer's alleged statement. He points out that in the first instance the two years which have elapsed since the last report was made to the Legislature of Louisiana by those having charge of the Leper Home, is far too short a time for anyone to judge that a case of leprosy had been cured. Attention is also drawn to the fact that potassium chlorate and chaulmoogra oil have been used in all places in which leprosy exists for a considerable period, and asks why, if perfect success could be obtained in Louisiana, should it not be obtained elsewhere.

The chaulmoogra oil treatment of leprosy, according to Dr. Ashmead, was instituted a thousand years ago in India and East Asia. Tourtoules Bey, a leprologist of Cairo, Egypt, who made use of it by hypodermic injections of five-gram doses, obtained regressions, which after five hundred and eighty-six injections, lasted five and six years. But even, when this long period of apparent cure had expired, he "hesitated to say" that he had secured cures by its use. On the contrary, he expressed his belief that they were not materially benefited. The chlorate of potash treatment has been widely tested in leprosy cases, but has not had the favorable effects claimed for it by its advocates. The serum treatment of leprosy has also had but litt e success.

Dr. Hansen, the discoverer of the bacillus of leprosy, believes that the vegetable bacillary organism of the disease has a spore life, which is wholly unknown to us. In a letter to Dr. Ashmead he says: "Though we cannot cure leprosy, we can prevent it by isolation of our patients. Until we succeed in cultivating the leper bacillus—that is, developing colonies of bacilli outside of human flesh—we shall try in vain for a healing serum."

At the present time our knowledge of the etiology of leprosy is not sufficiently definite to warrant the statement that a cure has been found. At any rate the reported cures at the Louisiana Leper Home must stand the test of a much longer period of time than is now the case before it will be believed that a curative treatment of leprosy is possible.

Relation of Inebriety to Mental Disease.

Dr. Robert Jones, Medical Superintendent of the London County Council Asylum at Claybury, recently read a paper on the above subject. Alienists all agree that alcoholism tends to bring on insanity, but as to whether the habit is a fertile source of mental disease is a point upon which agreement has not been reached. Some contend that drinking to excess is responsible for a large proportion of the cases of insanity which occur with apparently increasing frequency in civilized lands, while others declare that the harmfulness of taking an undue amount of stimulating drinks, so far as the production of mental disorders is concerned, has been greatly exaggerated. Dr. Jones takes the more pessimistic view of the matter, and attributes to drink a substantial percentage of the insanity in England and Wales.

In the paper which he read, he first discussed the chemical compositions of the various alcoholics, and then described the mental effects produced by ordinary alcohol, according to the quantity ingested, and said that a tendency to the development of illusions of a visual character and to delusions of a persecutory nature was characteristic of the effects of alcohol, as was also the tendency to sudden impulsive movements. Dr. Jones divided the class of inebriates into two divisions, the periodic drinker and the more or less constant drinker. The victims of these two classes were of different ages, those in the periodic class being mostly young men who, in the intervals of their paroxysms, were apparently rational and fulfilled their obligations both to society and to their friends. There doubtless was in all inebriates a considerable mental deterioration, as was evidenced by the fact that over 20 per cent. of all the inebriates under treatment in retreats and reformatories in Great Britain were transferred during one year, 1902, into asylums for the insane. The author then gave statistics dealing with the effects of alcohol. He stated that out of the 116,000 insane patients at the present time detained in English asylums there were probably no less than 11,000 males and 6,000 females whose insanity was directly or

indirectly caused by drink. He quoted the statistics of the London County Asylums for the ten years 1893-1902, inclusive, and stated that during this period 35,916 persons had been admitted into these institutions, of whom a proportion of 21 per cent. among the men and 11 per cent. among the women were ascertained to owe their insanity to drink alone. To Claybury Asylum there had been admitted during the period, 1893-1902, inclusive, 9,544 persons, of whom 1,664 owed their insanity to drink, a proportion of 22.7 per cent. among the males and 13.1 per cent. among the females. He stated that there were 400 persons at the present time in retreats and reformatories whose detention was caused through inebriety, and that this only represented a small proportion of the inebriates in the country whose presence among the young was most injurious, both directly through their neglect and cruelty toward those for whom they were responsible, and indirectly by their evil influence and example. Dr. Jones said that "his experience of the treatment of 'drink cases' in asylums had been a disappointing one, as to the actual recovery which took place, for when such patients were discharged they almost invariably relapsed if they tasted alcohol at all, and they were only a few who could afterward go through life without it."

Habitual Constipation.

In these days habitual constipation, and especially among Americans, is so common a complaint and occasions so much distress and even disease, that remedies to relieve the condition are always welcome. Sir James Sawyer of Birmingham, England, a short time ago delivered a lecture on the subject which contained a great deal of common sense advice pointing to the relief of the trouble. The writer thus defines the condition: Constipation is slow fecal progress in the large intestine, where alone true fæces are to be found." With regard to treatment Sawyer lays down the following rules: (1) We should never leave the medicinal treatment of constipation of the bowels to our patients. (2) We should never give drugs in the treatment of habitual constipation until we find that the constipation cannot be cured without them. (3) We should never give drugs in the treatment of habitual constipation without the conjoined use of a well-selected and judicious combination of the numerous adjuvants of natural alvine relief which are at our disposal. The causes of habitual constipation are, according to the writer, largely due to a habitual abstinence from emptying the rectum whenever the physiological urgency to empty it is felt; it is also due to habitual defecation when seated upon a high seat; it is also due to habitually diminished activity of the abdominal and respiratory muscles; and it is also due to habitual abstinence from fruit. A healthy person, by education, should empty the rectum daily, so that defecation becomes, to a certain extent, a regular rhythmical process, occurring at a fixed time, once in each twenty-for hours. Referring to the prevalence of habitual constipation amongst women, Sawyer is of the opinion that the causes of this are to be found in irregularity as to the time of effort of defecation, in the putting off the act, in relative feebleness of the abdominal muscles, in the wearing of waist belts, and in the wearing of "stays" and corsets. The diet recommended by the writer in the treatment of habitual constipation is a mixed one, and if the condition does not yield to such means, articles of food which are found to have a laxative tendency when ingested should be added to the dietary, or increased therein. Such laxative foods are found in green vegetables, in fruits, in fruit jams, and especially in orange marmalade and in honey. Sawyer's favorite drug, when drugs are found to be absolutely necessary in the treatment of habitual constipation, is aloes. He has little faith in belladonna or in nux vomica.

News of the Week.

Medical Substitutes for House Staffs of Bellevue and Allied Hospitals.—Graduates in medicine who desire to substitute for members of the house staffs of Bellevue, Gouverneur, Harlem, and Fordham hospitals, absent on leave, may apply with credentials giving time and place of graduation, hospital experience and references, to the superintendent of Bellevue Hospital, First avenue and East Twenty-sixth street.

Dr. William B. Pritchard has been appointed visiting neurologist to the City Hospital, New York.

Suit for Typhoid Damage.—An association has been formed in Butler, Pa., to bring actions for damages against the water company, the damage having been caused by the typhoid epidemic which lately ravaged that town, and the allegation of the complainants being that it was the result of negligence on the part of the water company in failing to protect the sources of its water supply and to maintain the purity and potability of the water it distributed.—*New York Times.*

The Prosecution of Alleged Illegal Practitioners of Medicine.—Thomas E. Eldridge, head of the Electrotherapeutic Institute of Philadelphia, was recently held in bail for court by a magistrate on the charge of practising medicine without a license, and also on a second charge of obtaining money under false pretenses from a patient under his care.

Clinton L. Shoemaker, a druggist of Philadelphia, has been arrested on the charge of practising medicine without a license. He is said to have attended patients and to have accepted fees in payment or his services.

Cerebral Localization.—Prof. Charles S. Sherrington, M.D., LL.D., F.R.S., of the University of Liverpool, delivered a lecture on "Cerebral Localization" in the medical hall of the University of Pennsylvania on May 5. He related the results of observations made upon chimpanzees and orang-outangs to determine the motor areas for the various parts of the body. The skull was opened and the faradic current was applied in different situations and the motor responses in the several parts of the body noted. It was found that the motor area in these animals was confined largely to the precentral convolution, the post-central convolution being apparently silent. Similar conclusions were reached also as a result of ablation-experiments. An area controlling conjugate movement of the eyes is present in the frontal lobe and another for ocular movements in the occipital lobe. The complexity of the sulci and the convolutions in the higher apes closely approach that in man.

Philadelphia Hospital Deficits.—As a result of the large increase in the cost of foodstuffs, together with increased demands on their facilities, fuel, cotton, and other supplies, the hospitals of Philadelphia—and probably of other cities as well—are confronted with deficits of varying degrees of magnitude. Some of these institutions receive State aid, while a number do not. The deficit for the year incurred by the Pennsylvania Hospital is $33,692.90. At the Hospital of the University of Pennsylvania, where the expenditures reached $200,000, the deficit was $30,000. The Presbyterian Hospital, which spent about $137,000, had a deficit of $16,000. The deficit

at the German Hospital was $12,000; at the Jewish Hospital between $10,000 and $12,000; and at the Hahnemann Hospital about $20,000.

St. John's Guild.—St. John's Guild has sent out its annual appeal for funds with which to carry on its work in the relief of sick children by the guild's floating and seaside hospitals. The appeal points out that 25 cents will give one baby one trip on the floating hospital. Fifty cents will pay for the baby's mother, and the contribution of $1 will afford a day's enjoyment on the water for a family. The medical, nursing, and food expenses of one baby at the seaside hospital for one week are $5; $10 will do the same for the child and its mother; $50 will name a bed for one month on the floating hospital; $250 will name a trip on the floating hospital, and $500 will name in perpetuity a crib on the floating hospital or at the seaside hospital. Membership dues are $10 per annum.

Foreign Appointments for Members of the Medical Faculty of the University of Pennsylvania.—Dr. Mazyck P. Ravenel and Dr. Leonard Pearson of the University of Pennsylvania have been chosen to make special research in the Maragliano laboratories of Genoa, Italy, for the prevention and cure of tuberculosis. Dr. Maragliano is professor in ordinary to the Royal University and an Italian Senator, and has selected Drs. Ravenel and Pearson to make the investigations. They will sail for Italy in a short time.

Clinical Professor of Genitourinary Diseases in Columbia University.—The trustees of Columbia University have appointed James R. Hayden, M.D., clinical professor of genitourinary diseases, in succession to Dr. Robert W. Taylor, and have also appointed Dr. Arnold H. Knapp, clinical professor of ophthalmology.

Physicians' Building on Madison Avenue, New York.—The old Madison Avenue Hotel, which has been reconstructed, was opened on May 2 as a building to be devoted exclusively to the use of physicians. The building contains fifty-five suites of offices. The most stringent regulations have been adopted with regard to tenants. Only physicians of unquestionable standing can gain admittance. All applicants for offices must be passed upon by a committee composed of lessees of suites. This committee at present consists of Drs. George H. Fox, Freeman F. Ward, Daniel Lewis, Wm. B. De Garmo, and Robert T. Morris. No other profession nor commercial enterprise can secure tenancy in the building.

Jewish Charities Congress.—The National Conference for Jewish Charities will hold its third biennial meeting from May 24 to May 27 in this city

Tuberculosis among the Street Cleaners of New York.—The medical examiners of the Street Cleaning Department have been instructed to make a physical examination of the five thousand sweepers and drivers employed by the city of New York. A large number of the men who have asked for sick leave recently were found to be suffering from pulmonary tuberculosis, and Commissioner Woodbury wishes to know to how great an extent his force is infected.

Hospital on Immigrants' New Ferry Boat.—The new ferry boat, *Ellis Island*, which will be used for the transport of immigrants, has just begun her duties. The boat is 160 feet long and 45 feet wide, and has two decks, the lower being fitted for the accommodation of about 1,000 immigrants, while the upper is to be used by officials and passenger, from New York. A hospital with room for twelve beds is a feature of the boat, and there is also a padded cell for the reception of any violently insane immigrant.

A Paradox of the Death Rate of New York City.—The Tenth ward of New York city, which is the most densely populated district in the world, has a present population of about 72,000 in an area of 110 acres, or 655 persons to the acre. The Eighteenth ward has a population of 51,000 in an acre of 450 acres, or about 136 persons to the acre. By a recent weekly report of the Board of Health, the number of deaths in the Tenth ward was less than in the Eighteenth ward with its smaller population, and in a year there are 1,200 deaths on an average in the Tenth ward and 1,500 in the Eighteenth. The same rule of disparity prevails generally through the wards of New York, the actual death rate being least in those which are most thickly populated and largest in those less thickly inhabited. The Seventh ward has a present population of 90,000, while the Twentieth ward uptown has likewise 90,000 inhabitants. By the Board of Health report for the third week of April, there were thirty deaths in the Seventh ward and sixty-three in the Twentieth. In a year there are 1,300 deaths in the Seventh ward and 2,000 in the Twentieth.

Epidemics at Mukden.—The following statement has recently been made by the Associated Press in regard to the reported epidemics at Mukden: "There are some cases of dysentery and smallpox and several cases of typhus in the Mukden hospitals, but there has been no application for more surgeons nor for special remedies or serum, and it is entirely misleading to say that epidemics exist. Smallpox and typhus are epidemic in Manchuria, and dysentery is inevitable where large bodies of men are crowded together."

Plan to Reorganize Red Cross Society.—A plan for the general reorganization of the American Red Cross Society has been submitted by Senator Proctor to representatives of the parties to the controversy in that organization which, if accepted, will reconcile the differences that now exist in the organization. The plan was drawn by ex-Secretary Foster at Senator Proctor's request, and contemplates the coöperation of the National Government in the work of organization. The plan consists in the issuance of a new charter by Congress, which shall vest the control of the affairs of the organization in a central governing body of eighteen persons. Of these, six are to be appointed by the President, who also is to designate the presiding officer. For the present the remaining twelve members are to be chosen by the General Association, the understanding being that both elements are to be represented. There is, however, a provision for subsidiary State associations, which after they are organized, are to be allowed to name six of the twelve members. There is a requirement for an annual report to Congress, and also for a yearly auditing account by the Treasury Department.

American Laryngological Association.—The twenty-sixth annual congress of the American Laryngological Association will be held at Hotel Chelsea, Atlantic City, N. J., June 2, 3, and 4, 1904. The profession is cordially invited to attend.

Pneumonia Mortality in Chicago.—The pneumonia mortality has already broken all April records. During the first twenty-three days of the month 403 deaths were reported—a daily average of 22. The April daily average for the previous fourteen years had been 12.4. For the current month the daily

deaths from pneumonia have been 78 per cent. higher than usual. The following are the figures for the cities of New York and Chicago during the present season, November 1, 1903, to April 23, 1904, inclusive—175 days:

	New York.	Chicago.
Total deaths, all causes	38,364	14,229
Deaths from consumption	4,299	1,498
Deaths from pneumonia	7,091	3,109
Proportion per cent. of all deaths—		
From consumption	11.2	10.5
From pneumonia	18.4	21.8

Europeans Die of Sleeping Sickness.— A young Congo official is reported to have died of sleeping sickness in the Antwerp Hospital on May 5.

Regulations in Regard to Milk in New York City.—Dr. Darlington, Health Commissioner of New York City, has sent out notices to all milkdealers and railroads in the city that all milk, the temperature of which is higher than 50°, will be seized and destroyed, and the offending persons prosecuted. The cause of the sanitary code directing such action has been unenforced hitherto.

Another Bellevue Physician Seriously Ill.—It is reported that Dr. Joseph F. McCarthy, 137 West Forty-third street, now a visiting physician, and up to eighteen months ago an ambulance surgeon at that institution, is dying of tuberculous meningitis at the hospital, where he contracted the disease several weeks ago.

Outbreak of Plague among Coolies in South Africa.—Plague has broken out among the Chinese collected at Kowloon for transporation to the Transvaal mines. The charters of steamships engaged to convey the coolies have consequently been cancelled.

Horse Disease in Iowa.—The investigation made by the Department of Agriculture of the horse malady which has broken out in Iowa has shown that the disease was brought to this country by horses imported from France. The malady, known as coit, is said to be caused by parasites.

Hospital Beds Endowed by Elks.—At the Ladies' Social Session, held on the evening of May 5, at Elks' Hall, Dr. D. B. St. John Roosa, president of the Post-Graduate Hospital, accepted two beds for that institution proffered by the society. Champe S. Andrews, Exalted Ruler of the New York Lodge, in his presentation of the two beds, said that since 1868 the mother lodge of Elks had dispensed in volunteer charity nearly $250,000.

Obituary Notes.—Dr. WILLIAM BARTON HOPKINS died of cholera morbus in Philadelphia on May 4. He was a grandson of Dr. Samuel Hopkins and a grand nephew of Dr. John Rhea Barton. He was surgeon to the Pennsylvania Hospital and to the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases, and he had been for many years surgeon to the Episcopal Hospital.

Dr. ORISSA W. GOULD, well known for her philanthropy and missionary work, died on May 3 of cerebrospinal fever at the New York Hospital. Dr. Gould was forty-three years old. She began the study of medicine at an early age, and was graduated from the Women's Medical College of New York in 1892. Her father was a Baptist clergyman.

Dr. CLINTON CUSHING, one of the oldest and best known physicians of Washington, died suddenly at his home there on May 10. Dr. Cushing retired from practice some years ago.

Dr. GILES S. MITCHELL, one of the best-known physicians in Cincinnati, died suddenly at his home in Avondale on May 5. He was fifty-two years old, was born in Martinsville, Ind., and graduated from the Medical College of Ohio in 1875. He was a professor of the Cincinnati College of Medicine for a number of years and president of the Academy of Medicine in 1881.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

HOSPITALS, FINANCES AND MANAGEMENT—MEDICAL DEFENCE—PEPTIC ULCER OF JEJUNUM—CARCINOMA OF THE RECTUM—THE LATE SIR HENRY THOMPSON, DR. SAMUEL SMILES, AND COL. CHESNAYE.

LONDON, April 22, 1904.

GUY'S HOSPITAL is issuing its annual report—a document which affords food for reflection. It contains, of course, the usual outcry for more money. Last year the governors expressed an anticipation that the public would come to their assistance in consequence of their efforts to place the hospital in the forefront of efficiency and usefulness. Now they have to report that they are disappointed, and therefore the burden of debt has increased. At the present time £77,000 is wanted for the discharge of existing liabilities on account of renovations and buildings which are simply called indispensable, but which some critics may perhaps pronounce extravagant or even reckless. I am half afraid the managers of Guy's are as much obsessed as other hospital authorities with the notion that a heavy debt constitutes the most effective appeal to the public. The settled income of the hospital is stated as at least £15,000 per annum below its ordinary requirements—a fact which should render the governors extremely cautious about incurring further liabilities for buildings and renovations.

The report boasts that, for the first time since 1884, all the wards came into use during the past year—a fact which some might consider as proving that for twenty years unnecessary buildings have been kept up. The in-patients admitted in the year numbered 8,191 and the out-patients the striking (some might say, the scandalous) total of 128,051. No wonder we are told that the financial support received altogether failed to meet the requirements. The boast that these figures exceed those of any previous year of the hospital's long existence, may well give fresh impetus to the cry for hospital reform, and especially to the arguments of those who maintain that the out-patient departments are actually pauperizing institutions.

Another hospital, on a smaller scale, demands notice in this connection, inasmuch as it has been rebuilding since 1902, and yesterday the out-patient department, being the first section completed, was thrown open. This institution is the Royal Waterloo Hospital for Children and Women, founded in 1816 and which confessedly stood in need of renovation. The scheme for rebuilding it entirely at a cost of £50,000 was adopted, as I have said, in 1902, and £15,000 has been expended on the portion now ready. But toward the fund only £20,000 has been contributed, and the governors are now afraid that they may not be able to carry out the remaining sections. In that case the provision for the in-patients would have to wait. It was intended to have two hundred beds, but the less important department has been given preference—perhaps as it will enable the managers to put in their appeal the large number of patients relieved. Soon, let us hope, the public will learn the little importance of the out compared with the in-department and cease to be caught by the bait of large numbers.

What is likely to happen in some of our overcrowded out-patient departments is alleged to have occurred at the Bolingbroke Hospital—a useful suburban institution as far as in-patients are concerned. At an inquest on a child that died from pneumonia after severe burns, the mother declared the child had only been seen by a nurse and was refused admission for want of room. If no bed could be utilized in the hospital, a medical man seeing the child would probably have recommended application to another institution rather than attendance as an out-patient. I must add that the chairman has since written to the papers to say a doctor did see the child. It seems strange that no witness appeared to say so at the inquest.

There is another danger of the overcrowding of the out-patients. Many are kept waiting for two, three, or four hours, or even more, to take their turn to see the doctor. Many children are thus waiting, and now and again a patient is among the crowd with measles, diphtheria, or other infectious disease which is thus easily spread. Besides what a terrible trial it is for some poor sufferer to be thus kept waiting to see the doctor. I know of a case in which a woman waited last week for four hours and then the doctor left without finishing his work. No doubt she will be counted among the "relieved."

Medical Defence still occupies some attention. The British Medical Association having referred it to the branches some of them are circularizing their members and asking for an answer—yes or no—if they support the scheme and if they will join and pay the extra subscrip-

tion. As this amount is fixed as the same as that of the two existing defence societies, it is difficult to see what advantage can come from the absorption of their machinery by the bigger organization. Unless some distinct advantage can be shown, the Defence Union may well refuse, while the London and Counties' Society may as reasonably decline the British blandishments.

The attitude of the profession to the subject is unfortunately one of apathy. Otherwise the protection societies would number the majority of qualified men in their ranks. This is far from the case, and even the British has not enrolled more than about half. Its scheme too, seems excessively complicated and offers none of its funds for the work of the new department. The two defence societies have done very well so far, and every one to whom I have spoken on the subject seems to think the best thing would be for these two to unite their forces and carry on the work in which their experience is a valuable asset.

Mr. Mayo Robson reported to the Medico-Chirurgical Society a case of peptic ulcer of the jejunum—the first, so far as he could ascertain, recorded in England. Altogether fifteen cases have been recorded, all occurring after gastroenterostomy, nearly all after the anterior operation, all after perforation had taken place. He then gave some statistics about peptic ulcers. Out of one hundred and twenty-eight posterior gastroenterostomies which he had performed there had not been one instance of jejunal ulceration. But out of twenty-nine anterior operations there had been the one now reported. It occurred three years and four months after the anterior operation which was performed for pyloric and duodenal ulcer, the patient having been well during two years of the interval. He excised the jejunal ulcer and did a Roux's operation, this patient made a good recovery and is now quite well. In reply to questions, Mr. Robson expressed the opinions that the greater liability to the lesion after the anterior operation is due to defective drainage of the stomach with consequent persisting hyperchlorhydria; that the closure of the pylorus was due to cicatrization, not to loss of function, and that the adhesions were due to perigastric inflammation and often prevented peritonitis when perforation took place; he had often seen adhesions round a perforated gastric ulcer.

Dr. H. J. Cotton submitted to the Medico-Chirurgical Society quite a little catechism on a case which he related of ulceration of the rectum, diagnosed two years previously as cancer, when patient refused colotomy and continued to work with the help of morphine and cocaine suppositories. At length high fever, burrowing of pus and fæces led to ischiorectal abscess, which was excised. Admitted to Guy's Hospital, March, 1903, in a desperate state; colotomy was done, though the microscopical report was "columnar-celled carcinoma." Steady recovery followed; in six weeks he left hospital and resumed work. He has now regained his usual weight, though there is still occasional discharge of blood and much from the anus, but the intolerable pain has gone. Here is Dr. Cotton's cathechism: (1) What was the man's complaint? (2) Is not the fact that he recovered from the blood poisoning of burrowing pus and fæces and has regained his weight and enjoyed ten months' good health inconsistent with cancer of three years' standing? (3) Does not true cancer live on its host, producing emaciation and cachexia in which the operation would be fatal? (4) Was the microscope, or rather the microscopist, at fault as columnar cells are natural to intestinal epithelium? (5) Is it wise to apply the word cancer to diseases of low malignancy which may last for years? In the discussion that followed, the president (Sir D. Powell) said he had seen cases with a long period of quiescence after colotomy. Mr. Robson said that if inflammation was added to carcinoma of the rectum a great accession of symptoms was provoked, but much relief occurred if the inflammation could be reduced. He referred to a case which lasted five years, and urged early operation when the growth is limited, but if too late for that, colotomy. He spoke of some undoubted cases of sarcoma in which the growth quite disappeared after colotomy. Mr. Paterson mentioned a case of colotomy for carcinoma in which he saw the patient three and one-half years afterward in good health. Mr. Wallis said he had examined Dr. Cotton's patient and had no doubt that it was a case of carcinoma. He said tubercle sometimes resembled a cancerous growth. Mr. Armour also referred to a case of long quiescence after colotomy.

Sir Henry Thompson died on Monday afternoon, in his eighty-fourth year, after only a few days' illness. By this event the profession loses a most interesting personality as well as a surgeon whose reputation is too well known to you to need reference. He took the M.B. London, 1851, and the next year the Jacksonian prize of the Royal College of Surgeons on "Stricture of the Urethra," thus early, as it were, adopting the specialty which he has followed with such distinction. The next year he took the F.R.C.S. In 1856 he was appointed assistant surgeon to University College Hospital, and followed with energy the specialty, and in 1860 won a second Jacksonian prize, the subject for that year being the "Healthy and Morbid Anatomy of the Prostate." He became full surgeon to his hospital in 1862, but continued to see outpatients for ten years longer. He resigned and was made consulting surgeon in 1877. Thompson was in some degree a pupil of Civiale, for with the energy which characterized all his doings, he went to Paris to study the great lithotritists' work, whose methods he afterward followed. You will remember the case of King Leopold I, who had been operated on by Civiale. Later Thompson removed one or two fragments which gave trouble. He then wrote to Civiale that the King's cure had been completed by his grateful pupil, by the art he had taken such pains to teach him—an acknowledgment which Civiale greatly appreciated. In 1867 Thompson was knighted. (How well I remember the occasion.) He was created a baronet in 1899. You need not be told how quick he was to do justice to Bigelow. Indeed nothing connected with his specialty escaped his attention, and so thoroughly did he keep up with surgical and scientific progress that it sometimes seemed wonderful, how he also kept abreast with so many social, political, literary, and artistic matters. He was a pioneer in the revival of cremation here. He was a painter of considerable ability, exhibited often at the Academy, at one time studied with his usual energy under Alma Tedama. Sir Henry was also a collector of china, and in conjunction with Whistler published an illustrated catalogue. At one time he had an observatory and was always interested in astronomy. He wrote a couple of novels which had a certain success. He was much interested in the temperance movement and a powerful advocate of moderation in diet—though the dinners for which he was noted were of the most recherché kind and at them he had entertained most of the leading writers and thinkers of the day.

Dr. Samuel Smiles died on Saturday in his ninety-second year. It is so long since he left medicine for literature that you may perhaps have forgotten that he took his M.D. at Edinburgh University, where he began to practise, but soon after removed to Leeds. In 1837, he finally abandoned medicine and succeeded his friend, Robert Nicholl, the poet, as editor of the *Leeds Times*. The next year he produced a work on "Physical Education; or the Nurture and Management of Children," which contained the result of his medical experience on the subject. In Leeds he became acquainted with George Stephenson, the railway pioneer, whose life he published in 1857. This was an instant success, and ran into five editions within a year. Prior to this he had been intimately associated with railway enterprise as secretary to the North Eastern and afterward to the South Eastern Company. He had also published a book on "Railway Property," 1849.

It was not until 1859 that his book on "Self Help" appeared. At once that work attracted great attention and established his position as a writer to be reckoned with. Between this date and 1887 he produced the four other books which make up the five volumes of the "Self Help" series. Besides these he also wrote a number of biographical volumes, the last of which, on Josiah Wedgwood, appeared in 1894 when he was eighty-two years old. "Self Help" has been translated into seventeen languages. In 1878 his university recognized his position by awarding him the honorary LL.D., and various other distinctions fell to his lot before his complete retirement from active work, including two or three foreign orders.

Col. Geo. Cochêt Chesnaye, F.R.C.S.I., died last week aged sixty-seven. Educated in Dublin, he qualified in 1857–8, taking the Carmichael prize in surgery. He entered the Indian Medical service in 1859, was in the Hazara campaign, the Loostian expedition, the Afghan War, etc., being mentioned again and again in despatches and receiving medals, and stars, and clasps. He retired in 1894 on a distinguished service pension. He had been Hon. Surgeon to the Viceroy of India and was a Fellow of the Punjab University and a member of the Irish College of Physicians.

Extraction of Needles from the Tissues.—The needle is first definitely located by means of the *x*-ray. The part is then oriented till the needle appears as a single point through foreshortening. An ink spot is made upon the skin corresponding with the position of the needle. This is repeated at the back. The pierced tissue is then pressed between the thumb and finger, applying one to each spot. The needle will then travel in the direction of the smaller end and finally will protrude through the skin.—*The Hospital.*

LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

MANILA, March 1, 1904.

In their efforts to reduce the high infant mortality among the natives, besides issuing some 80,000 circulars on the care and feeding of infants and issuing gratuitously sufficient flannel to protect the new-born children of the indigent, the sanitary authorities will hereafter supply to all applicants dressing packets containing a suitable piece of sterilized gauze, lengths of bobbin, a small quantity of boracic acid and safety pin. The whole is put up in paraffin papers in an aseptic packet, for use as a dressing for the umbilical cord, in the prevention of tetanus infection, which is a potent factor in the infant mortality in the Philippines. Full instructions for use will be printed in Spanish and Tagalog on the outside of the packet, the use of which will be popularized by every possible means. At present, the value of a cleanly—let alone an aseptic—dressing of the umbilical cord is not understood, and any dirty cloth is regarded by the poorer classes as making a satisfactory dressing for the umbilical wound. The cord is handled with uncleanly fingers, washed in dirty water, seared with a candle-flame, and frequently dressed with ashes or even dry earth as an absorbent. Under such conditions and with the general distribution of tetanus germs, the wonder is not that so many children die of tetanus infection of the umbilical wound, but rather that so many escape such infection.

The Bureau of Government Laboratories has recently published a paper by Dr. James W. Jobling, Director of the Serum Laboratory, on "Rinderpest in Cattle and Carabaos in the Philippine Islands," as Bulletin No. 4, of 1903. The paper is primarily intended for the information of cattle breeders and shippers, and includes the symptomatology, prophylaxis, and treatment of the disease. As the immunization of all animals now on the islands and hereafter to be imported is contemplated by the Government, coöperation to this end by cattle-owners is urged.

The disease apparently first appeared in the Philippine Islands in 1882. There is an incubation period of three to ten days. The chief symptoms are fever, congestion of mucous membranes, discharges from the eyes and nose, abdominal pain with diarrhœa, and sometimes an eruption on the back, loins, and mammæ. The great majority of animals attacked die, and within the past three years it has been estimated that as high as 90 per cent. of the bovines in the islands have died from this disease. The cause is unknown. The disease is conveyed to but a limited extent in running water or in the air. The usual method of transmission is by infected ground, or by any articles with which the discharges of diseased animals have been brought into contact. Hides, bones, and flesh of dead animals convey the disease. A great source of loss among cattle shipped into the islands is due to infection harbored on cattle ships which have not been disinfected. The disease is readily conveyed by inoculation, as little as one-tenth of a cubic centimeter of blood from a rinderpest animal giving the disease when injected subcutaneously. Human beings do not contract rinderpest. Preventive measures consist of early isolation and of disinfection of the place, where isolated, after conclusion of the case, by covering with straw and burning over. The agent of the disease can be carried on the shoes from an infected site. An infected herd should be moved to new pastures, split up, and the temperature of each animal taken daily. The bodies of dead animals must be burned. The hides, if saved, must be disinfected in carbolic acid solution and dried thoroughly in the sun. The various methods of immunization are discussed. The method in general use in the Philippine Islands consists in injecting an animal which has recovered from rinderpest with rapidly increasing doses of blood from animals sick with the disease, until the blood of the first animal has acquired a high degree of immunizing potency. The blood is then drawn, the serum separated out, and 15 to 50 c.c. injected subcutaneously, in the animal to be immunized, on one side, while 1 c.c. of virulent blood is injected into the other side. The mortality from this operation is from 2 to 10 per cent., but the immunity produced is very lasting. No treatment proves of any value in the disease, except the injection of blood serum from animals recently recovered from the disease.

An excellent paper on "The Influence of Tropical Conditions on Diseases of the Oral and Dental Tissues" was lately read before the Manila Medical Society by Dr. Louis Ottofy, who has had a long experience as a dentist in Japan, China and the Philippines. In respect to the condition of the mouth in the indigenous races, Dr. Ottofy notes pigmentation of the mucous membrane and reduced activity of the salivary glands; in an experience with a large number of persons who had leprous tubercles around the mouth, he found that the resultant ulceration was well defined and stopped short when the integument became continuous with the mucous lining of the mouth. In far advanced cases of leprosy, however, the mucous membrane became involved. As a result of the examination of the teeth of five hundred Filipino school children, he found no difference in structure or condition as compared with white children, but among adult Filipinos the condition as to caries was distinctly better, he believes as a result of the use of tobacco and betel nut chewing. The proneness to caries, which among Caucasians continues up to the twenty-fifth year, is shortened to the sixteenth or eighteenth year among the Filipinos. Externally, the teeth of betel-nut chewers were found to be more eroded than among non-habitués of this habit. Among the unacclimated, Dr. Ottofy finds no abnormal condition of the teeth not directly traceable to illness, hardship or deprivation, and on the other hand finds that certain fungous growths, as the oidium albicans, which in the temperate zone possesses grave possibilities, have here no special pathologic importance. With respect to the soft tissues, however, he finds a marked loss of tone, turgidity of the gums, and a tendency for the latter to retract and fall away from the necks of the teeth, leaving pockets for the retention of extraneous matters, and in the absence of scrupulous cleanliness causing the gums to become very sensitive. Pyorrhœa alveolaris becomes much worse and more resistive to treatment when found in persons lately arrived in the tropics. Dr. Ottofy finds an undescribed form of tropical ulcerative stomatitis, which is not uncommon among the unacclimated and those weakened by disease. In sixty-seven out of eighty-three such cases, the patient had previously suffered from malarial fever, dysentery, spine or similar wasting disease. The disease is rare among sailors, but common among soldiers, or marines quartered on shore. Much improvement follows a change of climate, and spontaneous cure results from even a short sea voyage. Dr. Ottofy does not believe that the teeth of new-comers decay more rapidly than in the temperate zone, except where the new conditions do not permit of the usual attention to the teeth. Odontalgias are, however, not only more frequent, but refractory to treatment. Wounds within the mouth do not readily heal, and abscesses are liable to occur and run a tedious course. The use of local anæsthetics he condemns because of the practical impossibility of preventing alveolar infection and abscess from their use.

The Board of Health and Municipal Board are represented on a joint committee which is now engaged in mapping out the most insanitary and congested districts of Manila, with a view to the relief of such congestion, the removal of habitations of unsuitable character and the erection of tenement houses, operated by the city, in their place. The insanitary homes of the poorer classes are of nipa or solid masonry. The former are the more easily dealt with, as they rapidly decay, are greatly exposed to destruction by fire, and are so cheap in construction that their condemnation and removal when insanitary cause little opposition. Within certain limits the construction of nipa buildings is prohibited by law, and those now existing are rapidly disappearing, when the vacant space thus secured can be built upon only with the approval and under the direction of the sanitary authorities. The solid houses of masonry construction of the Spanish type are quite a different proposition and create a most serious sanitary problem. As a general rule, these houses are built without any reference to ventilation, light and dryness, have no proper facilities for the disposal of excreta, refuse and storm water, and are honeycombed with rat burrows. Such houses are usually located on more valuable sites near the center of the city, and as a result of the tremendous rise in rents which has occurred since the American occupation, the necessities of the poor furnish an inducement for overcrowding that did not exist in as great a degree during Spanish days. Such houses are built to defy time, fire, and earthquake. Their proper alteration into sanitary habitations is a difficult and, in many cases, impracticable task, and their removal would be a most costly procedure. The present congestion will be largely removed when the new electric street car system, now under construction, is completed and poor people are able to live on the outskirts of town; while the completion of the tremendous docks, work on which is more than half done, will entirely change the location of the business center of Manila and furnish an additional reason for the relative depopulation of the present slums. Even with the relief of congestion which may be expected to occur from the above causes within the next two years, the present habitations of masonry will have to be provided with sanitary facilities or be removed, and it is concerning this question that the committee above referred to is appointed largely to investigate.

To assist in the work of municipal improvement a civic federation of a large number of American, Filipino, and

Spanish residents has lately been formed, a considerable part of the membership of which is composed of ladies. This society has at present largely devoted its energies to securing more parks to furnish breathing spaces for the poor, and has secured the offer by the Bureau of Education to the city of the buildings and ground formerly used as the exposition grounds and occupied by the higher grade schools for the past five years. In response to a popular demand, a large number of streets in the better residential part of town are to be widened and straightened, and funds have been appropriated for that purpose. Some of these Spanish streets are so narrow that two carriages can scarcely pass, and with the operation of the new electric cars over them in their present condition, wagon transportation would be largely interfered with. In response to the efforts of the sanitary authorities, an awakened interest in civic improvement is noted all over the city. At the present time much low land is being filled, drains cut, esteros straightened, new streets and parks laid out, and roads repaired. The tracks of the electric car line have been laid in large part, plans are completed for the drainage and sewerage of the city, and work on the new water supply is about to be commenced. The greatest single undertaking, and one which will make Manila one of the chief ports of the Orient, is the building of the shipping docks, so that vessels can unload directly on wharves and into the cars to run on the projected tracks. At present, everything has to be brought ashore in lighters, and the cost of lighterage from ship to shore is greater than the cost of transporting the same article from San Francisco to Manila Bay, not considering the greater delay and the possibility of the interruption of the work by storms during a large part of the year. At present, a stone breakwater has been laid to protect the anchorage, and within this a space of about two hundred acres has been enclosed by a stone wall and is being filled in by dredging out the harbor. Already there is dry ground where a year ago there were sixteen feet of water, and the level of the ground in this area is now at about high water mark. It will be filled in to a level eight feet above low tide, and the work of filling will be completed in about eight months more. The land thus gained will be leased for warehouses, and stone piers built out sufficient to accommodate all the ships which may visit what will be the greatest port in the Orient. The breakwater will be extended so as to enclose the ships in a protected harbor, safe against any typhoon. In the meantime, the necessary earth for filling is being secured by dredging out the harbor to a uniform depth of thirty feet, removing the foul deposits of centuries and creating a roadstead in which the largest ships can safely anchor. This work will be wholly completed within two years and a half, and will entirely transform the city from a commercial standpoint, which in turn will exert a marked influence upon the size of the city, the trend and density of population and the lines and facility of communication. These harbor works will stand as a monument to American ability and energy, and will have a profoundly favorable effect upon the city and through it upon the islands as a whole. Even the most obstinate and hostile of the natives cannot but admit that the Americans are bringing about improvements which the Filipinos themselves would never have accomplished. Within three years the culmination of the work now under way or projected will leave Manila a city transformed.

THE QUESTION OF PRIORITY.

To the Editor of the Medical Record:

Sir: In your issue of April 30, 1904, you have a clipping from *Zentralblatt für Gynäkologie* describing an operation for suspending the uterus by the round ligaments by Bardescu which he claims or leaves to be inferred is original. I wish to say that the method is in most of its features identical with one I devised, published, and have been practising since 1899. It was first described, I think, in the March number of the *American Journal of Obstetrics*, 1900, since which it has been exploited on many occasions by different operators and writers. I simply wish to claim for this country that which is her due and of which she is so often deprived—the credit for original work and investigation. D. Tod Gilliam, M.D.

Columbus, Ohio, May 6, 1904.

Improper Vaccination Certificates.—The Health Commissioner of New York City has issued a warning against vaccination certificates which he has learned have been issued in large numbers by certain physicians for a fee sometimes as low as ten cents. Such certificates, he says, will not be considered at the public schools.

Progress of Medical Science.

The Boston Medical and Surgical Journal, May 5, 1904.

Action of Resorcin.—C. F. Clark offers the results of his experience in the use of resorcin in the case of eczema. He believes that in the inflammatory stage of eczema accompanied by intolerable itching, burning or smarting or all three, resorcin is perhaps almost infallible. Its action is that of an anodyne. It reduces inflammation and soothes irritation. It may be applied either in solution or as an ointment. The writer uses a 4 per cent. solution with success. The application may be made on strips of linen or lint. The ointment may be made by adding 20 gr. of resorcin to an ounce of zinc ointment, or cold cream. Sometimes from 5 to 10 gr. of salicylic acid may be added to the resorcin ointment. This is to be applied every night or oftener. The resorcin and salicylic acid should be dissolved in alcohol to assure perfect union; the zinc ointment is warmed over a slow fire, and the alcoholic solution of the two added, or if powdered, rubbed together and sifted in. The whole is covered slowly and stirred till sufficiently cold. Constitutional treatment must not be neglected, for resorcin is not a specific. The writer believes that this drug may be used in the treatment of all inflammatory surfaces, such as erysipelas, erythema, and herpes zoster. The application must be varied to suit the individual case.

Use of the Sphygmomanometer.—H. F. Vickery offers some interesting observations that he has made as a result of the study of a large number of patients. He believes that the measuring of the pulse-tension is a useful addition to the modes of studying medical cases. The existence of high tension was discovered by the sphygmomanometer in cases in which he had not suspected it. It has been said that when the radial artery is of normal size, one can tell the tension pretty reliably, but if the artery is not more than half its normal caliber, very good clinicians will fail to appreciate a tension of from 20 to 60 mm. of mercury above the average. The high tension was present in all the cases of nephritis. It is said not to be present in a purely parenchymatous nephritis. The complication of heart lesions does not present the high tension. Heart lesions are quite consistent with high tension apart from any nephritis. In cases of aneurysm, the two radial arteries differed in several cases. In one case there was no difference. There is said to be a disparity in the two sides in hemiplegia. All sorts of cardiac lesions are capable of presenting a high tension. The writer calls attention to the explanation of the clinical experiences that digitalis often will not work in such cases until a purge has been given. This unloads the capillaries so the left heart when it is encouraged to work harder does not "press against a stone wall." As to the value of tension in detecting a perforation in typhoid fever, the writer believes that if one is going to be guided by the sphygmomanometer with regard to the advisability of laparotomy for perforation, the patient must be kept track of from the beginning of treatment. He gives instances of cases of typhoid fever in which the tension was higher than normal.

Journal of the American Medical Association, May 7, 1904.

Multiple Loose Bodies in the Knee-joint.—The patient of J. P. Lord was a man of thirty-three years who had had attacks of inflammation of the left knee-joint at intervals of from two to four years, extending over a period of fourteen years. The operation performed for their removal is thus described: An incision was made as for a Volkmann resection of the knee. The patella was sawed transversely, the lateral and crucial ligaments divided. The whole articulation was thus exposed. Four bodies were removed from above the patella. One of these was the large one of mulberry shape. Four were removed from under and beside the patellar tendon, and two from the posterior part of the joint, behind the crucial ligaments; these two were, in fact, posterior to the condyles, and much effort was required to dislodge them by the use of curved scissors. The bodies by the patellar tendon required removal by the scissors on account of pediculated villous attachments. In the localities of the attached bodies the synovial membrane was much thickened and hyperæmic. On the central surface of the inner condyle the cartilage seemed fibrillated, bruised, and torn, as if by the impingement of a body between the joint surfaces. The patella was wired in the approved manner. The ligaments were sutured with chromicized catgut and the skin with plain catgut. Small gauze drains occupied the dependent angles of the incision. A dry gauze dressing was used and a plaster-of-Paris interrupted splint was applied, reaching to the perineum. The patient made a good recovery, but later, owing to impaired motion of the joint, forcible flexion was made under anæsthesia. Some four months after operation there was about 30 per cent. of the normal range of flexion and no irritation in the joint.

Medical News, May 7, 1904.

The Influence of Bovine Tuberculosis on Human Health. Masyck P. Ravenel concludes that at the present time e weight of the available evidence is in favor of the w that the chief source of infection in children, as well n adults, is the human tubercle bacillus, and that the al of entry is the respiratory tract. It has, however, n proven conclusively that the bovine tubercle bacillus sponsible for a certain proportion of the deaths from rculosis in children, and there is strong evidence at l to show that the number of children infected from ne sources is quite large. Whether the number be e or small, it is none the less our duty to guard against se of milk from tuberculous cattle for food.

e Diastolic Murmur in Diagnosis.—Austin W. Hollis res that the study of the diastolic murmur presents e difficulties than are met with in the systolic variety, ough in its usual form, it is simple and clear, and its e time and quality instantly reveal the diagnosis, no mur can be more elusive in its site and intensity. possibilities of its characters are so numerous that defy both description and diagnosis. Eight varieties be recognized. The causes are aortic and pulmonary ficiency, persistent ductus arteriosus, aneurysms, l stenosis, cardio-respiratory influences, pericardial pleuro-pericardial changes. In aortic insufficiency, the sity of the murmur varies greatly. The site of the mur is not a fixed one in every case. The cause of the ing point of maximum intensity is most interesting. n the murmur has its point of maximum intensity the aortic area it is undoubtedly due to vibration of ortic ring, but when it is elsewhere it must be caused e impinging regurgitant stream producing vibration at part of the wall of the ventricle where it strikes, because of the mechanical differences at the point e leak the direction of the regurgitant stream t constant. A musical quality is not uncommon. ulmonary insufficiency the diastolic lesion is far e constant in its quality and site than that of c insufficiency. A musical quality is exceedingly The maximum intensity of the murmur is s just to the left of the sternum in the second or spaces; it is transmitted by the wall of the right icle and unless intense is not heard at the apex. ersistent ductus arteriosus the diastolic murmur is infrequent and resembles that of pulmonary insuf- cy in quality and site, but is usually shorter and more inuous with the systolic. Aneurysmal diastolic mur- s are of two kinds. The first is due to an actual c insufficiency. The second is quite uncommon and used by the blood being forced out of a distended rysmal sac through its narrow opening during the tole. In initial stenosis, three varieties of the diastolic mur may be found. The presystolic has its maximum sity always at the apex. The second murmur is d between the apex and the end of the sternum. The l murmur is heard just inside the apex and sometimes the end of the sternum. The diastolic cardio-respira- murmur is very difficult of diagnosis. In pericarditis, systolic and diastolic murmurs are heard at some e during its course. The writer gives the history of al cases which illustrate some of the difficulties hich he has called attention.

New York Medical Journal, May 7, 1904.

venile Tabes.—A case of this nature is reported by ed Gordon, his patient being a girl of seventeen years presented from infancy a brachial monoplegia, bably of poliomyelitic origin. According to the author, case is of especial interest for three reasons: (1) presents a rare example of tabetic manifestations de- oped in a patient who showed symptoms of an acute erior poliomyelitis of infancy. All the cases known those of progressive muscular atrophy with a rare olvement of the pyramidal tract (amyotrophic lateral rosis). (2) It puts on record a new case of venile tabes. (3) It also shows that hereditary syphi- tabes, and acquired syphilitic tabes are identical in ir symptomatology.

The Significance of Parenchymatous Change in the dneys.—The conclusions of H. A. Tomlinson, based on nical experience largely verified by the study of similar nditions, both experimentally and clinically, in the wer animals, are: That there is as much difference in e kidney capacity of different individuals as there is the capacity of their other vital organs and the rvous system; that some individuals are born with de- ctive kidneys, not necessarily anatomically incomplete t functionally incapable; that in these individuals a ronic degenerative process is set up early in life; that ey are always, to some extent, the victims of chronic utointoxication, because of imperfect elimination; and that in them the irritation resulting from the retention of the waste products of retrograde metabolism keeps up a chronic congestion in the kidneys, so that from causes which do not seriously affect the ordinary individual, there may arise, and does arise, acute involvement of the parenchyma of these organs, checking elimination, and resulting in more or less explosive outbreaks involving the general organism, and especially the nervous system.

American Medicine, May 7, 1904.

A Modification of Existing Methods for Staining Flagella.—O. P. Johnston presents the following summary of his paper: Those things which seem to insure a good preparation are: Clean cover-glasses; but little organic matter in the film to stain and a heavy background; avoiding fixing the film in the flame, but allowing the mordant to fix it; avoiding heating either mordant or stain on the films, as it tends to produce a precipitate and background. Finally, the all-important prerequisite for staining flagella is to have a film which contains the organisms with flagella extended, and with this one condition fulfilled, no special technique is required other than the use of a mordant. If these conditions are satisfied, no special difficulty will be experienced by any one in staining the flagella. Failure to stain flagella usually means failure to get them in the film to be stained. It has been the experience of the writer that it is practically as easy to stain the flagella as the organism itself. In general, conditions which would seem to lower the irritability of the organisms, tend to give the best films for staining. Such conditions are an even temperature, avoiding sudden changes of temperature in preparing the films, avoiding jarring and allowing the organisms to remain in sterile water for several days or weeks before making the films.

Two Fatal Cases of "Landry's Paralysis," with Autopsy Findings in One of Them.—Theodore Diller reports these cases. In the first, the clinical manifestations ran their course in about nine weeks. The symptoms of ascending motor paralysis proceeding to an extreme degree and producing death by respiratory paralysis, the late appearance of tenderness and pain, the freedom from involvement of the sphincters until five days before death, the unclouded mind all form a most striking symptom-complex. Aside from the rather long course, it is almost the classic picture of Landry's paralysis. Post-mortem examination showed great alteration of the nerve cells in the anterior horns of the lumbar region. The left sciatic and ulnar nerves were partly degenerated. The alteration was that of multiple neuritis. The illness of the second patient began with a severe, sudden pain in the small of his back. It gradually grew less and had about disappeared at the end of ten days, when be began to lose strength in the legs. There was a progressive paralysis, later involving the arms, and finally the nerves innervated by the bulb, this last involvement causing death about six months after the date of the initial paralysis. During the first four months, the disease was of a purely motor type. There was great atrophy. The writer states that this case may be regarded as one of multiple neuritis predominantly of the motor type. But in view of the post-mortem findings in the first case, of the atrophy, of the ascending type of the paralysis and bulbar involvement, he thinks it very probable that a post-mortem examination would have revealed degenerative changes in the motor cells of the cord and bulb. He thinks it likely that the entire lower motor neuron was involved, as in the first case. The case presents clinical features different from those seen in ordinary multiple neuritis, not only in its predominantly motor character but especially in its feature of ascending paralysis. The writer cannot explain the sudden initial pain. Except in its long course, the case is a highly typical one of Landry's paralysis.

The Lancet, April 30, 1904.

Eye-strain as a Cause of Headache and Other Neuroses.—The conclusions of Simeon Snell are as follows: (1) Eye-strain is the cause of a large proportion of headaches, often of a very aggravated character. (2) Various other neuroses are met with in association with headache, and among these may be mentioned the following: mental depression, nausea, indigestion, vomiting, insomnia, giddiness, choreiform movements of the eyelids and face, etc. (3) Relief is afforded to these conditions by correcting the error of refraction which can be ascertained only after careful examination. (4) For such examination a mydriatic is absolutely essential. (5) Frequently no complaint is made of defect of vision. (6) The ametropia is frequently of low degree, 61.2 per cent. of my cases needing 0.75 D. cyl. and weaker. (7) A cylinder of 0.25 D. is of great value (8) Anisometropia is frequently present and requires proper adjustment.

Recent Studies in the Tissue-lymph Circulation.—George Oliver has studied the topics outlined in the title of his paper, noting that the ingestion of food invariably raises the arterial blood pressure and that there is a progressive rise in the percentage of corpuscles and hæmoglobin for an hour after eating, the normal state being reached again about three hours later. There are also similar digestive variations in the specific gravity of the blood, together with variation due to augmented respiratory change and a rhythmical variation of muscular contractibility after food. The author then inquires as to the mode of production of the digestive exudation of tissue-lymph. His data show (1) that the food constituents themselves (fats, carbohydrates, and proteids) do not possess the power of starting the mechanism by which lymph is dispensed to the tissues throughout the body; (2) that nature associates with our foodstuffs small quantities of certain active substances which bring into play that mechanism, though these substances have no practical food value; and (3) that man can artificially increase this natural lymph stimulation by the use of salt and beverages. Oliver further believes that such bodies as uric acid, xanthin, glycogen, and sodium chloride perform an important function in nutrition, for during digestion they act as distributers of lymph to all the tissues, an office which the nutrient constituents themselves are incapable of discharging.

The Treatment of Muco-membranous Colitis.—De Langenhagen notes that the proper treatment of these cases is properly hygienic and that drugs are almost always inefficacious; at times they are even harmful, owing to the alcohol or other irritating substances that are often mixed with them. The physician is, however, obliged to fight against the painful phenomena that accompany colitis, for the patient asks for some relief. To this end belladonna in the form of suppositories should be used, or taken internally in the form of tincture or pills (one grain of the extract in five or six pills for every twenty-four hours), or frictions with an ointment containing mercury and belladonna can be made if a calming effect is desired, or with turpentine if a somewhat stimulating action is preferred. Very hot, large poultices, sprinkled with laudanum, placed on the abdomen also succeed very well; or in the same way applications of large compresses, dipped in a very hot decoction of poppy heads, covered over with impermeable taffeta and with strips of flannel, and kept on the entire night. Indian hemp calms the intestinal spasms very well. A good elastic belt is necessary to hold and to lift up the abdomen in patients who have noticeable enteroptosis. The physician should be chary of using drugs against the dyspeptic phenomena that accompany colitis, since generally these troubles are lessened as the state of the intestine improves; but, according to the case, a little hydrochloric acid may be used, or alkalies, absorbent inert powders (charcoal, chalk, magnesia), and nux vomica.

So-called "Spontaneous Fracture" of the Femur from Secondary Malignant Disease with Subsequent Firm Bony Union.—The patient of T. M. Thomas and B. G. Fiddian was a married woman of forty-seven years whose left breast had been removed for scirrhous cancer fourteen months previous to the fracture. She had had leg pains regarded as "rheumatic" and these were definitely localized over the site of the future fracture, being due presumably to implication of nerve fibrils. One day, while stooping to pick up something from the floor, the left thigh suddenly snapped. Examination revealed a fracture at the juncture of the upper and middle thirds. Seven weeks later it was found that firm union had taken place. The patient died of recurrence of the cancer in breast and liver about ten weeks after the accident. At the autopsy the site of the fracture was cut down on and the upper half or so of the femur was removed *en bloc*. Such firm union of the fragments was found that they could not be torn apart even on the exertion of considerable manual force. A mass of cancerous growth was found wrapping the upper third of the femur loosely round and eroding it at the site of fracture—*i.e.* the upper end of the lower fragment and lower end of the upper—but the rest of the femur was uneroded. The conjoined mass of callus and malignant tissue cut like a scirrhus but with a gritty sensation at parts. It apparently extended from a chain of malignant glands which passed down from behind Poupart's ligament and seemed to have acquired an attachment to the periosteum. There was distinct overlapping of the fragments and to this union seems to have been due, for by this means unimplicated portions of periosteum were brought into apposition, not the diseased extremities of the fragments.

Deutsche medizinische Wochenschrift, April 14, 1904.

Syphilitic Changes in the Vagina.—Rille thinks that the primary lesion is more frequent than other observers will acknowledge. He has seen it in twenty-one cases, and thinks that the comparative rarity is due to the firm character of the squamous epithelium of the vagina, to the mass of secretions which probably dilute the virus or render it powerless, or to the mobility of the vaginal walls. The vaginal chancre is usually small, slightly indurated, and of rather short duration, and the latter characteristic accounts for their being so infrequently observed, in the author's estimation. The inguinal glands are only involved when the lesion is situated in the anterior third of the vagina. Soft chancres are equally infrequent but can be more readily diagnosed. Secondary exanthemata are undoubtedly rare. Rille has never seen a macular syphilide, but has seen the papular lesion which becomes particularly well marked during pregnancy. Chancre of the vaginal portion of the cervix is not uncommon. It is more usual on the anterior lip, and when these gape, the lesion may extend into the canal. He describes the lesions very carefully and draws attention to the necessity of examining this region in suspected cases.

Operative Results in Peritonitis after Appendicitis.—Trendelenburg discusses indications for the surgical treatment and the prognosis in peritonitis resulting from appendical inflammation. He bases his observations on statistical evidence presented by a series of eighty-six cases treated by operation. As it is impossible to define the limits between circumscribed and general peritonitis, for one merges into the other, he does not recognize the distinction. Of the eighty-six cases, 64 per cent. died and 36 per cent. recovered. It was also found that the prognosis was about twice as favorable before the thirty-fifth year than during later life. He states, moreover, that the chances are better for the operation after repeated attacks than if done during the first attack. The origin of the peritonitis also has an important bearing on the prognosis. It seems that when the infection comes from the perforated appendix, the prognosis is more favorable than when it dates from a localized appendical abscess, even when the latter has been shut off in some other part of the abdomen. The time of operation is very important. The author's figures show that if the operation is done on the first day after the peritonitis has begun, four-fifths of the patients may be saved, on the second day, about two-thirds, and on the third day, none.

Unusual Outcome and Sudden Death in Typhoid Fever.—Curschmann describes a number of irregular cases of typhoid fever in which death occurs during what are apparently the first days of the disease. He claims that these are instances of ambulatory typhoid, so called, and that the disease has been present longer than was suspected. The majority of these cases end fatally from intestinal hemorrhage or perforation peritonitis. Curschmann is inclined to believe that the latter complications occur more frequently in the ambulatory form of typhoid fever than in the typical cases. This seems mainly due to the fact that the patients are more exposed to errors in diet and bodily exertions. Hemorrhages come on suddenly without any premonitory signs even more often than perforations, but as the latter almost always end fatally, they receive greater attention in mortality statistics. Hemorrhages end in death in only about 30 to 40 per cent. of cases. Other conditions which bring on sudden death are quite rare when compared with the intestinal lesions. He mentions a case of pulmonary embolus and one of septic metrophlebitis. Another unusual type is the hemorrhagic form, of which the author has seen six cases. This is marked by hemorrhages in the skin and internal organs, similar to what is seen in certain other acute infectious diseases. Children seem to be most often affected by this type, and from his own observations he believes that alcoholics are also predisposed.

Dangers of Intrauterine Injections.—Zweifel reports a case in which he tried to induce abortion for cardiac disease by means of Kunne's method, which consists of intrauterine injection of sterile water under the most careful antiseptic precautions. In this case the patient went into sudden collapse, marked by convulsive twitchings, and followed by hæmoptysis, hæmoglobinuria, chill, and rise of temperature. The woman recovered. The entrance of air and the absorption of toxic materials could be excluded, but the author thinks that the most likely explanation of the symptoms depends on the fact that the water dissolved some of the blood in the uterus, caused the formation of clots, leading to pulmonary infarct and hæmoglobinuria. This train of symptoms has been observed in animals, in whom water was injected into the circulation. The pregnant uterus is particularly susceptible to this complication owing to the condition of the blood-vessels, and less danger is present during the puerperal state. In gynecological patients, in whom the mucous membrane is intact, the injection may sometimes

be followed by attacks of colic, and later on by peritonitis. This was especially marked when irritant applications were used. Zweifel believes that the materials can find their way into the abdominal cavity through the tubes, for in a case of carcinoma uteri he observes that a disinfecting solution injected into the cervix came out through the fimbriated extremity of the tube. He therefore urges that in all cases only a few drops of a liquid be employed when making applications to the interior of the uterus, and when injections of a larger volume are required, the os must be kept well dilated so that proper return flow is provided.

Berliner klinische Wochenschrift, April 18, 1904.

Contributions to the Study of Hematology.—J. Mitulescu has made some practical experiments in order to determine whether in making quantitative hæmoglobin tests, there is any essential difference between the results obtained by methods based on colorimetric or chemico-colorimetric observations. He suggests that in each case the readings be made quickly, as the color changes quite rapidly. A series of observations in twenty-three cases shows that the results obtained are practically parallel, with the exception of those instances in which the hematin became dissolved by the action of hæmolytic substances, in consequence of which the iron content of the blood serum was increased, or when evidence of other coloring matters of the blood was prominent. In ordinary cases, therefore, the colorimetric method is sufficient, but when the presence of a hæmolytic process is suspected and an accurate analysis is necessary, both methods are required.

Constitution of Tetanolysin.—Hans Sachs has published the results of observations which are based on the following questions: (1) During the reaction between tetanolysin and antilysin, assuming that the mixture contains equal parts of toxin and antitoxin, is there any variation in the condition of equilibrium, and (2) in consequence of this, is the reaction between these two substances reversible? As the result of an elaborate series of experiments with these two bodies, he claims that there can be no question that the tetanolysin is an homogeneous substance, which unites with the antitoxin in a manner similar to that which takes place in the reaction between boric acid and ammonia. This fully opposes the view taken by Madsen and Arrhenius, who ascribe the process which takes place between tetanolysin and antilysin entirely to a reversible reaction.

French and Italian Journals.

An Abnormal Location for the Lesion in Appendicitis.—Routier gives the history of this case. The general condition did not seem to be serious. The temperature was scarcely above normal, although the pulse was 108. There was a decidedly painful spot in the iliac fossa; the abdomen was not distended, and it was impossible to learn from the patient anything about the action of the bowels. At the operation, Routier, not finding the appendix in the usual place, was obliged to explore the ileocæcal angle of the abdomen. He found that the appendix was entirely included between the two layers of the mesentery from which it could be separated only by incising the inferior layer. The appendix was gangrenous, and was near the stage of perforation. The appendix was excised and the wound was drained. Recovery took place.—*La Presse Médicale*, April 16, 1904.

The Finsen Method in the Cure of Lupus.—Eugenio Calvello writes of his experience in the use of the ultra-violet rays for the cure of lupus, etc. The two properties of actinic light, the stimulating and the bactericidal, render it of the greatest use in the cure of this most chronic, tenacious, and disfiguring malady. But the Finsen method is difficult of application and expensive, and the management of a current of 80-100 ampères is not easy. From the apparatus emanate, as well as the chemical rays, numerous heat rays, which are capable of injuring the patient. In place of carbon electrodes an especial arrangement has been made by Bang with iron electrodes cooled by a moving stream of water. This the author has found of great use in the treatment of his patients. Compression is not necessary to eliminate the blood from the tissues, and the electrode can be placed quite near to the diseased area. He mentions two obstinate cases of lupus that had resisted all efforts by caustics, cautery, etc.; these were treated in his clinic, one receiving eighty, the other forty-eight treatments. Both resulted in a perfect cure, with a perfectly normal skin overspreading the former diseased and disfigured area.—*Giornale di Elettricita Medica*, March and April, 1904.

A Case of Angioma Cavernosa of the Trapezius Muscle.—Roberto Alessandri describes a case observed by him of angioma of the right trapezius, and gives an account of all the cases to be found in literature, 77 in number. The affection is a rather rare one. Lubarsch says that the tumors of striped muscle are rare; cavernous tumors are the most frequent, and arise from the connective tissues. Four varieties may be distinguished, capillary, venous, cavernous, and arterial. The author's case occurred in a young, healthy, married woman. It commenced as an indolent swelling above the clavicle on the right. It was the size of half an orange, with a large base, compressible and not pulsating. The superimposed skin was quite normal. The tumor was successfully removed, and found to originate from the trapezius muscle; it was cavernous in structure, divided by fibrous septa into lacunæ containing endothelial cells; the cavities were for the most part empty, but some contained normal blood.—*Il Policlinico*, March, 1904.

Thermogenesis in the Electrostatic Bath.—Raffaele Pisani has arranged an apparatus for estimating the heat produced in the bodies of patients while undergoing the electrostatic bath. The apparatus is provided with a needle which registers the curve produced by the heat generated on a cylinder, in the form of a tracing, as the sphygmograph registers. He made the observations on perfectly healthy persons, who were directed to remain perfectly quiet while the bath was going on, so as not to interfere with the registry of heat production. Each bath was twenty minutes long. His conclusions are as follows: (1) Static electricity in the form of the bath increases the calometric curve; (2) this elevation is greater with the positive current and less with the negative, and is proportional to the duration and intensity of the application; (3) such an elevation is due to a greater production of heat, which is increased by the electric bath from a minimum of 10 calories to a maximum of 32 calories; (4) the electrostatic current produces an increase of temperature in the body, greater in the positive bath, less in the negative.—*Giornale Internazionale delle Scienze Mediche*, March 15, 1904.

The Action of Light Baths upon the Circulatory Apparatus.—G. Arienzo describes the effects of light upon the circulation. Carbonic acid elimination is increased by the action of light baths. The author's researches were made to ascertain the therapeutic effects of light baths in cases in which the heart was affected. They have been used in cases in which there were disturbances of the circulation, such as dropsy, hydrops, stasis from hypertension or hypotension of the arteries. Roth advises their use in obesity, when there are circulatory disturbances. They have been used in old persons with the cardiac phenomena of marasmus, or with aortic insufficiency, etc. They may be used to produce diaphoresis, since they do not produce a frequent pulse and respiration, while they do increase the fulness of both. The author took tracings of radial and carotid pulsation, and counted the pulse and respiration before the bath; he then administered the bath at 30°, increasing to 60°, and for 20-40 minutes. He found that pulse and respiration increased in number as the heat increased, for 20 minutes, and then began to decrease. In from 5 to 20 minutes the pulse and respiration returned to normal. Over the carotids there was a manifest increase in amplitude and rapidity of pulsation. Hence, the light bath, used even for 40 minutes, does no harm to the patient.—*Annali di Elettricita Medica e Terapia Fisica*, March, 1904.

Bacteriological Researches in Some Cases of Typhoid Fever.—P. Stefanelli and E. Cumbo have made very careful researches in twenty-one cases of undoubted typhoid fever, as to the presence of typhoid bacilli in the urine and its value in diagnosis. Some have supported the theory that the presence of typhoid bacilli is due directly to the disease; while others consider it to be due to a severe accompanying albuminuria due to renal complications. The authors examined most carefully twenty-one cases in the Medical Clinic in Florence, with regard to bacilli in the urine and in the blood; extending their researches to the colon bacilli and the bacilli of pseudo-typhoid. The Widal reaction was always demonstrated to be present. They conclude as follows: (1) typhoid bacilli are often found in the urine of patients affected with this disease, and their presence is of diagnostic value; (2) they are found even in cases in which there is no albuminuria; (3) they may be found at any period of the illness; (4) they may persist throughout the entire illness, or their presence may be transitory; (5) their presence has no relation to the gravity of the disease, or to the prognosis; (6) bacilli found in the blood and urine may have only slight agglutinating power; (7) we may find colon bacilli which will agglutinate in a dilution of 1.30, with serum of the same of another patient; (8) in some urines we get bacilli of the colon which may or may not agglutinate with serum; (9) there may be found typhoid bacilli in urine which do not correspond entirely with the Eberth bacilli; (10) these may be true typhoid bacilli even if they possess only slight agglutinating power.—*Rivista Critica di Clinica Medicina*, March 12, 19, and 26, 1904.

Poisoning by Sublimate.—Spillman and Blum report an interesting case. A young woman of thirty years drank liquid containing three grams of sublimate. She passed forty-eight hours without any symptoms save amaurosis. Then, suddenly, there appeared a fetid diarrhœa. Gradually, the stools became hemorrhagic. Symptoms of salivation developed, and also gingivitis. The face and tongue became œdematous. Convulsions came on, and the patient died twelve days after drinking the sublimate. At autopsy, gangrene of the cheeks and gums was found, œdema of the glottic region, two small ulcerations of the œsophagus, œdema of the stomach, enteritis, gangrene of the rectum, vegetations of the mitral valve, and a softening of the right occipital lobe. The two kidneys were large and white. The course of the case was most unusual.—*La Médecine Moderne*, March 23, 1904.

Glandular Cysts of the Pancreas.—F. X. Gouraud states that cysts of the pancreas are rather rare. It is an affection of adults, and is most often found between the ages of twenty-five and forty-five but it has been observed in the aged, and on the other hand Railton has reported a case in an infant of six months which was operated upon. As to the causes of this affection, trauma is a frequent one. In ninety-six cases recently reviewed by the writer, sixteen have been found in which trauma of some kind seems to have been the starting point of the cyst. It is hardly necessary to mention the processes, which lead to sclerotic pancreatitis; infectious processes such as typhoid fever, gastroenteritis, tuberculosis; or the toxic processes, such as alcoholism. Nearly always the malady begins insidiously with troubles of digestion, slight weakness and vague pains in the left hypochondriac region. It is during the first period of very variable duration when diagnosis is impossible. When the tumor appears it grows rapidly, and the functional symptoms increase while the phenomena of compression begin. At this time diagnosis and intervention are possible. This is the second period. If, however, intervention is not made, there develop cachexia, and vascular, and digestive troubles which are almost like those of large abdominal tumors. This is the third period, cachectic and terminal. Complications of pancreatic cyst are rare and of little importance. It is of itself a serious malady, and if intervention does not take place death comes at the end of a year or two. As to operation, one must be guided by the clinical variety of the cyst. Total extirpation is indicated if the cyst is accessible and well pediculated. On the contrary, the surgeon must be content with simple incision with drainage, which almost always brings about cure.—*Gazette des Hôpitaux Civils et Militaires*, April 2, 1904

Contribution to the Subject of Tetanus in Pregnancy.—Ferruco Griziotti details the case of a patient of thirty-six years, who had eight pregnancies, in the last five of which she was affected by tetanic seizures. All ended normally with five children. The first attacks began at the fifth month of the fourth pregnancy, with tonic contractions of the upper and lower extremities, occurring three or four times a day. The contractions were accompanied by severe pain, nausea, vomiting, lessened visual faculty, and diplopia; consciousness was preserved. The attacks were less frequent after the eighth month, and ended with parturition. There were marked trophic disturbances of the nails, which necrosed and fell off, but were soon reproduced. These symptoms recurred with each succeeding pregnancy, while in the intervals they were entirely absent, and her health was excellent. If at the time of pregnancy an Esmarch's bandage was placed about the arm a tetanic contraction would be produced. A simple digital compression of the nervo-vascular apparatus had the same effect; pressure or compression of the muscles of the face would cause contraction and a peculiar expression of face. The deep and superficial plantar reflexes were exaggerated. There was slight hyperæsthesia. Examination of the urine and digestive apparatus sho wed only normal conditions. Bromide of potash diminished the seizures. At the time of labor, when vaginal examination was made, it was observed that when the uterine contraction began, an attack was brought on. Increased galvanic irritability could be demonstrated in this patient. The theories of the etiology of tetanus in pregnancy are the nervous, infective, and the toxic. The nervous theory, maintained by Charcot and Raymond, attributes the contractions to hysteria. The author's case showed absolutely no stigmata of hysteria. No microbic agent has yet been found to account for the tetanus on an infective basis. There remains the toxic theory, according to which the contractions are due to self-poisoning of the mother by retained excretions. This seems the most rational of the three. Yet the examinations of the excretions in the author's case revealed nothing abnormal.—*Archivio di Ostetricia e Ginecologia*, February, 1904.

Relations of Ocular Affections to Organic Maladies.—M. E. Valude, in discussing the affections of the digestive apparatus, states that their effects on the eye act generally by means of an autointoxication, or by a generalised asthenia. Chronic affections of the digestive apparatus end often in a profound neurasthenia, with which ocular troubles characteristic of this condition are associated: accommodative asthenopia or insufficiency of convergence, nervous retinal fatigue, photophobia, ophthalmic migraine, and so on. It has been noted that patients afflicted with enteritis are sometimes subject to glaucoma. The affections of the liver have such a marked influence on vision that the discovery of certain special ocular lesions ought to suggest immediate examination of this organ. Conjunctival xerosis, hemeralopia with or without alterations of the fundus, and, in a slight degree, xanthelasma of the eyelids are seen. Affections of the pancreas do not directly influence the ocular apparatus. Disorders of the respiratory apparatus scarcely have any effect aside from mechanical, upon vision. As to blood changes, alterations in this fluid act directly or indirectly upon the eye. Anæmia affords a good example: In this trouble may be observed almost always quite a marked degree of accommodative asthenopia. Not infrequently in these patients are seen small papillary vegetations on the conjunctiva of the lower eyelid. In pernicious anæmia are found hemorrhages of the fundus of the eye.—*Le Bulletin Médical*, March 23, 1904.

Hemi-resection of the Elbow by Internal Lateral Incision.—Gangolphe reports the case of a patient aged twenty-seven years who had fallen upon her elbow two months previously. There had resulted a backward dislocation of the right elbow which her physician had been unable to reduce. The writer immediately made a hemi-resection of the elbow (the inferior extremity of the humerus) by a single internal lateral incision. The sigmoid cavity of the ulna, and the radial cup were filled up with fibrous formations as well as a growth of periosteum which the writer easily removed. Five days later the first dressing was changed and the drain removed. On the seventh day after the operation the wound was perfect. The movements of flexion and extension could be made at an angle of forty-five degrees.—*Lyon Medical*, April 3, 1904.

Semeiology of the Mastoid and Pre-auricular Ganglia.—Lamacq-Dormoy declares that mastoid adenitis, aside from the lesions of the scalp and adjacent skin, is a sign of inflammation of the rhinopharynx, and ought to claim the attention of the clinician, because he will be able by an early diagnosis to avoid the extension of the inflammation to the middle ear and to the mastoid region by means of appropriate treatment. The writer then gives a few notes of a case. The patient was a man of forty-three years, who had coughed for several months, especially at night, when lying down, and in the morning on getting up. He expectorated but little, was gradually growing thin, suffered from rigors, and the least exertion oppressed him. The writer found cough inspiration at the apices, but no other symptom. The patient denied having sore throat. Finally the writer made out small but very painful ganglia in the mastoid region as well as in the pre-auricular. He instituted a simple local treatment of the nasopharynx and the patient was cured in fifteen days.—*Gazette Hebdomadaire des Sciences Médicales de Bordeaux*, April 3, 1904.

Annals of Surgery, April, 1904.

Traumatic Asphyxia.—H. H. A. Beach and F. Cobb report a case of their own, studying also the minute pathology of the affection and summarizing cases previously reported—only six in number. Their patient was a man who had been caught by a moving freight elevator. He was unconscious for a few minutes after being released, and during his release it was stated that his face became black, that his eyes protruded, and that blood ran from his nose and mouth. It was apparent that he had been subjected to violent trauma, from the groins and buttocks to the mid-thoracic region. The lesions found are enumerated, and the authors pass to the condition of the skin. The face seemed to be dotted with countless spots, from black and reddish-black to blue in color, very close together, while between the spots were lines or areas, very minute, of normal appearing skin. These spots were plainest at the line of the hair on the forehead and close to the normal skin on the neck. The line of demarcation in the neck in front was sharp, the transverse line running through the inner ends of each clavicle; this can be seen in the picture. What has not been noted in any other case, is that the double triangle of the trapezius muscle was marked out very clearly. No retinal hemorrhages were found. A hæmatoma on the back required frequent packing, and finally free incision and packing. The discoloration of the skin faded rapidly after the third day, while the sub-

junctival discoloration went through the usual changes after any blood-clot. The patient made a good recovery.

Operation in Spinal-cord Injuries.—The advantages of surgical intervention in this class of injuries are thus enumerated by P. J. Mixter, and H. M. Chace who report two cases: (1) Operation removes depressed fragments of bone apparently lying against the cord; (2) It removes blood-clots; (3) Allows the escape of exudate and makes room for inflammatory thickening; (4) If extensive hemorrhage is present, either extral or intradural, it relieves pressure from the cord. Cases in literature have shown that degeneration from pressure appears within four days; if a cord is injured by crush and not totally destroyed, the continued pressure of a blood-clot may succeed in completing total destruction. (5) Traumatic spinal œdema may be of such extent as to demand greater space for enlargement of the cord to avoid further destruction of fibers; (6) There is absolutely no method by which one can early diagnosticate slight or great pressure of a fragment of bone, the pressure of a small or a large hæmatoma, whether there is a momentary pinch of the cord or constant pressure; (7) The fact that the cord looked normal in the two cases reported does not preclude the possibility that pressure had existed, nor prove that a condition had existed in which drainage and relief of pressure were not distinctly beneficial; (8) The patients do not suffer from any ill effect of the operation *per se*, the dangers of operation are very slight compared to the possible benefit to be derived therefrom; and the further satisfaction is obtained that the surgeon *knows* that continued pressure does not exist.

The American Journal of the Medical Sciences, May, 1904.

Experimental Studies of the Etiology of Acute Pneumonitis.—Augustus Wadsworth has been able to determine by means of an accurately controlled series of experiments which allowed of precise comparison, the effect of increasing or diminishing the virulence of the incitant, the pneumococcus, in systemically predisposed, in locally predisposed, and in both systemically and locally predisposed animals. These experiments, the writer declares, show that the excitement of diffuse lesions in the normal rabbit is extremely uncertain, and only possible in the predisposed rabbit when both the general and local susceptibility are increased and when organisms of comparatively low virulence are used. Thus, and owing chiefly to the fact that the lung surface acts as a barrier to infection, the development of acute exudative pneumonitis offers an especially clear example of the nice balancing of the essential condition determining infection. These conditions are, on the one hand, the specialization or virulence of the incident, and, on the other hand, the animal susceptibility, both local and systematic. Organisms of low virulence induce evanescent bronchial reactions; more virulent organisms, by a local infection, give rise to the more typical bronchopneumonic lesions; while organisms of still greater virulence, if confined to the lung, incite diffuse processes of the lobar type, but if not so confined and bacteriæmic infection occurs, the lung lesions are less marked and of the bronchopneumonic type. The extremely fine balance of these conditions essential to the formation of lobar lesions in normal as well as in predisposed animals is as yet, for practical purposes, beyond experimental control. The writer states, finally, that as a result of these systematic researches on normal and predisposed animals an entirely new procedure was adopted; the preliminary immunization of the rabbits so that extremely virulent cultures of pneumococci can be used without giving rise to bacteræmic infection. The experiments with this procedure showed that diffuse exudative lesions comparable to the lobar pneumonia of man may be incited experimentally in the immunized rabbit; and that in securing this result there are but two chief variable factors. The virulence of the incitant and the immunization of the animal; both easily and accurately controlled by the routine technique of the modern laboratory.

Nasal Syphilitic Tumors.—Max Toeplitz declares that the tertiary manifestations of syphilis, in the nose the most frequent, are often seen very early. The anatomical lesion is a gummous infiltration of the mucous membrane, dependent affection of cartilage, periosteum, and bone, and simple infiltration, with softening, ulceration, either from without, inward, or inversely. The favorite seat of the infiltration is the septum. The tumors are either extremely large gummata or so-called granulomata. The writer gives an account of several patients afflicted with these growths. These tumors obstruct the nose when large enough and discharge fibrinous, smeary, and purulent secretions. They cause pain in the head, face, shoulder, and paralytic weakness in the arm. They are of variable size and are implanted upon the mucous membrane with a broad or pedunculated base. They are red, reddish gray, not quite smooth, and show frequent erosions but rarely ulcerations. The tissue is boggy, brittle, still without tendency to decay, its main distinction from gumma. Many histories could be related in which the microscopical examinations revealed apparently a sarcoma which disappeared under anti-syphilitic treatment. The diagnosis of these tumors is difficult if the patients do not show other syphilitic signs and the history does not furnish any support. The new formations are true tumors, pure connective tissue growths originating from the submucous connective tissue. The giant cells, which resemble the tuberculous giant cells of Langhans, are proliferations of endothelia from the walls of small veins and the leucocytes also take part in their production. The fibrous connective-tissue stroma is the distinguishing feature between these tumors and a round-celled and spindle-celled sarcoma, in which the fundamental substance in sparse and more homogeneous or slightly granular. In one case described, the tumor consisted of cellular tissue of moderate vascularity, mostly round cells and young connective-tissue cells. Besides it contained a large number of partly rounded, partly elongated giant cells, with numerous processes and marginal nuclei, and at some places firmer tracts of connective tissue. The clinical proofs are the history and other syphilitic lesions. The best criterion for the diagnosis is the success of the anti-syphilitic treatment.

Distribution of the Ulcers in Typhoid Fever.—Joseph Louis Baer gives a review and discussion of the literature on this subject and an analysis of his series of eighty-nine cases. After presenting statistics, the writer states that several facts worth noting are brought into prominence. Probably the most striking among these is the wide distribution of the typhoid ulcers. They are found in every division of the alimentary tract excepting the mouth, and they are found also in the larynx and trachea. Gastric ulceration, though very unusual, is now regarded as quite possible in typhoid fever. The duodenum is the second rarest site for typhoid ulcers, only three cases being found. The low percentage of ulcers in the jejunum, $5\frac{1}{6}$ per cent., calculated from a total of 1,358 cases, confirms the general impression as to the infrequency of jejunal involvement. Involvement of the ileum is found in 89 per cent. of the cases. Ulceration of the small intestine in any part has been recorded in 97.5 per cent. of 623 cases. Ulceration of the common bile-duct is the rarest site for typhoid ulcers. One case is reported in a series of 439 cases. Involvement of the large intestine alone was not found in any statistics of the literature. In the present series, however, 5 cases were found. The one important factor in determining the seat of the lesions is the extent and character of the lymphatic apparatus of the part. Yet the frequent occurrence of pharyngeal and laryngeal involvement, indicate that accidental lodgement of the typhoid bacilli is another factor of considerable importance. The fact that there are many cases of typhoid fever without ulceration points to the existence of other possible factors, such as a lowered resistance of the gastrointestinal mucosa, which in these cases without ulcerations has reached its lowest ebb.

On the Surgical Importance of the Visceral Crises in the Erythema Group of Skin Diseases.—William Osler states that the possibility of mistaking these visceral crises for appendicitis or intussusception, or obstruction of the bowel and handing the patient over to the surgeon for operation, is by no means remote. The writer gives a short history of three cases in which laparotomy was performed and draws from them the following practical lessons: First, in children with colic, the greatest care should be taken to get a full history, which may bring out the fact of previous attacks, either of skin lesions, of arthritis, or of intestinal crises; secondly, there should be made the most careful inspection of the skin for angioneurotic œdema, purpura, or erythema. It should also be remembered that recurring colic may be for many years the sole feature of this remarkable disease; and the obscurity of the attacks of colic may not be cleared up till the final appearance of skin lesions. In one of the cases here reported, the intestinal crises, in combination with arthritis and the renal features, leave no doubt as to the diagnosis, The writer says that in the next attack there may be purpura or angioneurotic œdema, or an acute nephritis may occur alone. The colic is the most constant of the visceral manifestations, occurring in twenty-five of the twenty-nine cases in the author's series. It seems never to be dangerous. In no case recorded has death resulted from intestinal causes, according to the writer's belief.

Society Reports.

ASSOCIATION OF AMERICAN PHYSICIANS.

Nineteenth Annual Meeting, Held in Washington, D. C., May 10 and 11, 1904.

Dr. Wm. T. Councilman of Boston, in the Chair.

TUESDAY, MAY 10—FIRST DAY.

The President's Address.—Dr. Councilman, after welcoming those present, advocated the removal of limitation of membership, and also asked that membership in the association be limited to twenty years after which they would be placed as honorary members. In this manner at least seven new members could be acquired each year.

The Influence of Suprarenal Extract upon Absorption and Elimination with Demonstrations.—Dr. S. J. Meltzer and Dr. John Auer of New York presented this communication. A description of experiments to establish the retarding effect of suprarenal extract upon absorption and elimination was made by Dr. Meltzer. When adrenalin was given to frogs they rapidly became paralyzed, and this effect was not a muscular paralysis, for it could be demonstrated that stimulation of the sciatic nerve resulted in muscular contraction as occurred in normal muscles. The paralytic effect, therefore, was a central one. This same effect was shown in rabbits. If .6 mg. of strychnine was injected there followed a fatal effect of tetanic nature in from fifteen to twenty minutes; but if adrenalin was first injected there would be no tetanic effect at all, and this was explained by the delayed absorption. Further studies were made with some substance which was harmless to the animal, as fluorescin; this was injected subcutaneously into a rabbit, and after a few minutes the conjunctiva became yellow, the mucous membranes, the urine and the skin. When adrenalin was given it appeared considerably later, showing again delayed absorption. It was also proven experimentally that not only was absorption delayed, but also elimination.

Polyuria in Typhoid Fever.—Drs. M. H. Fussel, H. S. Carmany, and H. Hudson of Philadelphia presented a paper on this subject. A man, forty years old, was admitted to the hospital on the eighth day of his fever, April 15. The temperature ran the ordinary course. On May 7 it became and remained normal until his discharge. He was an extremely nervous individual. April 23 he had a slight intestinal hemorrhage. When he entered the hospital he had been getting 5 grains of salol every three hours, which gave rise to the presence of salicylic acid in his urine. He was bathed, but not tubbed, and was given eleven baths. The first twenty-four hours after his admission he passed 1200 c.c. of urine; the second, 1,500 c.c.; the third, 7,000 c.c.; the fourth, 7,200 c.c., and then it dropped to 3,500 c.c., where it remained for some time. The polyuria really was a complication of the disease because it disturbed him so much. The skin was dry, and he was very restless. One year after this attack he was examined again, and the urine was found to be normal.

Polyuria in Typhoid Fever.—By Dr. James C. Wilson of Philadelphia (read by title.)

Dr. George Dock of Ann Arbor, Mich., said that the elimination of water in typhoid fever in the beginning was but little, there being actually a retention of fluid within the body; soon after the amount of fluid excreted was increased, until at last there was a polyuria; observations he had made confirmed this. He thought that a later diminution in the excretion of the urine could be explained by the weakening of the heart's action and a lowering of the blood pressure.

Dr. William Osler of Baltimore said that polyuria that occurred in tuberculous peritonitis, in retroperitoneal tumors, in aneurysm of the abdominal aorta, etc., might be the result of local irritation.

Dr. Fussell, in closing the discussion, said that the more water that was discharged the less hysterical the patient seemed to be.

Cases of Venous Thrombosis Occurring in the Course of Typhoid Fever.—Dr. W. S. Thayer of Baltimore read this paper. He said that his observations were taken in Dr. Osler's wards at the John Hopkins' Hospital, and out of 1,462 cases of typhoid fever there were 39 instances of venous thrombosis, or 2.6 per cent. In 5 of these 39 cases a fatal result was recorded. The lower extremity was the seat of the thrombosis in all but a very few of the cases. In 21 instances the thrombosis was in the femoral vein, popliteal vein in 5, iliac vein in 5, in the calves of the leg 5, in the saphenus vein 3, etc. In 36 cases the development of the condition was associated with fever; in 3 there was none. In 26 cases the fever was intercurrent; in 13 the temperature was normal at the time the thrombosis was first noticed. In 11 of the 39 cases the complication was associated with chill. The first distinct symptom was pain, and, in the instances of femoral thrombosis the pain was along the course of this vein. In 22 of the cases a leucocytic count was made, the highest recorded being 24,864; this was in a case of iliac vein thrombosis occurring during the third week of the disease. The lowest was 2,700, and this occurred on the day after the onset of the thrombosis. In all of the instances there was more or less prolonged disability. In 6 cases there was œdema lasting several weeks and longer; in 4 there was severe cramps in the legs; in 1 the patient complained of severe pain in the leg and thigh, especially after standing. The following brief conclusions were drawn; In 28.2 per cent. of the cases the venous thrombosis was associated with chills, and, in most of the cases, there was an increase in the leucocytic count, depending upon the extent of the lesion. In cases of sudden severe pain in the lower part of the abdomen and associated with leucocytosis the possibility of iliac thrombosis should be carefully considered. He emphasized the fact that thrombosis of the veins of the lower extremity was a very serious condition, and the after-results should not be lost sight of. Marked varicosities may be present and lead to more or less permanent disability, as illustrated in a photograph he showed.

Dr. George L. Peabody of New York referred to the giving of calcium salts to increase the coagulability of the blood. This coagulability of the blood could be diminished and the likelihood of thrombosis lessened by administering citric acid which reduces the solubility of these salts.

Dr. Alfred Stengel of Philadelphia said that at times the general symptoms preceded the local signs. He referred to one case; this patient entered the hospital in the convalescent period with a marked septic fever, temperature reaching 106 or 107°, decided chills and sweating, without there being any local symptoms whatever. The leucocyte count was 7,000. The general appearance of the patient, the emaciation, the absence of leucocytosis lead to the tentative diagnosis of post-typhoidal thrombosis.

Dr. William H. Welch of Baltimore said that the French school favored the old view that these cases were of primary origin due to infection of the venous walls and subsequently a phlebitis. Importance was also placed upon the increased pulse rate as an important sign.

Dr. W. Gilman Thompson of New York said he had under observation eight cases of femoral thrombosis, all these patients having suffered from general weakness and œdema for from six to ten years.

Dr. James Tyson of Philadelphia ascribed the pain accompanying thrombosis to vascular obstruction, such as occurred in angina pectoris and in cramps in the calves, etc.

Dr. William Osler of Baltimore spoke of the difference between phlegmasia dolens after puerperal fever and the thrombosis of typhoid fever. In the latter, one might

may, it gave the typical picture of post-partum phlebitis, with the swelling, the white color, the pain which may or may not be localized but not extremely agonizing, as in post-puerperal cases. He did not believe these cases were quite as severe as ordinarily stated. He had known of several cases in which recovery was complete and the circulation established. He believed that the patients with femoral thrombosis should blame their parents because the thrombosis depended upon the venous arrangement: if a man was well put together and had a well-arranged venous circulation, he could have a femoral thrombosis and yet recover with a good circulation.

Clinical Studies in Arteriosclerosis.—Dr. ALFRED STENGEL of Philadelphia read this paper. He considered the blood-pressure conditions in both the early and in the later stages of arteriosclerosis. The blood pressure was ascertained by means of an instrument devised by Dr. Stanton, and was of value in that it recorded both the diastolic as well as the systolic pressure. Systolic pressure in arteriosclerosis was not necessarily high, but the diastolic blood pressure was always high until that time when the myocardium was diseased and failed. Therefore, the diastolic blood pressure was the most imporant factor to determine in this disease. Sustained pressure was, of course, more characteristic. He next spoke of the blood changes, contrasting them with the appearance of the patient. He said that all knew the arteriosclerosis facies, the pallor, etc., which appeared rather rapidly. He had seen cases with such changes that made him suspect malignant disease. In examining the blood of these people one always finds unexpectedly a high blood count. Whether this was due to inspissation of the blood or to the same cause that was effective in producing European tropical anæmia, was a question he could not answer, although he favored the latter view. The condition of the urine showed a great variability in the amount excreted and in the specific gravity. Sustained systolic blood pressure and sustained first heat sound were considered. He said that one of the first evidences of cardiac sclerosis was a sustained and prolonged character of the first heat sound before the myocardial degeneration appeared, and this was a very important point in determining the early development of arteriosclerosis.

Dr. S. SOLIS COHEN of Philadelphia said that many factors were involved in the estimation of the blood pressure in these cases. In his own clinical observations he said he was inclined to lay great stress upon the prolongation and impurity of the first sound. Regarding the condition of the urine, he had not only found changes in the specific gravity but also in the toxic content.

An Investigation of the Effects of Cardiac Stimulants, Especially Strychnine, on the Blood Pressure in Febrile Conditions.—Dr. R. C. CABOT of Boston considered this subject and gave the measurements of the maximum and minimum blood pressure made with the Stanton modification of the Riva Rocci instrument in febrile cases before, during, and after the administration of strychnine both by mouth and subcutaneously. Among these cases were 31 of typhoid fever, 4 of pneumonia, and 15 with a variety of diagnoses. Over 5,000 measurements were taken and the total results were negative. One-eighth to one-sixth of a grain of strychnine were given, careful records were taken, and all with negative results. The emotions caused by the sight of a friend, by the sight of food, etc., caused as great an increase in the blood pressure as did the drug.

Dr. ALFRED STENGEL of Philadelphia said that the results obtained by Dr. CABOT substantiated the views of the French school, that this increase in the blood pressure was a vasomotor disturbance; this was shown by the increase in it through certain emotions.

Dr. HOBART A. HARE of Philadelphia said that strychnine was not a cardiac stimulant, although the profession in general used it as such, as they used to give digitalis. All must be convinced that the drug was much abused in typhoid fever, in pneumonia, and in diseases in which stimulation was greatly desired. Strychnine did not act in the sense that it increased the force of the circulation; he thought it acted simply as an irritant and produced its effect upon the nervous system akin to whipping a horse.

A Supposed Cause of High Tension Pulse in Nephritis.—Dr. WM. H. THOMSON of New York read this paper, in which he stated that a high tension pulse occurred too early in nephritis to be due to any other cause than the presence in the blood of a general vasoconstricting agent similar in its properties to adrenalin, and that such an agent would also produce constriction of the renal vessels and general shrinkage of the kidneys, causing interference with the excretion of urea. Prolonged presence of such an agent in the blood would lead ultimately to endocarditis with degeneration of the vascular walls and to cardiac changes. Acute cardiac dilatation may occur from the effects of such a general vasoconstricting agent in the circulation before extensive alterations in the blood-vessels had taken place. Aconite he considered to be the best vasodilator in nephritis, much more effective than the nitrites. Reports of marked increase in the excretion of urea followed its administration.

Dr. GEORGE L. PEABODY said that his own experience showed that there was no doubt regarding the effects of aconite, even when there was an abnormally low-tension pulse, to frequently increase the urea output.

Poisoning by Illuminating Gas—A Clinical Study of Ninety Cases.—Dr. W. GILMAN THOMPSON of New York read this paper. After referring to the comparatively few cases recorded in the literature, he summarized as follows:

1. Leucocytosis was both high and persistent, rising in many cases above 18,000 and, in a few fatal cases, as high as 50,000. A differential leucocytic count showed a preponderance of the polymorphonuclear cells. A high degree of leucocytosis was a very unfavorable sign.

2. The elevation of temperature was observed in nearly all the cases. The fever was usually moderate and of very irregular type. In many cases a subnormal temperature preceded the elevation, and it was often observed also in convalescence. The pulse was disproportionately rapid as compared with the temperature.

3. The nervous symptoms were both varied and inconstant. Convulsions occurred in about 7 per cent. of all cases and muscular rigidity in a slightly larger proportion. The reflex and pupil symptoms showed great variability. The coma bore no definite relation to the intensity or duration of the fever. Coma lasting four or five days was not invariably fatal. In the series of ninety comatose cases only 17 or 18 per cent. were fatal.

4. The result of combined phlebotomy and saline infusion justified this prompt and thorough employment of these measures.

5. Pneumonia was an infrequent complication, and, in a large percentage of fatal cases, the cause of death could be referred to cerebral lesions, such as congestion of the meninges and brain substance, hemorrhage of the cerebral capillaries, or hemorrhage into and softening of the internal capsule, lenticular nucleus and adjacent structures.

Dr. ALFRED STENGEL of Philadelphia said that a few years ago Darrah made a series of experiments in resuscitating animals poisoned by illuminating gas, and he found that they could not be brought to and saved by saline transfusions. The combination between the gas and the hæmoglobin was so close and the attempted disassociation so slow that the animals died before the poison was eliminated.

Dr. GEORGE L. PEABODY of New York said that defibrinated blood for use in such cases was logically all right, but was very difficult to get when needed. The use of oxygen in these cases he considered to be absolutely useless. He referred to one case in which the coma existed for four weeks with recovery of the patient.

Dr. FRANCIS P. KINNICUTT of New York said that neither the depth nor the length of the coma should be taken as indications upon which to base the prognosis. He spoke of the phenomenon of seeing cases of illuminating gas poisoning with beautiful ruddy red color.

Dr. HOBART A. HARE said that oxygen to be effective in these cases should be administered pure as possible. Regarding defibrinated blood, not only was it difficult to obtain when needed, but also it was an objection to introduce the blood of one man into the circulation of another.

Dr. S. SOLIS COHEN of Philadelphia said that there were other gases besides carbon monoxid to consider when speaking of illuminating gas which varied both in quantity and in kind and belonged to the hydrocarbon series.

Before the adjournment of the morning session Dr. S. WEIR MITCHELL read a communication from Noguchi, who was in Copenhagen carrying on experiments with snake venom. This Japanese was associated with Dr. Mitchell and Dr. Flexner, and drew attention to himself by his good and able work. The attention of the Carnegie Institute was called to him, and he received from it enough money to enable him to go abroad to continue his work in the line of investigation. This fostering of scientific research, when effective and good men were found, was much encouraged, and this letter from Noguchi was loudly applauded.

Abdominal Pain from Unsuspected Irritation of the Internal Inguinal Ring.—Dr. CHARLES G. STOCKTON of Buffalo presented this communication, and reported twelve cases in which abdominal pain occurred as the result of irritation at the inte nal inguinal ring, dependent upon very slight protrusion of the hernial sac into the inguinal ring. The cases were believed not to be uncommon, and were sometimes perplexing and often misinterpreted. As a rule the pain followed exercising, but in one case it appeared when the patient was at rest. Such cases should be understood, otherwise they may be taken for cases of appendicitis and other visceral troubles. These cases could be relieved by proper support by truss.

Dr. GEORGE L. PEABODY of New York related the case of a physician who had attacks of severe pain in the lower half of his abdomen which was intermittent in character. He was found to have a patulous inguinal ring and the application of a well-fitting truss relieved him.

Dr. GEORGE DOCK of Ann Arbor related a case illustrating the fact that at times pain in the abdominal region may be felt far away from the seat of the disease.

The Mechanism of Exophthalmos.—Dr. W. G. MACCALLUM and Dr. W. B. CORNELL of Baltimore presented this paper. The question existed as to the mechanism by which the exophthalmos which appeared in the dog on stimulation of the cervical sympathetic was produced. Certain authors held it to be due to distension of blood-vessels in the orbit, others to contractions of smooth muscle fibers about the eyes. Experiments showed that obstruction to the outflow of blood caused only an insignificant protrusion, and that the results of sympathetic stimulation were independent of any connection of the head with the circulatory apparatus. Direct observation showed that the exophthalmos was produced by the peristaltic contraction of a cone of tissue containing smooth muscle fibers which surround the eyes.

Diabetes Insipidus.—Dr. THOMAS B. FUTCHER of Baltimore took up the consideration of this subject and said that in seven out of nine cases observed in the wards of the John Hopkins Hospital were on the medical side and represented .03 per cent. of all cases therein. The cases he divided into two groups, (1) the primary or idiopathic, and (2) the secondary or symptomatic. The disease was more common in young individuals, the majority being between the ages of twenty and thirty years. Heredity was an important causative factor. It was more prevalent among males. Lesions of the brain seem to produce the disease in the majority of the cases. Diabetes insipidus may follow hemorrhage, hydrocephalus, basilar meningitis, or tumors at the base of the brain. Four out of the nine cases were due to lues, and polyuria and polydypsia were, symptoms, too, of cerebral syphilis. Syphilis as an etiological factor in diabetes insipidus was emphasized.

Dr. BAUMGARTEN of St. Louis reported a case of polyuria lasting for nine months when sugar then was first found. This patient died of tuberculosis of the lungs.

Dr. JAMES TYSON of Philadelphia said that he had been called in consultation to see as many as six or seven cases of diabetes insipidus, and the most interesting feature was that they were all largely relieved by the administration of iodide of potassium. He never knew of a case in which the patient died, although two or three that seemed to have recovered passed from observation.

Dr. GEORGE DOCK of Ann Arbor spoke of the cheery prognosis that could be given these cases with a syphilitic history.

Dr. A. JACOBI of New York said that the large majority of such cases were found in young children, and, as a rule, were not seen in the general hospitals. He had seen a number of cases in which the cause appeared to be the result of an anæmia, or chorea, or following attacks of chorea minor. He had also seen it follow whooping-cough in which it was attributed to cerebral hemorrhages. He had seen it result as the direct result of falls upon the occiput in boys from seven or eight to thirteen years old. In these cases, too, it might be dependent upon tumors.

A Case of Prolonged Male Hysteria with Autopsy.—Dr. S. WEIR MITCHELL of Philadelphia gave a full report of a case of hysteria occurring in a man which lasted some thirty years, followed by a post-mortem examination which gave only negative results.

Dr. PRINCE of Boston reported an analogous case.

Some Unusual Forms of Acute Myelitis.—Dr. B. SACHS of New York read this paper. He said that in the discussion that had been carried on for years regarding acute myelitis, doubt had been expressed as to the occurrence of acute myelitis if all cases due to syphilis, to traumatism, and to infection were excluded. There was no doubt, however, that there were some other forms which could not be conveniently described under any other term. Special account was taken in his paper of a senile form which would appear to be a spinal counterpart of the cerebral apoplexies occurring during the senile period. The tissue changes in this case could be attributed only to disease of the spinal blood-vessel. The paper also included the record of a very sudden development of myelitis in a young girl who, shortly after the onset of the myelitic symptoms, developed multiple streptococcic abscesses. The case was very remarkable because of the severity of the symptoms and on account of the partial recovery that had taken place. The first abscess appeared in the gluteal region and spinal caries was first thought of. Within twenty-four hours multiple abscesses developed all over the body, and they developed almost simultaneously with the myelitis. She was now a chronic paraplegic.

Infectious Neuritis with Report of a Case.—Dr. JAS. J. PUTNAM of Boston reported cases he had seen in consultation and at the Massachusetts General Hospital. One case was thirty years old and resulted fatally after eight weeks' duration. Sensory and motor symptoms were present, there was a constant fever and a leucocytosis of 33,000. The paralysis progressed slowly and went upward until it involved the bulbar area. Post mortem showed in general a disintegrated condition without vascular changes. In another case the paralysis spread in somewhat a similar manner. The face became involved and swallowing became very difficult. Fever was constant. The spleen was not enlarged. This case ended in recovery and was believed to be a case of multiple neuritis.

The Clinical Features, Prognosis, and Treatment of Cerebrospinal Meningitis in Infants and Children.—Dr. HENRY KOPLIK of New York read this paper. The ma-

terial collected in five years' hospital service numbered 89 cases of meningitis as follows: Forty-nine cerebrospinal, 39 absolutely confirmed by puncture, 35 tuberculous cases, 1 staphylococcocci, 1 streptococci, 1 pneumococci, and 2 were the so-called pseudo-influenza cases. Sixty per cent. of the cases were below the age of 2 years, the youngest being 4 weeks, the oldest 14 years. The average age among the tuberculous cases was about 4 years. He said the type cases in New York were the same as those of Councilman, Osler, Hirsch, Herrick of Chicago, and others. In one case the meningococcus was found in the conjunctival secretion. The clinical types were malignant, acute and subacute and basic. The mode of onset was sudden, as a rule, except in the tuberculous. Neck rigidity was always present at some period of the disease. The reflexes, if present at the beginning, may disappear toward the close. Babinski's reflex was present in 17 cases of cerebrospinal and 26 of the tuberculous, about 77 per cent. Kernig's reflex was of little utility below the age of 2 years. Myotonica congenita was present in all such cases. In the cerebrospinal cases hyperæsthesia was present in 62 per cent. Macewen's sign, in the 17 tuberculous cases it was present in 11; in the cerebrospinal it was present in 2. The temperature was of the prevailing type. The skin showed the rashes of some sort always present, but not so much so as in adults. Herpes labialis infrequently was found. Conjunctivitis was common. Optic neuritis was very uncommon. The disk changes were common in the tuberculous type, about 77 per cent. Of 20 cases 7 showed tuberculous choroiditis. In the cerebrospinal form the leucocytes were from 20,000 to 55,000, exceeding 25,000 in 55 per cent. of cases. In the tuberculous cases 40 per cent. ran from 20,000 to 25,000. They were under 20,000 in 60 per cent. of the cases. Regarding the mortality, of the 49 cerebrospinal cases the death rate was 36.7 per cent.; of the absolute cases, 41 per cent. The disease he believed to be self-limited and not influenced by any mode of treatment. The varying mortality was about 62 per cent. and 25 per cent. Lysol injection treatment, 31 cases, 18 recovered, or 42 per cent., but this treatment did not prevent relapses. In his own cases lumbar puncture was not curative, nor did it prevent relapse or rise of temperature, nor did it relieve the headache and symptoms of pressure.

A Case of Spasmodic Stricture of the Œsophagus with Sacculation, Treated by Dilatation, and Later by Gastrostomy.—Dr. JAMES TYSON, Dr. EDWARD MARTIN, and Dr. THOS. EVANS of Philadelphia presented this communication. The patient was a man, thirty-three years old, who had suffered from dysphagia since he was twelve years old. At that time he was suddenly seized with dysphagia while eating his supper and regurgitated his food. For fifteen years he fed himself with great difficulty, taking solid food first and following it with large quantities of liquid. He was first examined by Dr. Tyson in 1895, and on attempting to pass a tube it bent upon itself when at the seat of obstruction. When the œsophagus was washed out a large quantity of mucus was obtained. The absorption and motor power of the stomach was good. He saw the patient again in 1903 when the condition was about the same. A floating kidney was then noticed and a slight gastroptosis.

A second case was reported in which the patient had been under observation two and a half years. The patient was a woman, thirty-three years old, with good family history and no tendency to neurotic conditions. Not much benefit being obtained from ordinary treatment, Dr. Martin saw her in consultation and advised dilatation and paralysis of the cardiac orifice by an apparatus of his own device. Dr. Martin thought he would have succeeded in this treatment had it been persisted in. Later a gastrostomy was done and the patient died soon after.

Idiopathic Dilatation of the Œsophagus; Cardiospasm.—Dr. B. W. SIPPY of Chicago presented an anatomical specimen which was rare. The patient from whom it was taken was a woman, thirty-three years old, who gave symptoms of œsophageal obstruction for five years. She often would have to leave the table to regurgitate what she had eaten. The globus hystericus was present. Lost a great deal of weight, and symptoms soon became aggravated. In the hospital it was decided that she was suffering from pyloric obstruction and a gastroenterostomy was performed. This was followed by some betterment of her condition for one week when she returned to her old condition and she finally died. The œsophagus normally would contain 100 c.c. of fluid, but the one removed contained 500 c.c. There was a fusiform dilatation and an enormous hypertrophy of the walls of the œsophagus, especially at the point where dilatation was the greatest.

Dilatation of the Œsophagus and Stomach.—Dr. FRANCIS P. KINNICUTT of New York presented this enormously dilated œsophagus which was a record breaker, so far as he could learn, in that it contained 1,800 c.c. of fluid.

WEDNESDAY, MAY 11—SECOND DAY.

The Relation of Cells with Eosinophile Granulation to Bacterial Infection.—Dr. E. L. OPIE of Baltimore read this paper. The guinea-pig was the most suitable animal for the experiments made. Bacteria causing fatal affections, he said, gradually diminished the eosinophiles, and charts were shown to illustrate the effects of various bacteria upon eosinophile cells. The appearance of the eosinophiles in the tissues was in harmony with their disappearance from the blood. The influence of these and their severity in fatal affections suggested to him the desirability of studying their behavior during the course of acute affections from which animals were capable of recovering, and, in making the tests, the peritoneal cavity was believed to be the best because the fluids could so readily be obtained therefrom. During the course of pneumonia, typhoid fever, various pyogenic and other infections, eosinophile leucocytes disappeared in part or wholly from the peripheral circulation. Injections of a variety of bacteria into the peritoneum of guinea-pigs caused a similar disappearance of these cells, followed after a few days, should the animal survive, by an increase above the normal. Examination of the mesentery during the height of infection demonstrated that eosinophile leucocytes collected in its blood-vessels, and hence migrated into the peritoneal cavity in company with the more numerous finely granular leucocyte. Eosinophile leucocytes, he said, collected in considerable number upon the surface of the omentum and here underwent degenerative changes. That eosinophile cells were profoundly affected by bacterial poisons was further shown by the accumulation of eosinophile myelocytes in large number in the spleen only four hours after inoculation. Eosinophile leucocytes had a part in the inflammatory process which followed bacterial invasion. He said that they rarely acted as phagocytes, but that they really did have a part in the bacterial invasion.

Dr. Opie said that there really was a contrast between animal parasites and bacteria, and a very marked similarity. Trichinosis caused a leucocytosis which was in part due to the increase in the eosinophile cells and in part to an increase in the ordinary polynuclear or neutrophiles. The first effect of bacteria caused a diminution in the eosinophile cells, but, as shown by certain studies, there was subsequently an increase in them if time was given for them to increase. Therefore, increase in the eosinophiles occurred with bacterial invasion when recovery occurred. It seemed to him that the toxins of the animal parasite and the bacterial toxins were chemotaxic for both forms of parasites.

A New Case of Chloroma with Leukæmia, with a Study of the Cases Reported Since 1893.—Dr. GEORGE DOCK and Dr. A. S. WARTHIN of Ann Arbor, Mich., presented this communication. Eleven years ago a condition was

described by Dr. Dock which was characterized clinically by pain and anæmia without evident cause, loss of strength, hemorrhages in the skin and elsewhere, rapid pulse, pain in the eyes, difficulty of vision, strabismus, and exophthalmos without any special symptoms of Basedow's disease, with ringing in the ears and tumors appearing in the temporal region, etc. In three out of the nine cases observed since 1893 there was an increase in the leucocytes. He reported an additional case, as follows:

A man, aged forty-five, without reasonable cause, began to get extremely weak, so much so that he had to take to his bed at times. His pulse was very rapid. The course of the case resembled very closely one of pernicious anæmia. After being ill for one year he came under the doctor's observation. There was no absolute enlargement of the lymphatic glands, the leucocytic count was 35,000 and the picture was quite marked of lymphatic leukæmia in the blood. He lived for several days. At autopsy green tumors were found along the front of the vertebræ, both sides of the sternum and around the origins of muscles, in the kidneys, liver, and lungs. The blood counts were given. Only a partial autopsy was obtainable. There was nothing indicating any chloroma of the head before death, and a clinical diagnosis was made of an acute leukæmia. No advanced lesions in the stomach or intestines were found. Before autopsy Dr. Dock decided that he had to do with a case of chloroma. He said that since 1893 twenty-one cases had been reported, more or less fully, and the disease was apparently not so rare a believed. During the past year he knew of half a dozen cases that had been published. The disease preponderated greatly in the male. The average age was 18.8 years, most of the cases being below twenty years of age. He regretted that the peculiar green tumors could not be examined in all cases. Usually they affected the base of the skull or in the sinuses in the vicinity. A great many were found in the temporal fossa They also occurred in the orbit, causing the exophthalmos. In thirteen of the cases the picture of the blood was that which characterized a leukæmia. In two of the cases there were over 300,000, in another over 500,000 leucocytes. In another case the leucocytes were less than 100,000. The blood picture on the whole was that of an acute lymphatic leukæmia; in some it appeared like the myelogenic form. It was remarkable that nothing was known regarding the color; chemical and other tests of this green color had availed nothing so far as determining what it was. Regarding the pathological diagnosis there was a great variance of opinion.

Dr. Dock then presented Dr. Warthin's conclusion. The latter had attended to the anatomical part of the investigations. Chloroma belonged to a group of lymphomata. It was primarily a tumor-like hyperplasia. Chloroma, associated with myelogenous cells, was undifferentiated; these cells readily break down, and so accounted for the early changes in chloroma, and in some cases of leukæmia; this too explained some of the blood findings in the differentiation.

Dr. MELTZER of New York said the picture reminded him of myeloma confined to the bones of the trunk.

Dr. DOCK, in closing the discussion, said that many of these cases of acute leukæmia, especially with scorbutic type, might be as severe as some cases of chloroma. The cases were sometimes very severe in their course, and depended upon deficient blood formation. Most of the cases gave the picture of acute leukæmia, the disease ran for four or five months, and then ended with scorbutic symptoms. The general picture was not different from that of leukæmia. In no case were the bones thoroughly examined because of the difficulty in obtaining consent. With regard to myeloma Dr. Dock wondered what was meant by that term.

Types of Splenic Anæmia or Splenomegaly.—Dr. ALFRED STENGEL of Philadelphia read this paper and reported three cases with microscopic studies:

CASE I. The first case was a child two years and three months old whose personal and family history were good. When twenty months old the parents noticed an increase in the size of the abdomen and increasing pallor. There were slight signs of rickets. This child came under observation with an enlarged spleen and remained under observation for a number of months. The blood count showed 2,920,000 red cells, 30 per cent. hæmoglobin, 7,600 white cells. Subsequently the child became dropsical and developed a leucocytosis, 15,000 to 20,000 leucocytes to the cm. The child died, and at autopsy there was discovered a uniform spleen enlargement, with infarctions comparatively recent in both spleen and kidneys. There was also a vegetative endocarditis of the mitral valve, a bronchopneumonia, and miliary tuberculosis affecting the lungs, spleen, and liver. There was a diffuse fibrous growth of the spleen and some, but not marked, proliferation of endothelial cells. The infarctions presented an ordinary appearance. The lymphatic glands showed a marked hyperplasia, necrosis of endothelial cells of the lymphatic sinuses, the red cells in these sinuses being quite peculiar. There was also an enlargement of the terminals of the portal vein.

CASE II. This patient was under observation for three years. No syphilitic or malarial history could be obtained. There was cirrhosis of the liver and pigmentary changes in the skin, clubbed fingers, and stunted growth. The hyperplastic changes in the spleen and the hepatic cirrhosis were very marked. There were also fibroid changes in the lung and other organs. There was a hypoleucocytosis. The bacteriolytic qualities of the blood serum were found to be normal.

CASE III. This was a case of primitive splenomegaly occurring in a young adult woman, twenty-five years old. She was supposed to have had an ovarian tumor. She had had two miscarriages. She gave no history of previous illness. For five or six years she was conscious of a mass in the left side of the abdomen which caused her great discomfort. Splenectomy was advised and performed. She then developed a pneumonia and was still under observation. An examination gave practically the same figures as in the first case. Sections of the spleen were shown and revealed tremendous solidity. Upon cross section it was seen to be invaded by some neoplastic growth. There were no evidences of necrosis and no tubercle bacilli could be demonstrated. No bacteria could be found with the Gram stain. Nothing could be found of a protozoon nature. It was suggested that there was some form of an infective process which caused the growth. The possibility of syphilis as a causative agent he thought could be excluded in this case. He referred to the great tendency of attacks of infectious nature occurring, such as an orchitis, cellulitis, etc.

Dr. WILLIAM OSLER of Baltimore thought that such cases should be sent to the surgeon more frequently. He had nine cases of great enlargement of the spleen with anæmia under observation since his last paper on this subject. One case was a primitive splenomegaly and the only discomfort was attributed to the enlarged organ. There were four cases of chronic splenic anæmia, enlargement of the spleen extending over many years. There was also a leucopœnia of moderate degree and pigmentation of the skin. He believed these cases should be more carefully studied.

Dr. GEORGE DOCK of Ann Arbor, Mich., said that we should be doing more in an operative way in these cases. He said there were a large number of splenic diseases which seemed to have an effect of destroying the blood and also causing destructive processes in the liver, and these were the cases which should be operated upon successfully. In all cases with enlarged spleen one should be careful to exclude such conditions which negative the operation. By operation and getting the spleen and saving the abdominal organs early he said we were bound to get such an increase in our knowledge as could not be gotten in any other way.

Dr. B. W. SIPPY of Chicago reported an instance of

enlarged spleen extending below the umbilicus, freely movable, which presented a picture of a gradually developing anæmia. The blood count showed 2,460,000 red cells, 40 per cent. hæmoglobin and 4,200 white cells. Splenectomy was performed and the patient has done very well since operation. He thought that the anæmia was due to a splenic hyperplasia and certain changes in the blood which produced substances which caused malnutrition. The examination of the spleen showed an ordinary splenic hyperplasia. There were no evidences of cirrhosis of the liver or enlarged lymph nodes.

Dr. R. C. CABOT of Boston spoke of the possibility of the case being due to malnutrition and said that there were no evidences, clinically or experimentally to prove that anæmia was due to malnutrition.

Dr. WILLIAM OSLER of Baltimore referred to the importance of looking for the Donovan-Leischman bodies, which he thought would soon be imported here from tropical countries, especially Manila.

Dr. ALFRED STENGEL, in closing the discussion, stated that the young woman was apparently in excellent health and malnutrition was not the basis of her difficulty. Repeated examinations had been made for the tubercle bacilli, but in vain.

On the Cultivation of Trypanosoma Evansi.—Dr. F. G. NOVY, Dr. W. J. MCNEAL, and Dr. C. B. HARE of Ann Arbor, Mich., presented this paper which approached the question of the identity of the *surra* of the Philippines with the *nagana* or the *tsetse-fly* disease of South Africa. It was shown that the trypanosome present in the Philippine *surra* could be cultivated artificially and also that it could be obtained in an attenuated form. The cultural characteristics of this trypanosome differentiated it clearly from *Trypanosoma lewisi* and *Trypanosoma brucei*, and the conclusion was, therefore, reached that the Philippine *surra* was a distinct disease, different from *nagana*, and confirmed that of Laveran and Mesnil, based on immunity experiments, as to the non-identity of the *surra* of Mauritius and Nagana. In these experiments they took rats which had become infected in barnyards and by combining artifical media, such as agar agar and defibrinated rabbit's blood, they were able to continue their work. The cultures grew not on solid agar, but in the water of condensation. Their first successful results were obtained in May, 1902, and at the present time, after two years, these cultures had been carried on to the thirtieth generation. One year ago last December another series of cultures were grown at 34 to 37 degrees in incubators and it was found that they grew rapidly and died quickly, so much so that it was necessary to transplant them every week. In 18 months they had succeeded in obtaining 65 generations. Success in this work had caused them to enter upon a wider scope. Last June they secured living mice inoculated with the South-African disease and the new series of cultures begun. The *Trypanosoma lewisi* grew readily but the South-African parasite grew with difficulty, which made further investigation a difficult undertaking. Yet from the first they were able to keep the organism alive for 18 days in media in test-tubes. Comparing with the *Trypanosoma lewisi* it was soon found that there had actually been picked up a stray rat trypanosome. The rat had been inoculated with the South-African parasite which previously had been inoculated with the rat trypanosome from which he had recovered, showing no trypanosomes in the blood for a period of three months. Then when he was inoculated with the South-African parasite and died, the *Trypanosoma lewisi* and not the *Trypanosoma brucei* was obtained from the blood. At last he succeeded in getting a positive evidence of growth in 8 out of 100 cases, or 8 per cent. Since then he had made attempts at finding a better media which would give a larger percentage of successful cultures. It was an interesting point that cultures that develop at the room temperature of 25 degrees, were virulent when injected into rats, mice, or guinea-pigs. Again if the material was placed in an incubator for two days at 34° C. the organism remained alive and active and apparently healthy, but when introduced into an animal produced no effect. He realized that there was an attenuated form of pathogenic protozoon.

The Agglutination and Filtration of Trypanosomes.—Dr. F. G. NOVY and Dr. W. J. MCNEAL of Ann Arbor, Mich., presented a paper on this subject and stated that the presence in cultures of *Trypanosoma lewisi* of actively motile, minute forms, ranging from 2 to 5 microns in length, suggested the possibility of passing the organism through a Berkefeld filter. Of nine experiments made with cultures of this organism three were positive, five were negative, and one was uncertain since the control animal failed to develop infection, Similar experiments with cultures of *Trypanosoma brucei* and with the suspensions of organs of animals infected with the latter gave negative results. It would seem as if some "filterable diseases" might be due to organisms which themselves were so large as to be incapable of traversing a filter, but which, under certain conditions, would give rise to a minute stage which would pass through the filter.

Zonal Necrosis of the Liver.—Dr. E. L. OPIE of Baltimore read this paper and stated that the hepatic lobule could be divided into three zones, each of which might be the seat of coagulation necrosis affecting the parenchymatous cells. In fourteen instances the lesion formed a circular bandlike zone situated between the center and the periphery of the lobule, while in other cases similar necrosis had been limited either to the central or to the peripheral zone unaffected in the former cases. Such necrosis depended upon the presence in the blood of toxic substances usually produced by pyogenic bacteria, and the distribution of the lesion was the result of peculiar conditions of circulation within the lobule. By experimental injections it had been possible to demonstrate in lower animals the presence of a mid-zone which differed from other parts of the lobule. Zonal necrosis was frequently associated with fatty degeneration and was closely related to acute yellow atrophy of the liver. The results obtained were from the use of some granular material or stain, and he came to the conclusion that both the hepatic artery and the portal vein entered the lobule and soon joined a short distance from the periphery. The granular material was left throughout the lobule. But if the hepatic artery was ligated and then the granular material injected through the portal vein, it would lodge entirely in the periphery of the lobule, and this proved to him that the hepatic artery was an important factor in driving the portal blood through the lobule. When an ammoniacal solution of carmine was injected into the portal vein and the animal allowed to live about fifteen minutes this substance was found to be accumulated between the peripheral and central zone. In 500 autopsies 12 cases of central necrosis were found, and all were associated with some circulatory disturbance, but doubtless there was an etiological factor in some form of infection with the streptococcus aureus; in the cases the necrosis was entirely limited to this area, and all cases were associated with pregnancy. In 3 cases there was this condition in contact with the portal spaces and associated with eclampsia. In the 500 cases the mid-zone lesion was present in 9, and he had collected 5 more from the literature, making 14 altogether. In these cases the mid-zone necrosis was well marked. In most cases there was associated a fatty degeneration. Of these 14 cases 6 occurred with peritonitis, and the bacterial examination showed the streptococcus aureus in 3 of them. In 3 other cases lesions of the gastrointestinal tract were the predominate features.

Exhibitions of Specimen of a Malignant Adenoma of the Liver.—Dr. GEORGE L. PEABODY of New York demonstrated such a liver showing large malignant adenoma in a case of trophic, probably syphilitic, cirrhosis. Death was from exhaustion preceded by hemorrhage from the

tumor into the peritoneum. The patient from whom it was removed was a Greek, thirty-eight years old, who was admitted to New York Hospital October 5. He denied syphilis and alcoholism, although he drank beer. His illness lasted but a short time prior to his admission. He complained only of ascites and the accompanying interference with respiration. None of the solid viscera could be made out. He was tapped and 7½ litres of a bloody serum withdrawn. In this serum there were 697,000 red cells to the cm. and the smear looked like the ordinary blood smears. This tapping relieved him but a few days when he was in a similar condition. After the first tapping the spleen and liver were not palpable, but on percussion they could be made out and shown to be quite small. The patient failed rapidly and died about one month after he entered the hospital. The peritoneum was found to contain 3½ liters of bloody fluid, and its source was found to be from an irregular mass, 7 cm. in diameter from the upper surface of the right lobe of the liver. Some of the lymph glands in the mesentery and the bronchial lymph nodes were enlarged. The lungs contained very small infarctions. The mouth of one of the main hepatic veins had projecting from it a villous mass about 1½ cm. in diameter. The splenic vein was thrombosed. The liver itself was very much reduced in size and altered in shape. The extreme measurements gave 15 in the vertical, 14 in the transverse and 10 in the antero-posterior directions. There was a marked atrophic cirrhosis of that organ and, upon its surface, many cicatricial contractions. There was no quadrate lobe at all. There was one projecting mass, covered over by Glisson's capsule which originated from the liver substance. In many parts of the liver the tumor tissue could be demonstrated, and appeared to be soft and greenish in color. The microscopical examination of the liver showed the ordinary lesions of an advanced hypertrophic cirrhosis with broad bands of cicatricial tissue, such as seen in syphilitic cirrhosis. The tumor was uniform, contained no bile, and presented the trabecular variety of adenoma. The liver cells were very distinctly modified, showing large nuclei, and as many as two or three. No metastatic growths were found. Sections of the growth were shown under the microscope.

Addison's Disease with and without Adrenal Tuberculosis.—Dr. C. F. WITHINGTON of Boston read this paper. He divided these cases into the following classification:

I. Cases with Skin Bronzing. (*a*) Advanced tuberculosis. (*b*) Advanced disease, non-tuberculous (atrophy, interstitial inflammation, cancer, occlusion vein, hemorrhage). (*c*) No distinct disease as (1) with lesion of the semilunar ganglion, (2) without lesion of semilunar ganglion, and (3) pigmentation not Addison's disease.

II. Cases without Skin Bronzing. (*a*) Adrenal tuberculosis, (1) with tuberculosis elsewhere and (2) without tuberculosis elsewhere. (*b*) Addison's disease non-tubercular (1) in cancer, (2) in tumors, and (3) necrosis, etc. Among these he referred to sixteen cases of miscellaneous adrenal lesions, including tuberculosis, without skin-bronzing.

Arthritis and Endocarditis from Streptococcus Infection.—Dr. MORRIS J. LEWIS of Philadelphia presented this paper and said that the question of rheumatic fever being an acute infectious disease had long been disputed and few authorities agreed as to its true etiology. The results of studies by different people were very contradictory. The relationship between chorea and rheumatism was very interesting. He reported the case of a woman who came under observation in October, 1903, with a history of painful swelling of the ankle. The condition was improved by the administration of salicylic acid. She had choreic movements of the hands and face and the movements at times were so violent that they were forced to tie her in bed. When admitted to the hospital the temperature was not taken, there was no heart murmur, and the pulse and respirations were rapid. The day following her admission the temperature suddenly went up to 107 and the choreic movements became excessively violent. By sponging, the temperature fell to 101 but the choreic movements did not diminish. On the day following, a systolic murmur was heard and the temperature rose to 106. Blood culture was taken on the afternoon of the day of death, and streptococci were found which were moderately virulent for rabbits when injected intravenously. The onset of the joint symptoms in these animals was only noticed after a more or less definite incubation period of from four to nine days. Before this the animals appeared to be perfectly well. Then the joints appeared to be swollen and painful and the streptococci could be recovered from all the affected joints.

Officers Elected.—*President*, Dr. Edward L. Trudeau, Saranac Lake; *Vice-President*, Dr. Frank Billings, Chicago; *Secretary*, Dr. Henry Hun, Albany; *Recorder*, Dr. Solomon Solis Cohen, Philadelphia; *Treasurer*, Dr J. P. Crozier Griffith, Philadelphia; *Councillor*, Dr. F. Forchheimer, Cincinnati; *Representative in the Executive Committee of the Congress of American Physicians and Surgeons*, Dr. William Osler, Baltimore; *Alternate Representative*, Dr. Francis H. Williams, Boston.

The following gentlemen were elected to membership; Dr. Philip King Brown of San Francisco, Dr. Joseph Collins of New York, Dr. David L. Edsall of Philadelphia, Dr. Frederick Gault Finley of Montreal, Dr Hermon C. Gordinier of Troy, Dr. Richard M. Pearce of Albany, Dr. Mark W. Richardson of Boston, and Dr. Richard P. Strong, U. S. A. To honorary membership the following were elected: Drs. Beverly Robinson, Starling Loving, and Henry G. Walcott.

CHICAGO SURGICAL SOCIETY.

At the April meeting, Dr. Arthur Dean Bevan showed a young man, who gave a history of pneumonia, and a metapneumonic empyema. A rib had been resected, and an empyema of the left side drained eight months before by another surgeon, after which the opening closed. This was followed by a reaccumulation of the fluid, and when he saw the patient the entire left side of the chest was full of pus up to the clavicle, and the apex beat was in the middle line. He took an *x*-ray view of the case, which showed fairly well the condition. There was a small discharging fistula in the third intercostal space, two inches to the left of the sternum, and through this a probe could outline the entire cavity. The patient was septic, and in bad condition. A Schèdè operation was done. An extensive U-shaped incision was made, and the soft tissues lifted up. A resection was made from the third rib to the tenth inclusive. This was done subperiosteally. After lifting up a very large flap, and after the resection had been made, he took a powerful pair of scissors and cut away all of the intercostal tissues, including the pleura, which was three-quarters of an inch in thickness. This U-shaped flap was drawn down and a tube as large as the thumb introduced to the apex of the cavity, and the flap stitched in position. Some gauze was also packed in. The operation was done the 7th of January. The patient had some sepsis for a considerable period after the operation, about ten days; in other words, the temperature continued. However, his condition gradually improved, and within a short time, he thought four weeks after the operation, he outlined the size of the cavity which remained, and it was done in this way: He injected iodoform emulsion into the cavity, sealed the opening, and took an *x*-ray picture. The skiagraph showed a cavity which reached almost to the clavicle, it being a fine ribbon-like cavity. After he had outlined this cavity with the iodoform emulsion, he put the patient at work blowing up an air-bag. This was responsible for the complete cure which had taken place, and the obliteration of this long, ribbon-like cavity that extended to the apex. This was the seventh or eighth Schèdè opera-

ion he had done, and it was the most satisfactory one of he entire group.

Dr. D. W. Graham reported "Appendicitis with Perforation of the Duodenum" in a patient aged thirty-seven. After detailing the steps of the operation that had been performed, as well as mentioning the death of the patient on the tenth day following operation, at the autopsy the appendix measures 11 centimeters in length, and was found to pass directly upward behind the ascending colon, its free end being adherent to the psoas muscle, and lying behind the curve of the duodenum and attached to it. Six centimeters from the pylorus and on a level with and three centimeters to the right of the biliary papilla, was a perforation of the posterior duodenal wall three millimeters in diameter. He presented a specimen showing the relation of the appendix to the colon, the abscess cavity, and the duodenum.

Dr. Graham also reported a case of "Amœbic Abscess of the Liver, with Complication," and exhibited specimen. The patient was a man, thirty-seven years of age. The specimen showed (1) the large sloughing wound of the abdominal wall, which had been preserved intact; (2) the adhesion of the liver to the colon, which represented the point where the abscess was partially evacuated through the colon wall before the operation; (3) the abscess cavity in the liver as large as a fist, notwithstanding the contraction that had taken place; (4) many small abscesses through the liver; (5) numerous ulcers in the mucosa of the colon, with sloughing undermined edges and intercommunicating by channels underneath the mucosa, having all the characteristic features of amœbic ulceration.

Dr. D. N. Eisendrath showed a skiagraph from a patient, fifty-six years of age, who consulted him on account of recurrent hemorrhages, apparently from the lungs. The skiagraph showed beautifully a cervical rib. As regards the origin of this cervical rib, the only way one could understand it was to consider the ribs as a revelation of type of the mammalia toward some of the elementary forms. This cervical rib existed in reptiles. It must be regarded as an abnormal development of the anterior nucleus of the transverse process of the seventh cervical vertebra.

Dr. D. N. Eisendrath reported a case of "Adenoma of the Mucous Glands of the Lips as a Cause of Macrocheilia." He said that this condition consisted in an enormous thickening of either the upper or lower lip, or both, and occurred especially in scrofulous children, was very apt to relapse, and often very chronic in character. Microscopically, it consisted of an hypertrophy of the mucous glands, with an increase of all of the tissues constituting the lip, the connective tissue, blood-vessels, etc. It also occurred at times in syphilis. Operation was successful, with no recurrence of the disease since its performance.

Dr. A. E. Halstead reported the case of a child, eight years of age, who had an extensive empyema of two years' duration. He resorted to extensive resection of the ribs, except the second one. He found difficulty in getting the cavity closed under the scapula. There was a high cavity which extended away up to the second rib, and so far as he knew, as he had not seen the child for a month, this cavity was still open.

Dr. Charles Davison read a paper entitled "Results in Abdominal Wall Suture." Some time ago the author proposed the fastening of a longitudinal silkworm gut suture in the fascia of the abdominal wall by terminal bowknots, leaving the ends of the suture protruding from the wound; the knots to be untied by traction on the exposed ends and the suture removed at the completion of the process of healing. A complete series of forty-one consecutive cases with sterile primary union was reported at that time. The aim of this simple manipulation was to retain all of the advantages and security of close and accurate suture of the individual layers of the abdominal wall, without the danger of suppuration incident to the use of catgut, and its pulpification and absorption, and without the dangers of irritation and sinus following the use of any permanent buried suture. The writer had used the tied longitudinal silkworm gut suture in all clean laparotomies during the three years, 1901-2-3, with the following results: 178 cases with 7 infections, or less than 4 per cent. of infections. Of these cases, 23 were emergencies, operated upon without previous preparation, with 4 cases showing infection, all limited to the subcutaneous fat. The remaining 150 cases had hospital preparation previous to the operation, with 3 cases of infection, or less than 2 per cent. of suppuration in the prepared cases. Of the writer's 178 cases of removable silkworm gut suture, 131 had been followed up to the time of the preparation of this report. One case of spontaneous epigastric hernia operated upon by Mayo's method had a recurrence of hernia two inches from the old line of incision five months after operation, ¾ of 1 per cent. of post-operative ventral hernias. Dr. A. J. Ochsner said there were three elements which must be considered in the closure of abdominal wounds. First, accurate coaptation; second, an aseptic wound, and third, the absence of pressure necrosis. If these three conditions were carried out, it did not make much difference what suture material was used, or what particular method one employed, he would not get post-operative hernia. Last year he had approximately seven hundred and forty abdominal sections, and of this number he did not think there would be a ventral hernia in which the three principles referred to were carried out. Dr. D. N. Eisendrath had seen the method of Dr. Davison used very satisfactorily. Dr. Wm. M. Harsha said he had used Dr. Davison's suture method in probably twenty or more cases. There had been no hernia in any of the cases he had been able to follow up; but the skin cicatrix had spread in some cases. He had had no case of infection. By this method it made the neatest and nicest scar when one removed the sutures. Dr. C. C. Rogers had used the Davison suture in 18 cases, 5 of them being emergency cases, the others hospital cases, with 1 case of infection. In 13 there had been no hernia; the others he had not seen or heard of recently. Dr. Carl Wagner had used the longitudinal wire suture in several cases, but had abandoned it on account of the wound in two cases having opened. He thought the wire was too stiff. Silkworm gut was preferable, for the reason that it was much smoother and more elastic. Dr. E. Wyllys Andrews said that one virtue of the longitudinal silkworm gut stitch lay in the fact that it was semi-rigid and semi-flexible, becoming molded to the tissues and not stretching. Dr. Wm. E. Schroeder read a paper in which he discussed subparietal injuries of the gastrointestinal tract, and reported cases. Dr. Wm. Hessert reported a case in which he resected four feet of the intestine for perforation of the uterus during curettage. Dr. Hessert also detailed an interesting case of carcinoma of the head of the pancreas.

The Regeneration of the Ligated Saphenous Vein.—Ledderhose says that considerable differences of opinion have existed as to whether it is possible for divided veins to regenerate and again become permeable for the blood stream. The opponents of the regeneration theory have maintained that in the cases in which re-establishment of the circulation had taken place it was always the result of collateral branches developing and taking up the work formerly done by the divided vessel, but he describes two cases of his own in which the saphenous vein had been ligated for varicosities of the legs and the ends had been found reunited years afterward. The secondary operation was done in the one case seven years and in the other nine years after the original ligation. The gross and microscopical appearances of the specimens obtained bears out the view that regeneration of such veinous trunks is possible. No traces of the silk ligatures used at the original operation could be found.—*Deutsche Zeitschrift für Chirurgie*, 1904, Vol. 71, No. 4.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending May 7, 1904:

	Cases.	Deaths.
Measles	1836	39
Diphtheria and croup	382	40
Scarlet fever	391	23
Smallpox	1	...
Varicella	78	...
Tuberculosis	411	197
Typhoid fever	18	8
Cerebrospinal meningitis	...	77

Delirium Grave.—William Broaddus Pritchard declares that in one detail only is there absolute unanimity of opinion in regard to this affection which he discusses. All authors agree that the disease is very uncommon. Even the nomenclature is most confusing. The affection is peculiar to women and the period of greatest susceptibility is between the ages of twenty-five and forty-five. The diagnosis ought to be clear in typical cases. Sudden, furious maniacal delirium, with fever, active vasomotor, and sometimes trophic disturbances, vicious insomnia, refusal of food, incontinence of urine and fæces, incoherence in every direction, with repeated remissions, followed by exhaustion, collapse and death in a few days or a week or two, especially when occurring in a middle-aged woman, without assignable cause, except in some severe mental strain cannot well be mistaken for anything else. The disease is of extremely grave prognosis. As to treatment, some plan involving the principles of autointoxication medication seems most positively indicated. The writer has found the use of all drugs disappointing. Physical suppression, forced nutrition, symptomatic sedative drugging, and active eliminant medication would at least appear to be rational. The writer believes the field to be one for legitimate experimentation, which promises most if conducted along the lines of either neutralizing sera or active antisepsis.—*The Journal of Nervous and Mental Disease.*

The Etiology of Sleeping Sickness.—Castellani examined the cerebrospinal fluid of thirty-four patients affected with sleeping sickness and in twenty found a trypanosome which he regards as the causative agent of the disease. In two cases it was obtained post mortem from the fluid in the lateral ventricles and in one case of the few examined in this way, it was discovered in the blood. The author's method is to obtain at least 5 c.c. of cerebrospinal fluid by lumbar puncture, discarding the first few c.c. as they are likely to contain blood. As soon as the fluid flows clear 10 c.c. are collected and centrifuged for fifteen minutes. The resulting scanty white sediment is examined with a moderate magnifying power and the actively motile trypanosomes easily recognized. The parasites are 16–24 μ in length and 2–2.5 μ in breadth and are made up of a protoplasmic body tapering at one end into a flagellum while the other is more or less rounded and possesses an undulating membrane and a vacuole. Motion is active at first, in the direction of the rounded end, but gradually ceases, frequently in the neighborhood of a leucocyte. Leishman's stain colors the large nucleus and the flagellum red, while the protoplasm is blue and the undulating membrane does not stain. Chromatin bodies are present. In the circulating blood, particularly in the latter stages of the disease round bodies of a diameter of 8–12 μ and with one or more vacuoles are to be found and the same bodies also occur in the cerebrospinal fluid. The author regards these as a developmental stage in the life history of the organism. It is probable that the infection is conveyed by the bite of an insect.—*Zentralblatt für Bakteriologie.*

The Early Manifestations of Cirrhosis of the Liver Previous to the Appearance of Physical Signs.—Charles G. Stockton declares that when the question is subject to careful scrutiny and analysis, there seems to be no positive data, from a clinical standpoint, upon which a developing hepatic cirrhosis can be predicted. The writer gives the history of two non-alcoholic patients. The former is still living. Physical examination in this case gives evidence of an extremely small liver. The skin is not clear and the patient has to be extremely careful about his diet. The trouble has come on gradually over a period of fifteen to twenty years. Another patient showed somewhat the same symptoms. He suffered from bilious attacks. He was always relieved by abstinence from eating and by purgation. Autopsy revealed cirrhosis of the liver. In order to reach any definite conclusions on this subject it must be from the early study of those cases of hepatic cirrhosis which occur in the non-alcoholic. —*University of Pennsylvania Medical Bulletin.*

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended May 7, 1904:

			Cases.	Deaths.
SMALLPOX—UNITED STATES.				
California, Los Angeles	Apr.	8–23	23	6
Colorado, Denver	Feb.	27–Apr. 16	5	..
Delaware, Wilmington	Apr.	23–30	..	1
District of Columbia, Washington	Apr.	23–30	3	..
Illinois, Chicago	Apr.	23–30	5	..
Kentucky, Covington	Apr.	23–30	4	..
Louisville	Apr.	14–28	4	..
Louisiana, New Orleans	Apr.	16–30	11	4.
				Imported
Maryland, Baltimore	Apr.	23–30	1	..
Michigan, Detroit	Apr.	23–30	8	..
At 97 localities	Apr.	16–23	Present	
Nebraska, Omaha	Apr.	23–30	4	Imported
South Omaha	Apr.	16–23	1	Imported
New Hampshire, Manchester	Apr.	23–30	8	...
New Jersey, Camden	Apr.	23–30	1	..
New York, Niagara Falls	Mar.	5–12	3	..
Ohio, Cincinnati	Apr.	15–29	14	..
Cleveland	Apr.	22–29	1	..
Dayton	Apr.	23–30	3	8
Toledo	Apr.	23–30	1	..
Pennsylvania, Johnstown	Apr.	23–30	4	1.
				Imported
Philadelphia	Apr.	23–30	23	8
Pittsburgh	Apr.	23–30	4	..
Titusville	Apr.	16–30	23	..
South Carolina, Charleston	Apr.	16–30	6	1
Tennessee, Memphis	Apr.	23–30	27	..
Nashville	Apr.	23–30	6	..
Wisconsin, Milwaukee	Apr.	23–30	13	..
SMALLPOX—INSULAR.				
Philippine Islands, Manila	Mar.	5–12	1	..
SMALLPOX—FOREIGN.				
Austria, Prague	Apr.	8–16	13	..
Belgium, Antwerp	Apr.	2–16	44	20
Brussels	Apr	9–16	..	1
Brazil, Bahia	Apr.	2– 9	1	..
Colombia, Barranquilla	Apr.	11–17	..	2
France, Paris	Apr.	8–16	22	1
Great Britain, Dundee	Mar.	26–Apr. 16	6	..
Edinburgh	Apr.	8–16	5	..
Glasgow	Apr.	15–22	43	3
Hull	Apr.	8–16	6	..
Leeds	Apr.	8–23	6	..
Leith	Apr.	8–16	3	..
London	Apr.	2–16	*62	4
Manchester	Apr.	8–16	4	..
New Castle-on-Tyne	Apr.	8–16	11	..
Nottingham	Apr.	8–16	6	..
Sheffield	Apr.	8–16	6	..
South Shields	Apr.	8–16	5	..
India, Bombay	Mar.	30–Apr. 5	..	..
Karachi	Mar.	28–Apr. 3	12	..
Italy, Catania	Apr.	14–21	..	..
Japan, Nagasaki	Mar.	21–31	4	..
Java, Batavia	Feb.	7–Mar. 15	15	..
Batavia	Mar.	12–19	20	..
Malta	Mar.	26–Apr. 2	1	..
Mexico, Mexico	Apr.	10–17	3	..
Tampico	Apr.	16–23	..	..
Torreon	Apr.	17–23	14	..
Netherlands, Amsterdam	Apr.	8–23	2	..
Russia, Moscow	Mar.	26–Apr. 9	13	..
St. Petersburg	Apr.	2–9	11	..
Turkey, Beirut	Apr.	16	Present	
YELLOW FEVER.				
Colombia, Barranquilla	Apr.	11–17	..	
Costa Rica, Alajuela	To Apr. 24		11	
Ecuador, Guayaquil	Mar.	26–Apr. 2	..	
Mexico, Merida	Apr.	17–23	1	
CHOLERA—INSULAR.				
Philippine Islands, Provinces	Mar.	5–12	22	
CHOLERA—FOREIGN.				
India, Madras	Mar.	26–Apr. 1	..	
Turkey, Bagdad	Mar.	5–12	16	
Bassora	Mar.	5–12	6	
PLAGUE—INSULAR.				
Philippine Islands, Manila	Mar.	6–12	3	

*Week ended April 2, 1904, cases, 42; deaths, 3; erroneously reported in previous report.

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Original Articles.

THE TREATMENT OF PNEUMONIA.*

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THE recent great prevalence and high morta ty of pneumonia and the hope of eliciting a review of modern treatment in this disease must justify me in addressing you on a subject seemingly trite and unprofitable. I say trite, because since the days of Hippocrates no disease, perhaps, has been so frequently discussed; and unprofitable, because with every known method of treatment a certain number of patients will die, and without any treatment at all, or even in spite of bad treatment, a certain number will recover. But the last word has not been said on the subject and probably never will be said. Familiar to the profession from time immemorial, this plague of humanity will in all likelihood endure to the end of time.

The older theories of so-called telluric and atmospheric causation have taken secondary rank to the more alluring theory of specific infection by the pneumococcus.

Despite the most varied opinions, it seems fair to conclude that pneumonia is a general blood infection with a selective local manifestation in the lungs. That the disease material may be conveyed by the expectoration, and that this is the most common source of contamination.

With our ability to destroy the activity of this material and to restrict its habitat and with advanced methods in preventive sanitation, the hope is warranted that the next decade will witness a marked diminution in the number of cases. The work of our health boards and our campaign of education should show approximately as good results as in yellow fever, cholera, smallpox, diphtheria, and, in a lesser degree, tuberculosis.

Beset with difficulties and uncertainties, the treatment of pneumonia has been marked by constant changes and vacillations. While the profession has been forever fruitlessly in search of specifics, the cases have been managed alternately with vigorous depletory measures and again with abject expectancy.

Twenty-seven years ago, when I studied medicine, Alonzo Clark still advocated a generous use of the lancet. He related how he and Dr. North frequently bled patients to the extent of 16 ounces. The practice of phlebotomy has been steadily losing ground ever since, and very few will now be found carrying out in practice what theoretically many would still propose.

Calomel had rather gone out of fashion, though Leaming and others contended that cases could be aborted or shortened by liberal doses of this drug.

Most physicians still used tartar emetic and other salts of antimony.

The use of veratrum viride was at the height of its popularity. They gave 5 minim doses of the tincture every two or three hours, or, as some thought better, two or three drops every half hour. Or else they gave $\frac{1}{10}$ of a grain of veratria every three hours.

Aconite was a close second in the treatment of the day, though most men did not think it so safe or reliable as veratrum.

Everyone used quinine in 5 or 10-grain doses t. i. d. The elder Flint believed that cases could be aborted by giving from 20 to 40 grains of quinine within eight or ten hours.

Digitalis was extensive y employed.

Cold affusions to the chest and ice-bags had just been introduced from Germany—I think chiefly through Niemeyer's recommendation—but met with great opposition. Clark stated that four out of six cases died. He also deprecated the use of the general bath at from 60° to 80°, which was being tried at the time.

Alcoholics were employed by most practitioners, in moderation, but rarely before the second stage, and from 6 to 10 ounces of whiskey in the twenty-four hours was considered the limit. The English Dr. Todd, however, used alcoholics in all his cases and in larger doses.

Opium was recommended in the first stage when pain, delirium, and vigilance were present.

Saline purges were employed, when needed. Cups, wet and dry, blisters and poultices were used early.

The oiled silk jacket had been in vogue, but was going out of fashion.

Expectorants with muriate or carbonate of Ammonia were generally used.

The diet was milk and broths.

Later years have witnessed the complete triumph of the expectant plan of treatment. This does not imply that we must refrain from all efforts to relieve our patients, for we can carry them through very frequently in safety and comfort directly through our recommendations when, left unaided, they would perish. Nor does it imply to my mind a mere groping attention to symptoms. I believe we are learning more and more to consider the patient rather than the disease.

Hygienic measures, good nursing, active interference if it is necessary, avoidance of "fussing" and annoying the patient when he is doing well, discretion in the diet and supporting measures, a strict attention to the bowels and the relief of pain, fever, and restlessness, constitute about all we know of the treatment of pneumonia. But it is a great deal.

The facts that pneumonia is a self-limited disease, and that no agents known to us seem to have a curative influence, should not prevent us from putting forth new efforts constantly for the amelioration of our patients.

The modern specifics and vaunted drugs will be dismissed in a few words, because it has seemed to me that they have all been found wanting.

I have used the salicylates frequently and have seen them used systematically and in considerable doses in this disease, and I have failed to be convinced that they were of service. Aspirin I consider equally ineffectual.

*Read at a meeting of the Northwestern Medical and Surgical Society on April 20, 1904.

Creosotal, creosote, and guaiacol I have faithfully tried, and, excepting in certain cases of catarrhal pneumonia with much bronchial secretion, I have abandoned their use.

With digitalis I have little experience, except for specific purposes in cardiac failure, when it seems to act well sometimes.

Latterly, ergot has come again into the field, and various preparations of the drug are being used.

I recall that twenty-five years ago we tried it in Charity Hospital without success. Huss introduced it many years ago. In the few cases in which it has been used lately in St. Vincent's Hospital, the results are not encouraging.

With the iodides I have no experience in acute lobar pneumonia. I have used them in catarrhal pneumonias and in delayed resolution with no marked benefit.

For quinine I confess that I still have a weakness, and in certain cases I give 10 grains twice or thrice a day, or else tonic doses of 3 to 5 grains t. i. d. It seems sometimes to have a decided effect on the temperature and to improve the general aspect of the case. At the French Hospital within the last two months ten of my pneumonia patients treated off and on with this drug alone have done very well. Care should be exercised not to upset the stomach by two long continued use.

The so-called expectorants I have found useless in acute lobar pneumonia.

It is proposed in this paper to give my experience, without the intention of being prolix or dogmatic, and without theorizing on therapeutic action.

Called early to the case, we proceed to make our diagnosis. This done, the condition of the apartment is considered. If the patient is in a small, dark, stuffy room, he is removed at once to a large, airy, and sunny chamber, where he must remain until convalescence is fully established.

Arrangements are immediately made for proper nursing. It is preferable to demand two nurses, selecting the more tactful one for night duty. If nurses are unavailable we must hold some individual in the family responsible for the carrying out of directions, and not permit various members of the family or all of them to "help" in a disorderly and hysterical manner.

The patient must in a measure be isolated, to insure quiet and repose and to avoid possible infection of others. Children and visitors are excluded; only those necessary to the patient's comfort are allowed about at any time.

The patient is undressed and put to bed wearing a night gown, loose jacket, or some garment devised to facilitate physical examinations of the chest without undue discomfort.

The bed should not be too near the windows, in order that ventilation may be obtained at all times without drafts blowing on the patient. There should not be too much covering during the height of the fever.

A room thermometer should be procured and the temperature kept at about 75° or 80° F. Some physicians prefer a temperature of 65° or 70° F.

The towels, napkins, bedding, handkerchiefs, glasses, cups, spoons, etc., should not be used by other members of the family until properly disinfected. Provision should be made for the sputum. A bedside cuspidor or ordinary finger-bowl may be used for this purpose, and they should contain some efficient disinfectant, such as carbolic solution in the strength of 1 to 20. What I think better, is to have prepared pieces of old linen into which the patient expectorates and which he afterward deposits in a receptacle for the purpose. These are removed and burned from time to time. Kissing and fondling the patient should be forbidden.

It is my habit both in hospital and private practice to order no routine treatment to be continued, until stopped, but to give directions from one visit to the next. The nurse takes down these directions from dictation, or, if no nurse is present, I write them out plainly, to avoid mistakes and neglect.

Of course, in a severe case three or even four visits will have to be made in twenty-four hours, and directions for the day may be given at the morning visit, with such modifications as may be necessary at subsequent visits. Some bedside notes should be kept, wherein are recorded all the incidents of the day, the temperature, pulse, respiration, urination, stools, medicines given, with the hours, etc.

For the initial chill usually all that can be done is to wrap the patient up in blankets, apply warmth to the surface by water-bags or hot bottles under the bed clothes, and administer a little warm milk, a cup of tea, or a hot lemonade. Except in alcoholics, whiskey is not desirable. Sometimes gentle friction of the body is grateful.

If the disease is ushered in with nausea and vomiting which may persist for days, very little nourishment should be allowed—indeed, anorexia is the rule in the initial stages. Three or four ounces of milk every three hours will be sufficient, with longer intervals at night.

A mustard plaster may be put over the epigastrium. Oxalate of cerium may be tried in 3 to 5 grain doses. Five grains of calomel and five of bicarbonate of soda may be given, or a tablet of a ½ grain of calomel every half hour until four are taken, to be followed by a saline water.

Usually the sharp cutting pain in the chest will require attention. Hot poultices, changed every half hour for three or four times, afford relief. Penbody recommends the electric warm pad, by means of which a regular temperature can be kept up continuously for some time. Ice-bags applied to the seat of pain certainly give relief, but I think the hot applications are preferable. Sometimes a mustard plaster will ease the pain. Blisters should not be used, except late in unresolving pneumonias. Dry cups have seemed to me to help the patient, and I often use them.

Wet cups do not appeal to me, though some still use them.

If the pain is not relieved by the measures above detailed, or recurs immediately, the affected chest may be strapped, even if it interferes with physical examinations. The pain and restlessness may be so intense that a hypodermic of morphine may be necessary.

The question of opiates in the early stages of pneumonia has constantly evoked contrary opinions. Frequent warnings are repeated through the literature, and in modern discussions many practitioners raise their voices in opposition to their use. I confess that for a long time I had a prejudice against them. The unfavorable course of certain cases was attributed by me to their employment. A larger experience has convinced me, however, that they may often be used with safety and splendid effect. When the patient is suffering from pain and discomfort, in active delirium, obtaining no sleep for days and nights together, restless and irritable, and when cyanosis and œdema are *not* present, I know of nothing that will take the place of a dose of morphine.

Ten grains of Dover's powder may be tried, but will often fail to produce the desired effect. A hypodermic injection of six minims of Magendie's

solution will secure several hours' rest, will even reduce the temperature, quiet excitability and relieve pain and delirium. At St. Vincent's Hospital, where we have had this winter as many as forty cases at one time, hypodermics of Magendie have frequently been given with gratifying results. In the alcoholic cases it has been necessary to administer this drug at some time in the majority of the cases.

Large doses of the bromides, paraldehyde in ʒ ii doses, hyoscine hydrochlorate in $\frac{1}{100}$ to $\frac{1}{60}$ grain hypodermically, though often useful, have at times failed of their purpose. At present, veronal enjoys a certain measure of popularity. I have used it in 7 to 10-grain doses, and while it will induce sleep, in some cases it has seemed to me that it depressed the patient. A further trial is in order before its status can be fixed. Trional, I use very seldom in pneumonia and typhoid fever, because I have seen marked depression follow its use, the temperature dropping to subnormal with signs of imminent collapse. In order to be effectual, considerable doses have to be used—often 30 grains. Sulfonal is too slow and its effects persist through the following day. Paraldehyde, I do not like particularly in pneumonia, because of congestive manifestations and nauseating taste, but when there is an alcoholic foundation it sometimes acts well. The bromides have not given satisfaction in my hands in this disease. Chloral, I do not use on account of its action on the heart. The elixir of chloralamid, however, has sometimes acted well in half-ounce doses.

In catarrhal pneumonias, particularly when there is an asthmatic tendency, a drachm of compound spirits of ether is serviceable, occasionally.

The question of blood-letting is still considered by some practitioners in the first stages of pneumonia. I have no knowledge to offer on the subject. It has been tried at the hospital, but, I think, too late. One can conceive of cases in which it would do good in healthy, full-blooded individuals with engorgement of the right heart, cyanosis and collateral œdema setting in. But the reasons against it are, to my mind, very powerful. Its effect is not certain in all cases. The benefit is only temporary, the same conditions being liable to recur, and no one nowadays would recommend bleeding "coup sur coup."

We rarely get the cases early enough to venture on the procedure. Statistics prove a greater mortality in cases that have been bled. It is admitted that it delays convalescence and leaves the patient anæmic and weak for a long time. Then, again, if the patient does badly, we are blamed and the fatal result is laid at the door of phlebotomy.

The tympanites, which sets in early, sometimes gives considerable trouble. Indeed, some observers declare that a physical examination of the abdomen is more important than a physical examination of the chest. To relieve the distention and clear the intestines, 5 grains of calomel and 5 of soda at one dose, or fractional doses followed by a saline are helpful. Colon irrigations with the long soft tube and warm normal salt solution (ʒ i-Oi) should be tried. If marked constipation exists we may give 20 or 30 grains of compound jalap powder,

Frequently, a milk diet intensifies and prolongs this condition, so that it is necessary sometimes to stop milk and give beef, mutton, and chicken broths, egg water (equal parts of the white of the egg and water), which may be acidulated with lemon-juice or used as a good vehicle for whiskey. The liquid beef peptonoids may be tried. Somatose in 3 i doses every two or three hours may be used for a time if the stomach is disturbed. Sometimes gelatin solution (ʒ i to ʒ xx, acidulated with lemon or dilute nitromuriatic acid, or given with a little whiskey when necessary) is a good dietary makeshift, but patients soon tire of it. Peptonizing the milk by the cold process serves very well on occasion. Five grains of pancreatin t. i. d., may be tried.

Occasionally, 15 to 20 minims of turpentine in mucilage of acacia internally gives relief. Properly applied turpentine stupes still retain their popularity and justly.

When fermentation and distention continues, some give salol, resorcin and soda, or beta naphthol and charcoal, or naphthalin, or creosote, or carbolic acid and camphor. I have seen no good results from these remedies, though I have used them very often.

Enemata of soap-suds and oil or with oxgall or turpentine should be used when needed. Under all circumstances we should secure a daily movement of the bowels.

The fever of the patient is often sufficiently high to engage our attention. I rarely have the rectal temperature taken oftener than once in four hours and very often only once in six hours. The patient should be allowed to drink all the water he wants, and it should be offered to him from time to time. When the temperature is over 103° an occasional sponging with cool water—say, once in four or five hours—is grateful to the patient and does good.

With the tub bath at 60° or 70°, I have no experience in pneumonia. It is seldom necessary and I cannot get over a prejudice against it.

In very high temperatures, no harm will follow the cold pack. Cold compresses to the head, frequently renewed, are most soothing and comforting.

Sometimes gentle fanning quiets and relieves the patient. In long continued fever and marked toxæmia I often give quinine. Ten-grain doses, twice or three times a day, will reduce temperature. I frequently give three or five grains t. i. d. as a tonic.

The cough may be constant and annoying. I have not had very good results in treating this symptom. I have not found that muriate or carbonate of ammonia had an effect either in liquifying the viscid secretion nor in facilitating its expulsion, nor in checking the cough. The so-called expectorants, such as squills, ipecac, sanguinaria, etc., are not now used except in catarrhal pneumonias, when creosote also does some good. Sometimes giving $\frac{1}{12}$ to $\frac{1}{8}$ grain of heroin a couple of times, gives relief. Terpine hydrate in 2 to 5-grain doses may be tried. The patient will instinctively prefer to lie on the affected side, and turning on the other side will start up the coughing. This natural indication should have sway, and we should not exhaust the patient by inducing spells of coughing in making physical examinations too frequently.

Proper ventilation with lots of fresh air, which need not be cold, is helpful. Occasionally oxygen seems to allay irritability, particularly in old persons and in catarrhal and asthmatic cases. It should be used early and be given a fair trial. Many of the laity regard the oxygen can as the forerunner of the hearse because it is often used too late.

Of course our great bugbear in pneumonia is the condition of the heart and vessels. At the earliest sign of failure, sufficiently vigorous stimulation should be at once commenced. Some practitioners believe that it is best to begin stimulation early and forestall progressive heart failure. While believing that it is better to commence too early than too late, I am certain that the use of stimulants is frightfully overdone. It is irrational and harmful to put a patient on half-ounce doses of whiskey every two or three hours and to supplement this by strychnine con-

tinued for many days because we have to deal with a case of pneumonia, and because later there may be cardiac failure, which condition, as a matter of fact, may never develop. It is remarkable what little "support" the heart will often require even in valvular insufficiencies.

Many of the older physicians claimed that whiskey did no good before the fifth day of the disease. If the pulse is feeble, rapid, and irregular, we should give whiskey every three hours, and sometimes it is best to push it, ordering as much as sixteen to twenty ounces in the twenty-four hours. Champagne sometimes acts better. Sulphate of strychnine in doses of a $\frac{1}{30}$ grain every four hours for a few doses will be most useful. As a rule $\frac{1}{60}$ grain will be too small a dose for efficiency.

In old people with hard pulses and asthmatic tendency nitroglycerin, in doses of $\frac{1}{100}$ to $\frac{1}{50}$ grain, repeated every two or three hours, for several doses, seems to act well.

In certain cases in which the pulse is feeble and irregular, we may use to advantage two minims of fluid extract of digitalis or from five to ten minims of the tincture every four hours for a few doses. Digitaline may be given hypodermically in doses of $\frac{1}{100}$ to $\frac{1}{50}$ grain.

Hypodermoclysis in the flanks or under the breasts, of from eight to sixteen ounces of hot normal salt solution, is sometimes very efficacious and may be repeated. So are rectal injections of hot salt solution.

Camphor is much vaunted, but I cannot speak from experience. I have used ether subcutaneously in desperate cases without success. It is in the second stage of pneumonia that we usually need most of the stimulation, and especially directly after the crisis.

In delayed convalescence the ordinary tonics come into play.

The diet in pneumonia should not, in my opinion, be confined to milk. Animal broths, beef juice, jellies, egg nogg, custard, ice cream, whey, orangeade, lemonade, pure grape juice can all be allowed in the early stages. I believe that the patient's inclination should carry great weight.

If no signs of intestinal indigestion are present, a greater latitude may be exercised. I have had a patient with double pneumonia, who recovered, call for broiled chicken and chops, which he ate without bad results on the day of the crisis and he continued a solid diet until well.

In order not to prolong this paper unduly, I will not speak of complications, sequelæ, irregular types, nor of the special care of alcoholics, morphino-maniacs, asthmatics, nephritics, etc., in pneumonia.

I cannot too strongly deprecate the excessive interference practised in many of the ordinary cases. I have seen patients robbed of sleep, their temperatures increased, their hearts overtaxed, their respirations made more labored, and their general condition rendered miserable by pulling and hauling, examinations and baths and injections and poultices, taking oxygen and drugs, all of which seemed to me largely unnecessary.

I am greatly impressed and heartily endorse a statement by Dr. W. Gilman Thompson, in a recent paper on this subject, emphasizing "the necessity of prescribing proper intervals of rest in which the patient is free from incessant efforts at medication." This should be ordered as a specific prescription.

A restful night and a quiet day will often do more for the patient than brilliant polypharmacy and spectacular physical interference.

441 Park Avenue.

RENAL REDECAPSULATION.

By GEORGE M. EDEBOHLS M.D.,
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One invariable effect of renal decapsulation as observed in numerous experiments upon animals, as well as in the few reported autopsies after operation in man, is the formation of a new capsule proper, replacing the one removed at operation. The new capsule becomes fully organized in from three weeks to three months after operation; it may be thinner or thicker, but is always more succulent and vascular than the original capsule.

The striking improvement or entire disappearance of urgent symptoms of chronic Bright's disease so frequently following renal decapsulation, and the fact that a new capsule is invariably formed and takes the place of the one removed, has no doubt suggested to many minds, as it has to my own, the possible propriety or indication of a second decapsulation or renal redecapsulation, in selected cases in which, after a more or less protracted period of improvement, the clinical symptoms return or become aggravated. A prominent surgeon whose kidneys I decapsulated for chronic Bright's disease one year ago, and who at the present writing is enjoying good health, writes me that if his symptoms should return he intends to ask me to decapsulate his kidneys a second time. It remained, however, not for a surgeon, but for a no less distinguished internist than Dr. E. G. Cutler, Visiting Physician to the Massachusetts General Hospital, to first give expression to this thought in print. Dr. Cutler (*Boston Medical and Surgical Journal*, 1903, CXLIX, 429), after detailing the autopsy in a case operated on by Elliott, in which for a time there was very great improvement in all symptoms, with a final and fatal recurrence of the latter, says: "It is obvious from this that if a patient does not continue to improve at the first operation of decapsulation, it is no more than fair to give him the benefit of a second operation."

I have recently had occasion to decapsulate a second time the kidneys of a patient upon whom I had performed renal decapsulation two years previously. As far as my knowledge goes, this is the first and thus far the only instance in which renal redecapsulation has been performed. For that reason mainly I have thought it worth while to publish the history of the case in detail.

C. L., male, twenty-six years of age, single, suffering from chronic Bright's disease, was referred to me for renal decapsulation by Dr. Junius T. Ireys, Lakeside, San Diego Co., Cal.

Family history good. Patient considered himself well until the early part of 1897. The symptoms then noticed were weakness, brick-dust sediment in urine, and one severe attack of headache and vomiting. An examination of the urine on June 13, 1897, showed the presence of chronic Bright's disease. Frequently repeated urine examinations made at various times during the past five years always showed albumin and casts. There was marked œdema of the feet for three months in 1898, only occasional and very slight œdema since. Patient is subject to migraine, but apart from this and the symptoms above noted, there were few or no indications of poor health.

Examination, April 10, 1902. Patient's muscular condition and color good, owing to almost constant out-door life in the South, from which he had just returned. Heart, arteries, and fundus of eye, normal. Slight œdema of feet. Examination of urine shows chronic nephritis with infection (Urinalysis, April 25, 1902). Bacteriological

tures, made later on from an aseptically drawn specimen of urine, showed the infecting agents to be the *Staphylococcus albus* and the *Bacterium coli commune*.

First operation, May 1, 1902, at the New York Post-Graduate Hospital. Decapsulation of both kidneys under nitrous oxide and oxygen, administered by Dr. Thomas L. Bennett.

The right kidney was found contracted to about three-fourths the normal volume, irregular in outline, deformed, and very hard. The capsule proper appeared slightly and unevenly thickened, but otherwise normal; it was readily detached from the kidney over the entire surface of the latter. The rawed kidney surface presented everywhere the typical granular appearance of advanced chronic interstitial nephritis. The left kidney was contracted to about two-thirds the normal volume; otherwise it was in the same condition as the right kidney. The capsules were completely stripped from both kidneys and cut away. Operative diagnosis: Right and left chronic interstitial nephritis, with infection. Convalescence was uneventful and both wounds healed by primary union.

Soon after operation the patient started on a tour of pleasure around the world. The last examination of urine prior to sailing, made June 23, 1902, showed no improvement over the specimen examined before operation; if anything, the renal infection appeared more active. The patient, however, felt perfectly well and had nothing especial to complain of. I did not see him again for more than a year and a half, nor was it possible during that time to obtain a specimen of urine for examination.

On January 10, 1904, the patient reappeared in New York and gave the following account of himself: For about six months following operation he appeared to be doing very well. In December, 1902, he was laid up in Japan for a week with acute suppurative pyelonephritis. A month later he passed through a similar experience in Calcutta, the second attack lasting ten days. After that the condition of his health was subject to slight fluctuations due to several minor exacerbations of the renal infection. On November 29, 1903, during a sojourn at a Southern health resort, a severe attack of acute infection, or rather of acute exacerbation of the chronic infection, developed. The attack was characterized by high fever, much headache, inflammatory swelling of the right epididymis, and the discharge of large quantities of pus with the urine. On several occasions the patient, as he expressed it, "passed three to four teaspoonfuls of pus in a solid bunch." The attack lasted for nearly a month with varying intensity. After its termination the patient, by my advice, came North for treatment of the persistent urinary infection.

Cystoscopic examination, made January 10, 1904, showed inflammation of the prostatic urethra and of the trigonum vesicæ, with puffiness and hyperæmia of the mouths of both ureters, the mucosa of the bladder elsewhere being normal. A nearly healed prostatic abscess was still discharging small quantities of pus into the urethra. Urine examinations during January and February (*vide* table) showed unmistakable renal infection. Bacteriological culture of an aseptically drawn specimen of urine demonstrated the infecting agents to be the *Staphylococcus albus* and *Bacterium coli commune*.

The urinary infection was treated by the internal exhibition of urotropin in large and cumulative doses and by vesical irrigations and deep urethral applications of a silver preparation. The cystitis and deep urethritis were soon brought under control, but the renal infection persisted. There was, however, at no time after the treatment was begun, any rise of temperature or other indication of exacerbation of the chronic infection.

Increasing anæmia and deepening uræmia were the alarming features of the case during this period. A blood examination made January 13, 1904, gave: Erythrocytes, 3,678,000; leucocytes, 8,853; hæmoglobin, 80 per cent. A second count, made February 5, 1904, yielded: Erythrocytes, 3,533,000; leucocytes, 10,113; hæmoglobin, 60 per cent. The fluctuations in the daily output of urea may be seen from the appended table of urine examinations.

After the vesical and urethral infection was removed, there appeared to be no immediate further indications for surgical treatment, and I requested my friend Prof. A. Caillè to take charge of the case. For the last two months of his life the patient was constantly under Dr. Caillè's care and observation. Early in February frightful uræmic headaches and an extensive uræmic infarction of the right lung with considerable hemorrhage developed, and Dr. Caillè advised redecapsulation of the kidneys, with a view to increasing the urea output. The advice was declined, and for nearly two months more the patient went on from bad to worse, the atrocious uræmic headaches being almost constant in character. On March 30 uræmic convulsions supervened, followed by continuous coma and great swelling and discoloration of the face. On this day, also, complete suppression of urine occurred, the bladder being repeatedly catheterized and always found empty. On March 31 the patient was in a moribund condition, permanently unconscious, and frequently in convulsions, not a drop of urine having been secreted by the kidneys for more than thirty hours. Sweating, free purging, colon flushings, and other therapeutic resources, including a venesection with the abstraction of over 500 c.c. of blood from the arm, had proved powerless to control the uræmic crisis or to start the action of the kidneys. At this stage of the case, with the end but a few hours away, I was requested by Professor Caillé to assume again charge of the case and to perform a second decapsulation of the kidneys as a final resort and forlorn hope. In view of the proven potency of renal decapsulation in relieving suppression of urine and increasing the urea output when all other measures had failed, I declared myself ready to operate upon this desperate case. The patient was brought to my private hospital, and within an hour after his arrival the operation was begun.

Second operation, March 31, 1904, under nitrous oxide and ether anæsthesia. Redecapsulation of both kidneys.

The patient was carried to the operating room unconscious, livid, and with beginning œdema of the lungs, the heart's action, however, still being fairly good. A catheter was passed and the bladder was found empty. An incision was carried on the right side through the scar of the first operation and the kidney was exposed. The fatty capsule completely covered the kidney, being adherent posteriorly to the scar of the former operation and anteriorly to the kidney. The kidney was thus indirectly and mediately anchored to the walls of the abdomen in the lumbar region. After detaching the fatty capsule the kidney was found covered by a newly formed capsule proper, not differing greatly in appearance from the capsule removed at the first operation. The new capsule was thinner and perhaps more transparent than the original capsule, which it will be recalled was slightly and unevenly thickened. It was peeled off from the entire surface of the kidney and cut away with no greater difficulty than obtained in the case of the original capsule. There was not the slightest evidence of compression

of the kidney by the new capsule. The perirenal fat was found well vascularized, though the entire operation, including the separation of the capsule from the kidney, was practically bloodless, owing possibly to the liberal venesection of the previous day. The kidney itself was found of exactly the size and volume encountered at the first operation two years previously. It presented also the same characteristic gross appearance of chronic interstitial nephritis. It was, however, decidedly less hard and more succulent to palpation than at the first operation. The left kidney was next operated upon, the description above given of the operation on the right kidney holding good also for the operation on the left urinary gland. The left kidney was found in identical condition as regards size and gross appearances with that found at the first operation; it likewise was distinctly more succulent and less fibrous than at the first operation two years before.

On completion of the operation the patient was returned to bed in about the same condition in which he came to the operating table. The uræmia remained uninfluenced, and five hours after operation the patient died in uræmic coma. The flow of urine, however,—and this is a matter of considerable practical interest—was started by the operation, although too late to be of any avail in saving life. During the last three hours of life the patient unconsciously voided into bed considerable quantities of urine, the exact amount of which could not be determined.

Urine examinations were made during the progress of the case to the number of more than thirty. The appended table contains a selection from those made by Prof. H. T. Brooks or Dr. W. G. Vincent. They show little or no practical improvement, the change for the better otherwise to be expected after renal decapsulation being neutralized by the persistent urinary infection.

Three points of interest stand out in the history of the case narrated: (1) The nullification of the usual good effects of renal decapsulation by persistent chronic infection of the genitourinary tract. Notwithstanding this it remains an interesting speculation as to what the outcome of renal redecapsulation would have been if performed two months earlier when first advised by Dr. Caillé. (2) The mediate and practically normal fixation of both kidneys as a result of simply dropping the kidneys back into their fatty beds after decapsulation. (3) The prompt effect of decapsulation in relieving complete anuria. Whitacre (*Journal of the American Medical Association*, 1903, XL, 1409-1416) has already detailed a case in which suppression of urine of eight days' standing was cured by renal decapsulation. In my own experience with renal decapsulation, I have repeatedly observed the prompt conversion of almost complete suppression of varying duration into free flow of a normal or greater than normal amount of urine as a result of operation.

Chronic Bright's Disease.—Case No. 30: C. L., male, aged twenty-six years. Weight, 60 kilograms. First decapsulation of both kidneys, May 1, 1902. Second decapsulation of both kidneys, March 31, 1904.

DATE OF URINE EXAMINATION	TOTAL URINE IN 24 HOURS	SPECIFIC GRAVITY	TOTAL SOLIDS IN 24 HOURS	UREA	ALBUMIN	RENAL CASTS, ETC.
April 25, 1902 (before operation)		1012		1.5 per cent.	30 per cent. by bulk, Heller.	Large numbers small hyaline, granular, epithelial and mixed casts. Occasional granular and fatty renal element. Large numbers isolated pus cells.
June 23, 1902.		1014		1.7 per cent.	30 per cent. by bulk, Heller.	Innumerable casts of all kinds except waxy. Occasional granular and disintegrated renal cell. Occasional isolated blood cell. Innumerable pus cells, isolated and in masses.
January 21, 1904.	2800 c.c.	1011	74.56 grams	14 grams in 24 hours	25 per cent. by bulk, Heller.	Numerous large hyaline, fine granular, epitheliated and mixed; occasional pus cast. Occasional isolated red blood cell. Innumerable isolated pus cells, often in small masses resembling fragments of pus casts. Numerous renal cells, occasionally finely fatty.
January 27, 1904.	3800 c.c.	1007	61.798 grams	19 grams in 24 hours.	30 per cent. by bulk, Heller.	Occasional very large hyaline and pus; also mixed and finely fatty. Innumerable pus cells, often in small masses. Considerable number renal elements, occasionally very granular.
February 5, 1904.	4000 c.c.	1008	74.56 grams.	16 grams in 24 hours.	33 per cent. by bulk, Heller.	Rarely a large hyaline and epithelial and pus. Numerous pus cells, isolated and in masses, resembling fragments of pus casts. Large numbers granular renal elements.
February 14, 1904.	2000 c.c.	1010	46.6 grams.	10 grams in 24 hours.	0.8 per cent	Frequent hyaline. Rather frequent coarse granular. Few epitheliated. Many isolated red cells. Numerous pus cells, singly and in masses.
February 20, 1904.	1700 c.c.	1012	47.53 grams.	13.6 grams in 24 hours.	Heavy ring.	Many hyaline. Occasional granular. Few mucous threads. Many red cells and many pus cells.
March 7, 1904.	1200 c.c.	1012	33.55 grams.	18 grams in 24 hours.	Marked ring.	Few hyaline. Rarely a fine granular. Few isolated red cells. Quite frequent pus cells, singly and in small masses.

Very little or nothing can at present be said concerning renal redecapsulation except that it will stand or fall as a therapeutic measure with renal decapsulation. Any further expression of opinion must, until the results of further experience are available, rest upon theoretical considerations only.

The main and most frequent indication for renal redecapsulation in chronic Bright's disease will probably remain that already outlined, *i.e.* when after a more or less protracted period of improvement following a first decapsulation the clinical symptoms should return or become aggravated. This indication does not embrace the transient acute exacerbations so frequently observed in the course of chronic Bright's disease, whether the kidneys have or have not been decapsulated. It applies rather to those cases of uræmia and of failure of kidney function characterized by a steady diminu-

tion in the amount of the daily output of urea, since the most striking and constant result of renal decapsulation for chronic Bright's disease is the increased elimination of urea. Suppression of urine, representing as it does the extreme degree of renal inactivity, is of course included in the just mentioned indication.

Johnson (*Annals of Surgery*, 1903, XXVII, 592-601) has found that in dogs the capsule proper of the kidney is composed of two layers, the inner and thinner of which cannot, as a rule, be separated from the kidney. I have on one occasion encountered the same condition in an operation upon a man twenty-seven years of age. The outer layer of the capsule proper was removed without any unusual difficulty, leaving a thin, translucent, filmy, inner layer still covering the kidney. All efforts to detach this inner layer from the kidney failed; wherever any portion of it was removed it brought away with it adherent particles of kidney tissue. In just such a case, a redecapsulation, say three or four months after the first operation, *might* succeed in removing the inner layer of the old capsule in one piece or layer with the new capsule.

To relieve imaginary pressure, supposed to be exercised upon a kidney by the new capsule formed after renal decapsulation, cannot be considered as an indication for renal redecapsulation. That the new capsule exercises such pressure has not, as yet, been demonstrated; it certainly did not do so in the case detailed.

Judging from the above solitary experience in the living and from an additional observation in the dead house, the removal of the new capsule presents no greater technical difficulties than the removal of the original renal capsule.

59 West Forty-ninth Street.

OPERATIVE SURGERY APPLIED TO THE SEMINAL VESICLES:

A DEMONSTRATION OF SOME NEW PRINCIPLES.*

By EUGENE FULLER, M.D.,
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It is hardly to be expected that operative surgery in connection with the seminal vesicles will become as popularized as that relating to some other organs, owing in large degree to their anatomical position, which is sufficiently inaccessible to prevent existing pathological conditions from becoming recognized, except by those who have paid special attention to that particular. Up to the present time very few, even of those who are skilled in the diagnosis of seminal vesicular disease, have attempted to relieve existing conditions by a resort to operative surgery, and much of the surgery attempted has been attended by indifferent or poor results, for the reason, I take it, that most of it has related to the extirpation of the organs when the seat of advanced tuberculous disease. I am at present of the opinion that tuberculous disease in this connection should be treated therapeutically and hygienically rather than surgically. In my experimental work my aim has been to discover, first, the best operative method to expose the seminal vesicles, and, second, the appropriate surgical treatment for the different types of disease. Early in 1901 (February 10) I read before the New York County Medical Association a paper entitled "A New Operative Method to Expose the Seminal Vesicles and Prostate for Purposes of Extirpation and Drainage; a Preliminary Report." This paper was afterward published in the *Journal of the American Medical Association*, May 4, 1901. The chief features of the operative technique were the knee-breast position and the extent of the lateral incisions which allowed a free dislocation upward of the rectum. To attain the operative position I used formerly to place the patient on the abdomen with the buttocks over the raised end of a Trendelenburg table, the thighs being spread apart and flexed. As this position was somewhat hard to maintain on such a table, I have latterly found it much easier to have the patient on a flat table, kneeling with the knees flexed sharply under him and with the shoulders so depressed that the side of the face lies on the table. As the result of much further experience with this operative method, I can confidently endorse all that I claimed in its favor in my first article. I have employed it up to the present twenty-one times without a death. In fact, in no cases did any clinical symptoms of a threatening nature develop after operation. In but one case did an operative mishap occur, and that consisted of a digital perforation of the rectal wall during the course of the dissection. The perforation was closed by chromicized catgut suture and healed by first intention. In this instance the gut wall was unusually thin, and its outer fibrous layer seemed to to be but little developed, so that as the result of slight traction upon it the rent occurred.

The surgical method which I have originated for the seminal vesicles consists of seminal vesiculotomy or the exposure of the cavity of the seminal vesicle by means of a free longitudinal incision. The surgical treatments which I have introduced as a consequent to this new operation are drainage of the sac cavity, curettage, and the removel of intra-seminal vesicle neoplasms. I have not as yet happened on a case of calculus of the seminal vesicle. Another feature which, in some instances, I have combined with the operation of seminal vesiculotomy is that of freeing the organ through peripheral dissection of surrounding inflammatory adhesions, a sort of decapsulation as it were. I also feel that peri-seminal vesicle abscess can be best drained through the employment of the method of operation herein advocated. When my first paper was written I had but recently operated on my first five cases. In that paper, which was entitled a preliminary one, I simply reported what I had then done, the work being too recent to draw deductions as to its ultimate value. In the present paper the final outcome of the original cases, as well as that of numerous subsequent ones, is given, thus allowing conclusions to be drawn.

My twenty-one cases can be pathologically subdivided into five groups: Group No. 1 consisted of extremely chronic cases of seminal vesiculitis, in which the lesions consisted chiefly of sclerous tissue. Not only were the walls of the seminal vesicles sclerous, but the surrounding fibrous structures were likewise extensively involved, the result being that the cavities of the seminal vesicles were contracted and the sacs themselves bound down by adhesions. In this group of cases an intravesicle catarrh, which had formerly existed, no longer remained as an active feature, since it had become in large measure eliminated partially by the chronicity of the lesion, but chiefly by the contracting force of the sclerosis, which had, as far as possible, obliterated the sac cavities. Six of my operative cases were of this group. In four of them my results were good. In two the results were largely negative, as far as the removal of clinical symptoms were concerned.

Group II consisted of instances of seminal vesiculitis less chronic than those of Group I. In the second group the intravesicle catarrh was still a prominent feature, the sclerotic lesions in connection with the sac walls and the surrounding fibrous tissues not having developed sufficiently to cause con-

*Read before the Section on Genitourinary Surgery, New York Academy of Medicine, February 17, 1904.

traction of the sac cavities. In some of these cases, in fact, atonic distention of the sac cavities existed.

Eight of my operative cases were of this group, Three out of the eight are, however, recent cases which have just been discharged from the hospital in a very satisfactory condition, and which I expect will be perfectly cured by the operation. Of the remaining five the results have been positively good in three. Two of the cases I lost sight of too soon after operation to be positive concerning the after-result. One of these, I think, could be classed, as cured, as I expect I should have had a complaint from him had he not been satisfied. The remaining patient I left in the hospital convalescent at the termination of my annual service and then lost trace of him.

Group III consisted of cases of acute diffused peri-seminal vesicle abscess. Gonorrhœa was the infective agent in these cases. Five of my cases came under this heading. In all of them the results were particularly good.

Groups IV and V consisted of one case each. In Group IV the lesion consisted of an adenoma involving the wall of the seminal vesicle and causing an obliteration to a large degree of the sac cavity. The result attending the removal of the growth was good. In Group V the lesion was tuberculous involvement of the seminal vesicle. Removal of the sac caused only temporary relief. A sinus persisted and the patient died after several months, through extension of the tuberculous process, chiefly to the ureter and renal pelvis. This case, therefore, should be classed as an operative failure, as nothing was really gained by operation, although the operation in itself was immediately successful.

The following is a brief clinical recital of the individual cases making up the different groups:

Group I—Case I.—An Italian, about thirty years of age, referred to me by Dr. F. Tilden Brown. The chief clinical symptoms in this case were marked frequency of urination, the act being associated with great urgency and pain. There was also painful priapism, and so much pain on ejaculation as to inhibit attempts at intercourse. The urine was moderately purulent. The patient, owing to his pain, had latterly contracted the opium habit. He stated that he had been well until several years previously, at which time he had contracted gonorrhœa. During the active stage of that disease he had been treated by means of deep injections of nitrate of silver. The patient thought that this treatment had been very injurious in his case, as during its continuance the symptoms complained of had developed and had since persisted. Before coming under my observation the patient had been in numerous hospitals, and had submitted to three major surgical operations without any relief whatsoever. His bladder had been opened twice through the perineum and once suprapubically, in the vain hope of thereby removing the cause of his trouble. On examination I found a dense sclerosis not only of both seminal vesicles but also of the surrounding tissues. I operated upon him by my method, freely incising and draining both seminal vesicles. I kept this patient under observation for a year and a half. At his last report his condition was highly satisfactory. He urinated without pain about once in four hours. He was sexually vigorous, and the act itself was natural and so gratifying that he was at the time indulging somewhat excessively. The rectal feel showed an absence of the former sclerosis. In this case the improvement was not apparently sufficient to give me great hopes of an ultimate recovery for six months after the operation. I broke up his opium habit when in the hospital, and I attribute some of the apparent slowness in arriving at the end result in this instance to the after-effects of that habit.

Case II.—A man about forty years of age, whose chief clinical symptom was perineal pain, increased on sitting, which he had had nearly constantly for several years. His sexual function was almost nil. The bladder had formerly been excitable, but at present those symptoms had disappeared. Had had gonorrhœa on several occasions. The only lesion discoverable in this instance was a fair degree of sclerosis in connection with the seminal vesicles. I operated on him, opening both sacs longitudinally. His painful symptoms were promptly relieved by the operation. I last heard of him about six months after the operation; he then considered himself well.

Case III.—A man of about thirty-eight, whose complaint was impotency. He was a very phlegmatic individual and complained of no pain or other functional disturbance. Had had gonorrhœa several times in earlier years. In his case the sclerosis was very marked. I operated, incising both sacs very freely. I last saw him about four months after the operation. To the rectal feel the sclerosis had in great measure disappeared and the patient was satisfied with his sexual status. The result in this instance, owing to the extent of the sclerosis, was more prompt than I had anticipated.

Case IV.—Man fifty years old, whose chief symptom was sexual neurasthenia combined with marked melancholy. His mental symptoms were so marked as to unfit him for all business and to make one solicitous lest actual suicidal tendencies might not develop. His sexual function was crippled. His lesion consisted of a marked sclerosis, chiefly in connection with the right seminal vesicle. I operated, splitting open the affected sac very freely, the other to a less extent. It is now a year and a half since the operation. The sclerosis disappeared promptly. The sexual function did not become at all satisfactory for eight months after the operation, and during that time the patient, remained apprehensive lest the operation would prove a failure, and improved but little mentally. Since then, however, there has been a gradual and progressive improvement both sexually and mentally. For the last few months he has returned to business. His sexual function is now satisfactory and his long period of convalescence is at an end. It is well to consider the age of this patient, fifty years. Had he been younger one could reasonably have expected a shorter period for convalescence.

Case V.—A man thirty-five years old. His chief symptom was sexual neurasthenia and an inability to focus his mind sufficiently to carry on his business. His sexual function had to a large extent disappeared. He had a fair degree of sclerosis in connection with both seminal vesicles. It was in this case that the perforation of the rectal wall occurred during the performance of the operation. Owing to this accident, I did not lay open the seminal vesicles by longitudinal incisions as freely as had been my custom, being fearful of an infection of the part in case the bowel wound should not heal by first intention. In this case the patient experienced much temporary relief, but at the end of a year he reported, still complaining, and an examination showed the persistence of some sclerosis.

Case VI.—Man thirty-five years old, a periodical masturbator. Although for considerable intervals he would be able to control himself, yet at times, as the result of some incident tending to excite him, he would lose that control and then for months he

would masturbate excessively. He was of a very shy disposition. Had never had sexual intercourse and had never even made such an attempt, being apparently too diffident to approach the opposite sex. He had a peculiar hesitating manner when questioned. There was considerable insanity in his family. The only child beside himself was, from his description, apparently wrong mentally. In his case there was a marked sclerosis in connection with the seminal vesicles. I treated him for some time, stripping the seminal vesicles, but did him no good. He left me to try hypnotic treatment. That doing him no good he returned. My opinion at that time regarding this patient was that the primary trouble was mental and that the masturbation had caused the lesion in connection with the seminal vesicles. That being the case, an operation on the seminal vesicles, even though it removed the lesion, would do no good. I felt that there was a chance that the sexual lesion was the primary cause and that his mental symptoms were the result, which supposition being correct, the removal of the lesion would affect a cure. The patient being fully appraised of this reasoning elected to be operated upon. The operation was performed and the result as regards the sclerosis was good. The patient has, however, experienced no relief.

Group II—Case I.—Man thirty-six years of age. His clinical symptoms consisting of an intermittent urethral discharge, sexual disability and neurasthenic disturbances, which unfitted him for work. His lesion consisted of atonic distension of both seminal vesicles, a highly catarrhal state of the contents of the sacs and some sclerosis of the sac walls and surrounding tissues. This was my first operative case. The seminal vesicles were not incised as freely as in my subsequent cases. The result was encouraging and I expect good, although the patient was left with symptoms due to hemorrhoids, which served to mark to some degree the sexual result. In this case in making my dissection I kept too near the rectal sphincter and so to a certain extent disturbed the function of that part. The usual operation for hemorrhoids was later indicated in this instance. I lost sight of this patient soon after he left the hospital.

Case II.—A man thirty years of age. His sexual lesions and symptoms corresponded to those of case I. The lesions, however, were less aggravated. I thoroughly drained the seminal vesicles. The man left the hospital in a satisfactory condition and reported six months after, stating that he was well.

Case III.—A man thirty-five years old, impotent and extremely neurasthenic. Had also much perineal and testicular pain. There was a fair degree of intra-seminal vesicle catarrh and much sclerosis. The sacs were freely incised, gently curetted and drained. The operative result was highly satisfactory in ridding the patient of his lesions. He disappeared from view one month after leaving the hospital, feeling then improved. I expect the result in this instance is good.

Case IV.—A man twenty-eight years old. Chief complaint a persisting discharge. His lesions were very similar to those in Case II. Seminal vesicles freely incised and drained. Reported eight months after operation, stating that he was well. His sexual function was satisfactory.

Case V.—A man of about thirty years of age. He complained of a relapsing discharge following intercourse, and some frequency of urination, the act being followed by pain. His sexual strength was weak and the act largely devoid of normal sensation. In this case there was considerable sclerosis in connection with the seminal vesicles and some intra-seminal vesicle catarrh. Both sacs were freely incised, curetted, and drained. This case was lost sight of about four months after operation. His condition was then satisfactory. His clinical symptoms had disappeared and his sexual function was satisfactory.

Case VI.—A man thirty-five years old. Complained of marked sexual weakness, pain on ejaculation, perineal pain and some uretheral discharge. Had marked intra-seminal vesicle catarrh, considerable atonic distention of the sacs and some sclerosis. Last saw him a few weeks ago, shortly after he had left the hospital. I see no reason to doubt a good ultimate result in this case.

Case VII.—Man about thirty-two years old. His chief complaint was a persisting uretheral discharge, some urinary frequency and a moderate degree of sexual derangement. The patient is of a phlegmatic disposition and consequently his reflex nervous symptoms were not apparently marked. This man is now ready to be discharged from the hospital. He has no uretheral discharge and is satisfied with the operation.

Case VIII.—Man, twenty-five years old. Complained of pain in the right iliac region, which became marked on exertion and was aggravated also by any sexual excitement. A constipated state of the bowels caused him much pain in that region. He was unnaturally excitable sexually. When the iliac pain was pronounced his urination was frequent and painful. His urine at times was purulent. He had suffered in this manner for a year and a half following gonorrhœa. Rectal feel showed the right seminal vesicle to be very extensively involved. It was greatly tumefied, and tender (the tumefaction involving the surrounding tissues). On digital rectal pressure much catarrhal material was expressed. I incised the diseased sac very freely and curretted its interior. My patient is now ready to be discharged from the hospital. He is wholly relieved of his pain and is very happy. To the rectal feel rapid resolution is going on at the seat of operation.

In all the cases of Group II just considered, gonorrhœa was the primary cause for the existing lesions.

Group III—Case I.—Man twenty-two years old, developed retention of urine at the termination of his fourth week of gonorrhœa. Associated with his retention and the usual attendant bladder symptoms were great deep perineal pain and tenderness, rectal tenesmus and much pain on defecation. The finger in the rectum detected a large tumefaction bulging into the rectal space. This tumefaction involved the prostatic capsule, the seminal vesicles and the tissues about the seminal vesicles. I operated according to my method and drained a peri-seminal vesicle abscess in an early stage of development. The seminal vesicles were not in this instance opened. In forty-eight hours after the operation the power to urinate returned. The patient left the hospital well in his fourth week.

Case II.—Man twenty-five years old. Contracted gonorrhœa about five weeks previously. Shortly following strong injections applied to the deep urethra, symptoms of rectal and vesical tenesmus developed, together with much perineal pain. The act of urination was frequent and difficult. Rectal feel showed much tumefaction and great tenderness in the post-prostatic region. I opened this region in my usual way. No actual pus formation was discovered, the operation having evidently just anticipated such an occurrence. The region was drained, the result being a rapid disappearance of the tumefaction, together with the subjective symptoms. After a brief interval the patient was discharged from the hospital well.

Case III.—Man thirty years old. Gonorrhœa con-

tracted one month previously. When seen by me for the first time in consultation had all the general symptoms of severe sepsis. He had his first retention three days before. He was then suffering extreme localized deep perineal pain. The following day his pain suddenly became more diffused. He had a severe chill and the power to urinate, though with difficulty, returned. Soon after this, surface tenderness on the buttocks began to develop. Examination showed the post-prostatic region greatly tumefied. A brawny induration also involved the entire ischiorectal space. The surface tissues of the buttocks were porky and tender to the feel. It was evident to me that a peri-seminal vesicle abscess had first formed, causing retention. As this abscess burst out of its space and into the ischiorectal region, the pressure about the neck of the bladder was temporarily sufficiently relieved so that the power to urinate returned. I advised prompt and free drainage of the entire region if death from sepsis was to be averted. There was delay in accepting my advice, so that the operation did not occur till forty-eight hours later. General sepsis had then become so pronounced as to make the condition of the patient desperate. The operation was, however, wholly successful. The patient entirely recovered, although it took him considerable time to regain his stamina. I feel that no other operation would have drained the involved area sufficiently to have saved the life of this patient.

Case IV.—Man thirty-five years old. Some months previously had had gonorrhœa, but had thought himself well. About a week before coming under observation a pain had developed in the pelvic region, the location of which was rather indefinite. A few days later he found that he urinated with increasing difficulty. He went to a hospital dispensary, was examined for stricture, and as none was found he was dismissed, being told that nothing was really wrong and that his supposed trouble was imaginary. The day following the search for stricture, he developed retention, and then came under my observation at the Post-Graduate Hospital. The pelvic pain had at that time increased slightly. As the result of rectal exploration, a moderate degree of œdema was detected in the post-prostatic region. The urine was clear and his reflexes were normal. Thinking in this obscure case that an abscess was forming in the post-prostatic region, I performed my operation, and on entering that space a small amount of pus, less than a drachm, was liberated. Drainage was instigated. In less than twenty-four hours the patient was urinating freely. He left the hospital well after a rapid convalescence.

Case V.—Man, twenty-one; retention in the fourth week of his first gonorrhœa. He had great pain in the deep perineal region, and the feel per rectum showed marked tumefaction of the prostatic and post-prostatic region. I operated as usual and liberated a collection of pus from a peri-seminal vesicle abscess. The patient recovered rapidly, though in this instance some urine escaped for several days along the tract of the incision, showing that the abscess when opened was about to discharge itself into the bladder.

Group IV—Case I.—Man, fifty-five years old. His clinical symptoms were pain in the right testicle and a pain along the right side of the penis. These pains were largely paroxysmal and when at their maximum were severe. Urination was frequent and the desire urgent. Exercise increased his discomfort. There was no obstruction to the flow of the urine. He did not indulge in sexual intercourse, but felt that an attempt in that direction would aggravate his symptoms. His trouble began suddenly three years previously with pain in the right testicle and had persisted. Had had gonorrhœa twenty-five years ago, otherwise had had no venereal history. Examination per rectum showed a very firm mass the size of a marble in the right seminal vesicle. I performed my usual operation, split open the seminal vesicle longitudinally and removed the neoplasm by means of a sharp curette. The growth proved to be an adenoma, though the pathologist at the time was fearful lest it might not also have qualities of carcinoma. The patient was very stout, and it was consequently difficult to keep the drainage tubes in place. Owing to insufficient drainage, the tract of the wound had to be divulsed and the part redrained several weeks after the first operation. The patient then, however, recovered completely and disappeared from observation. I have under observation another case, apparently similar to this one, on which I have soon to operate.

Group V—Case I.—Man, forty-five years of age. His chief symptoms were urinary frequency and distress, some pyrexia and much deep perineal pain. The urine was somewhat purulent and tubercle bacilli were demonstrated. Rectal feel showed marked tumefaction of the right seminal vesicle, together with an inflammatory involvement of the surrounding tissues. I determined in this instance to remove the diseased sac. I employed my usual method and accomplished the removal; although the surrounding adhesions were so dense as to make the operation somewhat difficult. The immediate effects of the operation were good, the distressing symptoms being ameliorated. The tract of the wound, however, never closed, a sinus persisting. At the end of six weeks further pyrexia manifested itself, and there was also a redevelopment of symptoms, such as existed previous to the operation. It was then found that the tuberculous process had invaded the remaining seminal vesicle. After a time evidences of renal tuberculosis appeared. Within five months after the operation, the patient having gradually failed, died. The post-mortem examination showed marked tuberculous involvement of the renal pelvis and its connecting ureter, a developed pulmonary tuberculosis and minor lesions of a like nature elsewhere. The operation in this instance did not stay the progress of the disease. In fact, I expect its tax on the patient's vitality, owing in great measure to the necessitated confinement to bed and the local disturbance to the tissues consequent on its performance, were greater aids to the propagation of the systemic tuberculosis than the undisturbed harboring of the originally infected seminal vesicle would have been.

The foregoing results are sufficiently numerous and good, not only to justify me in no longer calling the work experimental, as I did in my first article, but to warrant me in advocating such treatment in many cases of Group I, in some instances of Group II, and in all cases of Groups III and IV. In Group V nothing was apparently gained by the surgical interference. I do not feel that the operative surgery that I am now advocating is destined to or should supplant my method of stripping the seminal vesicles as a routine mode of treatment for the first two groups of cases. If an individual is so situated as to be able to present himself regularly for office treatment as long as may be necessary and be free from tuberculous taint, he can in most instances of Group II, and in many of those of Group I, be cured, by means of digital rectal manipulation, or at least so far benefited as to relieve him of subjective symptoms. In all cases of these two groups wherein the stripping treatment has failed I would advise the operative treatment just de-

scribed. Many individuals with such lesions, owing to the remoteness of abode, exactions of business or other cause, cannot submit themselves to a regular and prolonged attendance at a surgeon's office. For them an operation is the only effective method of treatment available.

For the liberation of pus in this deep region the operation under consideration is better than the three other surgical methods in vogue, which are (1) perineal section, with a median incision through the trigonum; (2) incision through the rectal wall, and (3) perineal incision through the prostate. Although topics of much interest, it is beyond the scope of this paper to discuss the surgical disadvantages of those three drainage operations as compared with the one I advocate. The advantage of the operation for the removal of a tumor of the part is self-evident.

Some, of course, will take exception to the stand I take against the removal of tuberculous seminal vesicles. To such I will say that I am ready to change my opinion as soon as they can show operative results sufficiently at variance with those generally on record to make it evident to me that I am at present in error in this particular.

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WHO IS UNDERFED?*

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The impression prevails oftentimes that the lean or apparently emaciated person must of necessity be underfed. This, however, is erroneous, for the lean person or one who—within certain limits—is losing in body-weight and circumference need not be at all underfed. In the lean, as long as the egress of material is made good by an ingress of assimilable substances, there does not prevail a condition of subalimentation. Furthermore, in the obese, the reduction of excessive weight by diminution of diet does by no means imply that the individual is being underfed. The excessive weight, especially if the case is one of metabolic obesity, merely demonstrates that the individual had been overfed. Hence, a proper dietary for the reduction of metabolic obesity is primarily devised not for the promotion of a state of underfeeding but for the prevention of further adipose accumulation; the removal of the surplus fat already deposited should be entirely left to artificially induced or accelerated oxidation processes. While the lean person, in metabolic equilibrium, is never in a state of subalimentation, we can invariably demonstrate a more or less pronounced loss of body albumin in the real underfed.

The appearance of the lean, it is true, may not always conform to our æsthetic sense, he may be easily effected by heat and cold and atmospheric changes in general, he may also be possessed of an irritable nature, but notwithstanding these apparent drawbacks and deficiencies, he may not only be hale and sound but may frequently display a degree of endurance and energy, not often met with in the overnourished individual.

As a matter of fact, the dietary standards at present in vogue, especially in the cities, seem to be entirely too large. This is no news to the experienced clinician. Chittenden† has again touched experimentally upon this question. He relates an experiment with a man who, on the average, consumed 44.9 grams of protein during the twenty-four hours; the entire diet was valued at 1,606 calories. The individual was in practical nitrogen equilibrium: 6.90 grams nitrogen were in the mean excreted by the urine and fæces and 7.19 grams ingested during the twenty-four hours. The diet was very plain. Particular attention was paid to thorough mastication. The food was well digested. When we remember that the healthy adult excretes by the urine alone about 100 grams of nitrogen during one week, we understand that the nitrogenous part of the nutriment of this subject amounted not quite to one-half of that of an average adult person. Still, his body albumin remained intact and he continued in good health.‡

Hirschfeld§ relates the well-authenticated case of a lady, thirty-four years old, 1.55 m. high and weighing 90 kilo., who in the course of six years had even gained 30 kilo. while subsisting on a diet, the nutritive value of which amounted to not more than from 1,600 to 1,650 calories per day. The same author cites another case of a woman, forty-five years of age, 1.49 m. high and weighing 59 kilo., who in spite of moderate labor and a nourishment fluctuating between 1,380 and 1,570 calories, kept herself in metabolic equilibrium.

I have seen a number of instances in which practically the same facts obtained. My clinical observations, naturally, were made in individuals either of under or overweight. I have not met with a case in which marked increase of body substance had resulted from as low a nutriment as 18 calories for each kilo. of total body-weight. I have, however, come across a number of instances in which individuals already obese, or such having undergone treatment for corpulency or, finally, such who, while of underweight according to accepted standards performed considerable bodily labor, have retained their absolute weight as well as their specific corporeal density, when under a diet of approximately 20 calories, and in some instances even of less than 15 calories for each kilo. of total body-weight.¶

That much we may say with certainty, that we could materially economize in nutrition without interfering with the physiological processes in the organism in the slightest degree. We are even justified in going a step further by asserting that *the animal functions, the tonicity of the structures and organs*, in short *the normal intrasystemic equilibrium, are the better maintained, the more the sum of ingested assimilable nutrients is limited to the amount absolutely necessary to keep the body in metabolic balance.* A diet valued at from 35 to 50 calories for each kilo. of body weight in twenty-four hours, the usual standard of to-day, seems entirely too large even in the case that the individual performs continuous and hard labor. A diet of such high caloric value may probably be useful in some phases of certain types of malnutrition; in the normal person, however, it tends to excessive adiposity and all its untoward consequences.

*A paper read before the Academy of Medicine, April 9, 1904.

†Chittenden, *Popular Science Monthly*, No. 2, 1903.

‡The values selected for comparison by the observer represent the total and not the digestible nutrients as such.

§Hirschfeld, Über den Nahrungsbedarf der Fettleibigen, *Berliner Klinik*, April, 1899.

¶Of course, the very low amount of food, 15 calories and less per kilo. of body-weight, was met with in people with pronounced metabolic obesity in whom the surplus fat, which needs no special consideration in alimentation, was concluded in the total calculation. For instance, a man thirty years old, 1.71 m. (5′ 7″) in height, weighs 100 kilo. His weight, including the physiological amounts of fatty substances, should not exceed 70 kilo. (154 pounds). Partaking of a diet valued at 15 calories for each kilo. of absolute body weight, he introduces a total of 1,500 calories. However, as the surplus fat requires no supply of ingested material, the total amount of the latter is practically carried to the 70 kilo. of physiological body substance, which is in the ratio of 21.4 calories to each kilo.

Moreover, we should know whether by the caloric value of the food is meant the total or the assimilable nutrients it exhibits. In the first case, the amount of calories per kilo. and day must, of course, be higher than when assimilable material only is ingested. The elaboration itself of assimilable nutrients from the ingesta demands a certain amount of energy; coarse food is but in part utilized, a goodly amount of its nutrient elements are either not elaborated at all or undergo incomplete conversion only. The coarser the food, therefore, the more must be employed of it to derive therefrom the necessary calories. Working people as a rule can but afford the coarser forms of foodstuff; at any rate, these comprise a considerable portion, if not the bulk, of their diet. This is to a greater extent the case in other countries, as for instance in Germany, where Rubner and his followers have developed the caloric theory as it pertains to foodstuffs, and which we in the United States have accepted *in toto*. Apart from the fact that even a coarser food representing from 35 to 50 calories per day and kilo. of body-weight will yield more assimilable nutrients than demanded by the normal organisms, we must recall that the majority of the inhabitants of this country are subsisting on rather readily digestible and assimilable forms of food.

A considerable number of personal observations have demonstrated to me that the normal food demand of the adult male individual engaged in manual labor for from eight to ten hours daily, in the rarest of instances exceeds 35 calories of the coarser foodstuffs per day and kilo. of body-weight. Contrary to prevailing impressions, I found the caloric demand of the female organism, similarly occupied, not more than about two calories lower on the average. This small difference in the kilogram-caloric demands of both sexes may have been partly accidental—there may not be any difference whatsoever if the observations are extended over a larger number of individuals, or if they are made in closed institutions—or it may be due to the somewhat more trying work of the male laborers who had been under my observation.

Again, if the ingesta are of a more assimilable type—that is, if less digestive energy is evolved for the elaboration and conversion of their nutritive elements and if they leave no or little residuary substances to be excreted by the fæces, I found that from 20 to 30 per cent. less calories are required to keep the individual in metabolic equilibrium. Experience, indeed, has shown to me that loss of body albumin may be prevented by a diet of assimilable nutrients much lower in caloric value than deemed necessary by the German investigators.†

We may accept it as a fact that any normal individual may thrive well on from 30 to 35 of total ingested calories and on from 23 to 28 of assimilable calories per day and kilo. of body-weight. Viewed in this light, many cases of supposed underalimentation are not such at all, for underfed in its real meaning is synonymous with a state of malnutrition. Accordingly, an underfed adult person, in the face of assimilable material to the value of from 23 to 28 calories per day and kilo. of body-weight, is one in whose economy a portion of the ingested substances is utilized perversely, or to a lesser degree than normally, one by whose total excreta more nitrogenous material is carried from the organism in one week than has been introduced to it during the same period,‡ and in whom the loss of absolute body-weight is always accompanied by decline of strength, vital energy and resistance and occasionally also by diminution of corporeal density.

A diet of aforementioned caloric value is far above the starvation limit. What we need in this country is a thorough and rational readjustment of dietary standards. We know how to feed a horse to develop its best qualities, what to feed to cows to obtain the most and best milk, what and how much food to give to our athletes in training, but we do not know on what, or rather on how much nutriment we should subsist in order to attain the possible highest qualifications for our daily vocation.

It is self-evident that a diet just sufficient to keep an adult individual in metabolic balance, does not meet the requirements of the very young and adolescent. Growing organisms need excess of food at all times to facilitate the deposition of physiological amounts and admixtures of body albumin and fat. This comparatively larger amount of food, however, should not exceed certain well-defined limits. It must not be too one-sided, so that one class of nutritive elements, at the expense of others, preponderates for any length of time, and it must conform, to some degree at least, with the amount of physical work executed by the growing organism.

Before attempting overfeeding as a therapeutic measure, the physician should convince himself whether the subject is really in a condition of underalimentation. He should ascertain:

1. Whether the individual is of underweight (see table).

2. Whether the underweight is due to ingestion of food, too small to maintain the metabolic balance.

3. Whether excessive exertion or labor stands at the foundation of the underweight.

4. Whether the individual is affected with a congenital anomaly or with any other disease or disorder.

5. Whether such anomaly, disease or disorder stands in causative relationship to the condition of subalimentation and underweight.

AUTHOR'S TABLE DENOTING MEAN HEIGHT AND WEIGHT OF BOTH SEXES IN THE DIFFERENT AGES OF LIFE IN THE UNITED STATES.

Age.	MEN.				WOMEN.			
	Body, inches.	Height, ctm.	Body pounds.	Weight, kilo.	Body, inches.	Height, ctm.	Body, pounds.	Weight, kilo.
1.....	28.74	73	21.78	9.9	28.50	72.4	20.24	9.
2.....	32.67	83	28.16	12.8	32.44	82.4	24.60	12.
3.....	35.82	91	32.70	14.9	35.59	90.4	29.04	13.
4.....	38.18	97	36.68	16.9	37.93	96.4	33.	15.
5.....	40.55	103	39.60	18.0	40.31	102.4	35.20	16.
6.....	42.91	109	43.34	19.7	42.68	108.4	38.50	17.
7.....	45.27	115	47.08	21.4	45.04	114.4	41.58	18.
8.....	47.63	121	51.7	23.5	47.40	120.4	40.92	18.
9.....	50.	127	55.60	25.3	49.76	126.4	49.06	22.
10.....	52.36	133	60.94	27.7	52.13	132.4	54.56	24.
11.....	54.33	138	66.40	30.2	54.09	137.4	58.52	26.
12.....	56.30	143	72.60	33.	56.06	142.4	67.98	30.
13.....	58.27	148	78.10	35.5	58.03	147.4	77.44	35.
14.....	59.84	152	84.40	38.4	59.60	151.4	87.34	39.
15.....	61.42	156	105.80	48.1	59.84	152.	97.02	44.
16.....	63.39	161	120.10	54.6	60.	152.4	97.46	44.
17.....	65.35	166	132.80	60.4	60.39	153.4	...	...
18.....	66.93	170	136.40	62.	61.18	155.4	...	...
19.....	67.32	171	138.60	63.	61.84	157.	118.80	54.
20.....	67.72	172	144.10	65.5	62.36	158.4	122.10	55.
25.....	68.90	175	151.80	69.	63.15	160.4	124.30	56.
30.....	69.29	176	154.	70.	63.78	162.	124.30	56.
35.....	68.90	175	157.30	71.5	63.54	161.4	127.60	58.
40.....	68.90	175	166.60	73.	63.39	161.	133.10	60.
45.....	68.11	173	161.70	73.5	62.99	160.	132.	60.
50.....	67.72	172	156.20	71.	61.81	157.	128.70	58.
55.....	67.32	171	151.80	69.	61.42	156.	126.50	57.
60.....	66.93	170	149.60	68.	61.02	155.	126.50	57.
70.....	66.14	168	145.20	66.	60.23	153.	117.70	53.

†Heinrich Stern, On the Treatment of Obesity, *Journal of the American Medical Association*, February 15, 1902. The same, The Obesity of Adolescence, *New York Medical Journal*, March 20, 1902.

‡The frequent fluctuations in the amount of excrementitious substances, mainly of those containing nitrogen from day to day, make it advisable to extend the metabolic observations over a longer period than the customary twenty-four hours; the fluctuations from week to week reflect with greater certainty the metabolic conditions in the organism than those from day to day.

The weight of an individual may be called subnormal if it is more than 15 per cent. below the weight corresponding to the height and age as shown by the table on page 812 which I have compiled from various statistics and from numerous personal investigations. Such a person, however, cannot be classified as underfed as long as he remains in nitrogen balance and does not decline in absolute as well as in specific weight. Moreover, the amount of ingested material in the pertaining instances may not be at all small. On the contrary, a person may consume considerable quantities of food and yet remain lean and appear ill-nourished. Again, the excreted nitrogen need not surpass the intake, it may just about equal it—that is, enough nutritive elements may be assimilated and utilized in anabolism to prevent plasmolysis or to replace lost body albumin. Judging by the dietary standard, such an individual is not underfed. *Underweight and underfed, accordingly, are* NOT *synonymous conceptions.*

Furthermore, it must be determined whether underweight is the consequence of too accelerated oxidation processes in the organism as effected by continued undue exertion. If this is the case, the amount of work must be so regulated that the nutriment conforming to physiological needs, suffices to prevent loss of body substance. The opposite—that is, greatly increased ingestion of food—must not be attempted, or, at least should be employed for limited periods only, as the great demand upon the digestive glands and the forced augmentation of cellular metabolism may sooner or later be followed by various organic insufficiencies and by systemic decline.

A very important and in the great majority of instances the only factor underlying the underweight is an inherited or congenital anomaly, or an acquired disease or disorder of some kind. The leanness and apparent emaciation of the majority of those affected thereby is due to an anomalous condition of or in one or more of the organs of digestion and assimilation, or to anomalous action of certain cellular structures, or to extensive structural changes in other organs or to perverted, accelerated, or inadequate function of the enzymes and secretions participating in systemic anabolism or catabolism. Underweight, in the absence of tangible disease and in the face of superabundant ingesta and moderate bodily exertion, must depend upon an abnormal structural or functional condition. An individual belonging to this category may not be underfed in the strict sense of the term—he may be in nitrogen balance and in apparent good health, the organism having adapted itself to the peculiar metabolism—but any unusual exertion or any intercurrent disorder may readily bring about a real condition of subalimentation.

In the real underfed there is always a traceable disease or disorder which directly or immediately prevents normal ingestion or complete utilization of foodstuffs, giving rise thereby to bodily decline. These are the cases which are especially benefited by treatment. However, overfeeding alone will hardly ever suffice in these instances. Before it is instituted, the organism must be prepared to receive properly, elaborate, and assimilate the nutrient material.

Viewed from the standpoint outlined in the foregoing, a person in perfect metabolic equilibrium and in the possession of the strength and endurance necessary for the fulfilment of his vocation, notwithstanding an eventual small body-weight is not underfed and does not require overfeeding. Treatment for the purpose of raising the absolute weight of an individual and thereby his vigor and resistance is primarily indicated in such conditions only in which the organism is in actual decline and in which a recognizable disease appears to stand at its foundation.

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TETANUS TREATED BY INTRANEURAL INJECTION OF ANTITOXIN.

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It has been known for some time that the tetanus toxin exerts its effects entirely upon the cells of the central nervous system, particularly those of the spinal cord. In 1902 (Marie and Morax, *Annales de l'Institut Pasteur*, Vol. XVI, p. 818, 1902) some interesting experiments were published showing that the absorption of the poison depended upon the integrity of the axis cylinders of the nerves, and that it was taken up by the muscle end apparatus of these nerves and flowed through the axis cylinders centripetally or toward the center. A more recent paper (Meyer and Ransom, *Archiv für Experiment. Pathol. u. Pharmacol.*, 1903, Vol. 49, p. 369) seems to confirm and amplify these facts and propose a more hopeful therapy than any heretofore suggested. Apparently the toxin can ordinarily only reach the spinal ganglia through the motor nerves—and it enters these only through the terminal muscle-end apparatus. Even when the toxin is placed directly beneath the dura of the spinal cord, provided the integrity of the nervous tissue is not disturbed, its course to the cells in the cord is through the lymph and then the blood, and so to the periphery and thence up the nerves before any of the usual results occur.

To traverse a nerve from its end to its origin in the cord takes several days, and the longer the nerve the more time required before the symptoms of poisoning appear. Injection of the toxin directly into the substance of the cord causes tetanus within a few hours. Furthermore the toxin seems incapable of travelling in any but the motor nerves, and in these only centripetally. It cannot diffuse from above downward. The antitoxin pursues exactly the same course, and an effective means of using it at once suggests itself. Inject it into the nerves, which the toxin must traverse to reach the cord, and also into the cord itself. Experimentally this seems to succeed perfectly, and at the same time the failures in the use of antitoxin are made plain. When the microorganisms can be demonstrated within a short time of the receipt of the injury and the antitoxin can be given subcutaneously or intravenously before the appearance of any symptoms, success with this treatment has been reasonably certain. It takes some time for the bacilli to develop and produce their poison, and some days for this poison to traverse the nerves from the periphery to the center; the antitoxin enters the nerves ahead of or with the toxin and prevents the intoxication. But a culture from every wound is more or less impracticable. During the week following the last fourth of July, for example, the house staff of Gouverneur Hospital very kindly took for me some thirty to forty cultures from as many suspicious wounds which came to the dispensary for treatment with the object of giving protective inoculations. But in not one of these was the tetanus bacillus found, and the experiment was abandoned.

After the development of symptoms, subcutaneous, intravenous, or intracerebral inoculations with antitoxin are manifestly useless. If given intracerebrally it cannot diffuse downward into the spinal centers; in other words, it cannot reach the region of vital importance; and if given intrave-

nously or subcutaneously it can only follow the toxin up to the cord, as it must first be carried to the peripheral muscle-end apparatus. It may, and theoretically, at least, certainly should, help a chronic or subacute case, but if there is any severe infection not much could be expected. For a patient already giving symptoms it seems reasonable, therefore, in the light of this knowledge, to expose the nerves of the part in which the primary infection lies as near the cord as possible and to inject the antitoxin into the substance of each nerve. This will prevent the absorption of more toxin. Then the antitoxin should be injected into the spinal cord low down, or in several places, to "head off," so to speak, the toxin which must have entered the blood and so be carried to all the other motor nerve-endings in the body. A single high injection in the cervical cord would be not only dangerous, but useless, as the toxin apparently cannot diffuse in a centrifugal direction, and the antitoxin seems to follow the same law. As the experiments show that the most minute abrasion of nervous tissue is sufficient for the entrance of the toxin, the usual lumbar puncture offers a reasonably safe and certain method of obtaining the desired result. The point of a needle introduced dorsally in the third or fourth lumbar interspace should scratch one or more of the nerves in the cauda equina, and so afford the necessary means of ingress for the antitoxin. At the close of the article by Meyer and Ransom a case is reported without details, however, which seems to have recovered by following this method of treatment. So far as I know there is no other, and the following history is contributed as a suggestion for more extended trials in this condition, which has generally been regarded as more or less hopeless.

J. H., a boy of twelve years, on March 17, 1904, received a shot wound in the lower part of the left palm between the middle and ring fingers from a toy pistol. The wound was treated within a few hours at a dispensary by the application of a wet dressing. Four days later his family physician was called in, as there was some pain, and this doctor removed some portions of wadding and other foreign matter from the rather deep lacerated and punctured wound. It was then thoroughly cleaned and packed, and with a change of dressings every other day seemed to proceed favorably.

Nothing was noted until April 1, when his mother observed that he seemed to eat with a little difficulty. On Saturday, April 2, this was more noticeable, and during this and the following morning she says he walked stiffly. On Sunday, April 3, the stiffness increased so that the boy had to lie down, and in the afternoon he became rigid and complained bitterly of the cramps in his back and legs. I found him that evening with marked trismus, barely able to separate the teeth, and in the typical opisthotonous position with all the muscles in tonic contraction. The opisthotonous was so marked that his family had difficulty in getting him to the hospital in a cab.

Under ether anæsthesia (11 P.M., April 3) the lower end of the brachial plexus was exposed in the axilla where it surrounds the artery and the inner and outer heads of the median nerve, the trunks of the ulna, musculo spiral, muscula cutænous and circumflex nerves identified without much difficulty. Into the center of each of these the needle of an ordinary aspirating syringe was plunged and some 5 to 10 minims of the New York City Health Board's antitoxin injected. This caused the nerves to swell to about the size of the little finger. The axillary wound was then closed immediately and dressed aseptically, the patient turned over and the needle introduced dorsally between the third and fourth lumbar vertebræ; after allowing about 3ss of cerebrospinal fluid to escape, the needle was partially withdrawn and reinserted two or three times in an attempt to scratch some of the nerves in the cauda equina, and a dose of 130 minims of the antitoxin was then injected subdurally. No change in pulse or respiration occurred.

The rather deep granulating wound in the hand was then energetically scraped out, and after arrest of the bleeding, tincture of iodine was swabbed over the raw surface and a wet bichloride dressing applied.

The following morning, on Monday, April 4, the nurse reported that he had slept quietly, and I found that the rigidity of the legs had almost disappeared. The trismus was much improved and the extensors in the back less stiff. There was no paralysis whatsoever in the affected arm. The change for the better in the whole picture was very marked, but the signs of tetanus were still unmistakable. He was, therefore, again anæsthetized in the morning of April 4, the lower end of the axillary wound opened and about 5 minims of antitoxin injected into the substance of the nerve, probably the median, which lay in sight. Some 60 minims of antitoxin in addition were also injected into the loose cellular tissue around the nerves and under the sutured incisions of the previous night. A second lumbar puncture was then made and 160 minims of antitoxin injected subdurally. The wound in the hand was again scraped and a culture taken and the raw surface swabbed as before with tincture of iodine. The culture was forgotten the previous night, and the one at the second dressing unfortunately showed no organisms which the bacteriologist could positively identify as tetanus, although a gas-forming bacillus was present with the streptococcus and staphylococcus. The lack of this positive proof, however, I do not consider as in any way negativing the correctness of the clinical diagnosis.

In addition to the antitoxin he was given, by rectal injection, four doses each, consisting of gr. xv of chloral hydrate and gr. xxx of bromide of sodium, on April 4.

There was no reaction from the antitoxin injections, except that the temperature this day (Monday, April 4) reached 102° F. On Tuesday nearly all the rigidity had disappeared, and the boy was much edified because he could wiggle his "toes" for the first time since the previous Saturday. There was still some stiffness about the back and the masseters —he could chew only with considerable effort, and he could only sit up with assistance, but he could roll around in bed and flex the neck, arms, and legs with perfect freedom. The chief complaint was the extreme weakness, which disappeared very gradually. The wounds healed with very little suppuration; he sat up for the first time on the 14th, and began to walk on the 18th, and left the hospital entirely well on the 23d of April.

This case might be criticised as one which was subacute or chronic from the outset and liable to recovery with any treatment, and hence no conclusions should be drawn as to the efficacy of intraneural and intraspinal injections of antitoxin. But there are cases like this one above described, which can be called "delayed acute," and which in my experience are almost, if not quite, as fatal as the ordinary acute forms of the infection. The theory, or rather the positive proof, of the way in which the poison reaches the spinal centers through the muscle-end apparatus of the motor nerves, or through a wound of the motor nerves, helps to explain how a case can be both delayed and acute. The poison begins its journey to the center, as apparently in the

above case, at the very end of one or more of the motor nerves of an extremity, and so has a long course to travel, and experimentally, at any rate, it does this slowly. A chronic case, or one which generally recovers, probably has the same explanation, with the addition that there are very few bacilli.

However, the success in this instance may be regarded, and the change in two days from a condition of tonic spasm of nearly all the muscles of the body to one of complete relaxation is certainly remarkable—this history is published with the hope that the experiment may be successfully repeated. Certainly great good and absolutely no harm may be expected. In the leg the sciatic, anterior crural and obturator are easily accessible, and in the rare cases of head tetanus the trunk of the facial could be reached, although the cephalic variety of the infection is so close to the vital centers and so fatal that any interference would probably be useless. Nevertheless, it should be tried. But inoculation of the spinal cord is probably equally essential, and after this experience in a bad case I should even be inclined to perform a laminectomy, open the dura, and after scratching the cord with the point of the needle, inject from one to two drachms of the antitoxin subdurally. It could not be injected into the substance of the cord, and experimentally it seems only necessary to inflict the most minute wound of nervous tissue to gain the desired effect with either toxin or antitoxin. An alternative is exposure of the nerves of the cauda equina and injection directly into their substance. This should not be more harmful than injection of the nerve trunks of the arm, which produced, in the instance detailed above, absolutely no ill results.

The effect of tetanus poisoning in the lower animals are not absolutely identical with those in man, as in animals the first manifestations are local, and in the region of the inoculation, while in man this is seldom the case; hence too sweeping conclusions from experimentation and from only one human cure are manifestly improper. But the results in this one case were so logical from what has been proved in animals and so satisfactory that I think there are grounds for some hope in what has hitherto been a hopeless condition.

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MULTIPLE GONORRHŒAL PERIARTHRITIS IN A CHILD, PROBABLY DUE TO INOCULATION THROUGH A WOUND.*

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In a recent article on "Gonorrhœa in Infants," Kimball calls attention to the prevalence of gonorrhœa in infants and children, emphasizes the frequency with which the disease occurs in epidemic form in institutions, describes eight interesting cases of gonorrhœal pyæmia, and makes the suggestion that the mouth or upper-air passages may be the portal of entry.

Two years ago I observed a similar case, but did not report it because no authentic case of this nature was on record. As far as I know, Kimball is the first to report such cases, and it is his article that prompted me to write this paper.

In an article on "A Clinical and Bacteriological Study of the Gonococcus-Neisser as found in the Male Urethra and in the Vulvovaginal Tract of Children," which appeared in the Medical Record of June 22, 1895, I reviewed the literature of this subject up to that time, reported some cases in infants in which one or both of the parents were simultaneously suffering with the disease, and mentioned cases of vulvovaginitis and arthritis in which the mode of entrance of the gonococcus to the body was unknown. An endemic variety of gonorrhœal inflammation originating in hospitals was mentioned, and rigid isolation of such cases was advised. The adoption of proper measures to prevent the spread of gonorrhœa in institutions is a subject important enough to warrant repetition; for there are still in this city numerous institutions in which local epidemics of vulvovaginitis arise from time to time. "The law which makes it complusory to isolate such infectious diseases as diphtheria, scarlet fever, etc., would be just as applicable to cases of vulvovaginitis. The consensus of opinion seems to be that stuprum or direct contact, bedding, bath-tubs, thermometers, clothing, toys, chambers, closets, instruments, etc., are carriers of the poison of the disease."

While Kimball suggests that cases of systemic gonorrhœal infection such as he describes may arise from a stomatitis due to the gonococcus, he freely admits that his own view is not well substantiated. In only one of his cases were intracellular diploccocci decolorizing by Gram found in the mouth scrapings, and in this case the organism was not proved to be the gonococcus by pure culture. Moreover, in the numerous cases of so-called gonorrhœal stomatitis in infants that have been reported, not one was followed by gonorrhœal inflammation in other parts of the body.

Another possible mode of infection is by direct inoculation through a wound. I am not aware, however, that any such authentic case has been recorded. The case to be described is probably one of inoculation gonorrhœa.

The patient, a boy, is now four years old. I attended the child at birth, and have had the opportunity to observe him ever since. Delivery was normal. The patient had none of the diseases of childhood. He was perfectly well up to the age of two and a half years, when I was called to see him for an illness which was seemingly acute rheumatic fever. I learned that three days previously the boy had injured the sole of his right foot. Five days previous to this time the father had come to me with gonorrhœal urethretis, prostatitis, and epididymitis. Still earlier I had treated the mother for vulvovaginitis. Spreads and cultures revealed gonococci in the urethral discharge of both the father and mother.

The illness began with fever and pain in the feet. The child was unable to stand. Examination showed a temperature of 101° and the usual symptoms of fever. Throat, lungs, heart, and abdominal viscera were negative. The urine contained no albumin, sugar, or pus. No plasmodia in the blood. Both great toes and the left wrist were red, swollen, and excruciatingly painful. On the inner side of the sole of the right foot was a punctured wound about 1 cm. in diameter, discharging seropus; the wound had been treated by the family without medical aid. As regards diagnosis, scurvy was at once excluded, as the child was well nourished and on a general diet. Owing to the presence of the wound acute osteomyelitis was considered but was ruled out by the absence of local signs. Despite the infrequency of acute rheumatic fever in infants, this diagnosis was made tentatively. The fever and arthritic symptoms of the great toes failed, however, to respond to antirheumatic treatment. The plantar wound healed rapidly; the inflammation in the left wrist soon subsided;

*Read at the meeting of the Harlem Medical Association.

on the other hand, the periarthritis of the great toes showed no tendency to improve under general and local treatment. Three weeks after the onset, signs of suppuration about both first metatarsophalangeal joints had appeared. The presence of periarthritic suppuration suggested the diagnosis of gonorrhœal rheumatism, and the suppurating parts were then treated surgically by incision and drainage under chloroform narcosis. At the same time cover-glass specimens were prepared, and cultures were taken; the spreads were positive, and the chest-serum agar plates employed showed the presence of the gonococcus in pure culture. Shortly after this positive finding, cover-slip preparations and cultures from the conjunctiva, urethra, and rectum were taken with negative results. One month after the incisions, the wounds were healed. The temperature ranged from 101° to 104° F. throughout the illness; at no time were cardiac signs present, and physical examination has been negative ever since.

It is unfortunate that the nature of this case was not understood at the very outset, and that so little attention was paid to the original wound. Had cultures been taken from its discharge we might have been able to prove conclusively that this was a case of inoculation gonorrhœa. As it is, we can only state that the case in question is one in all probability.

It may be of interest to add that a left salpingo-oophorectomy was recently performed on the mother, and that examination of the pus from the tube by spreads and culture media showed the presence of the gonococcus.

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Cystitis.—J. Henry Dowd in discussing this disease mentions three important symptoms, which, generally speaking, are always present: Frequency of urination, pain, and pus in the urine. Other symptoms at times are hæmaturia, ammoniacal fermentation due to decomposition of urea by bacteria forming the carbonate of ammonia, albumin in the urine, and general systemic disturbances. General symptoms depend entirely upon the condition present and the cause thereof. In acute cases the usual symptoms of inflammation are present, such as chilly sensations, fever, and the like. The writer says that, generally speaking, but two varieties of cystitis exist: (*a*) superficial, or where the mucous membrane and submucous tissue are involved; (*b*) interstitial, where the inflammation involves the muscular coats and interstitial tissue. As in inflammation of other parts, three factors are necessary: a weakened or damaged condition of the tissue; pyogenic bacteria; a medium for their development. The treatment of cystitis should be carried on from the following standpoint: (1) the cause; (2) relief of distressing symptoms; (3) rendering the urine bland and unirritating; (4) control of inflammatory process; (5) general treatment. The writer condemns searching an inflamed bladder for tumor, stone, or foreign bodies. The condition of the urine and the history of the case generally afford the necessary data. The writer then suggests the proper treatment in certain hypothetical cases which he describes. In acute cystitis he advises thorough evacuation of the bladder; a lukewarm solution of silver nitrate (distilled water must be used), 1-16,000, is placed in the bladder without a catheter by use of the Ultzmann-Dowd syringe. In a chronic case in which there is frequent urination, slight pain, with bleeding, and urine very acid with an excess of uric acid, the writer prescribes the following: Ext. hyoscyami, gr. j; ext. belladonna, gr. ½; tr. cantharidis, q.s. M. ft. pil. No. 1. This is given every three or four hours. All articles rich in uric or oxalic acid producing elements should be interdicted.—*Buffalo Medical Journal.*

Mitosis in Circulating Blood.—George Dock declares' after a thorough review of the literature, that on the whole the number of reports on mitosis in circulating blood is small, especially in comparison with the extensive literature on blood. Loewit observed a mitotic figure in the blood of a patient with "severe secondary anæmia." Prus noted the presence of distinct mitotic figures in a case of "splenic leukæmia." Spronck claimed that he found mitosis in the circulating leucocytes of healthy adults. Von Noorden saw a mitotic red cell in a case of pernicious anæmia. Other workers found this condition in cases of anæmia. Monti and Berggruen noted karyokinetic figures in the blood of infants. The writer had found mitotic figures in cases of acute anæmia; in cases of chronic pernicious anæmia; in a case of severe anæmia with splenomegaly of doubtful origin, in an infant, not rachitic, but possibly syphilitic; in eight cases of myelogenous leukæmia, and in one case of acute leukæmia. As to the kinds of cells containing mitoses, these were the red cells in seven cases of leukæmia and in the severe anæmias. In a case of acute leukæmia, one cell, and apparently a megaloblast, contained a good diaster. The writer thinks that at present we are not justified in claiming that mitosis in circulating blood has a definite diagnostic or prognostic value. In general it coincides with the occurrence of many nucleated red cells or myelocytes in the circulation. A typical mitosis is apparently a more serious condition than the normal process.—*The Physician and Surgeon.*

The Treatment of Hernia and Its Complications.—As a result of observations made in ninety-one cases of hernia, Dr. Orville Horwitz (Proceedings of the Philadelphia County Medical Society, January 30, 1904) has reached the following conclusions: The safety of the patient, as well as the lowering of the mortality, in cases of strangulated hernia depends on gentle taxis being practised for a short period, and, if unsuccessful, followed by immediate operation. Herniotomy for the relief of strangulated hernia in the aged is not a dangerous operation, provided it is performed as soon as possible after the constriction has taken place. An inflamed hernia should not be treated by taxis, but should be subjected to operation. No one method of attempted radical cure is applicable to every variety of rupture. The Bassini is suitable in the large majority of cases, the Bloodgood in those in which a large abdominal ring and weak or atrophied conjoined tendon are present. The means of relief for special forms and conditions of hernia must be suggested by the ingenuity of the surgeon, who will select the operation in accordance with the indications present. The palliative operation is applicable to a large number of selected cases of reducible hernia when the protrusion cannot be kept within the abdominal cavity by means of a truss, and also to some forms of incarcerated hernia. A radical cure may be safely attempted on patients between six and sixty years of age. Individuals that submit to what is known as the palliative operation should continue to wear a truss after recovery. In cases that cannot be submitted to a routine method of operation, the surgeon should strive to do that which would in his judgment be the best means of effecting the removal of the entire neck of the sac on a level with the parietal peritoneum. He should, if possible, firmly close the opening in the pertioneum after the removal of the sac; he should obliterate the depression of the peritoneum in the vicinity of the internal abdominal ring, bring the structures in apposition and close the apertures that form the canal through which the rupture protrudes. An aseptic result following a radical operation, with primary union, is essential to obtain a permanent cure of hernia. In cases of undescended testicle associated with hernia every effort should be made to save and transplant the organ. The method of operating for umbilical hernia suggested by Mayo is probably the most satisfactory hitherto suggested for that variety. Absorbable are preferable to non-absorbable sutures.

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A CONSIDERATION OF DIABETES.

THE *Albany Medical Annals*, April, consists mainly of a series of articles dealing with diabetes considered from various standpoints. The first of these is by Dr. Richard M. Pearce, and discusses the pathology of the disease. The pathology of that form of the malady dependent upon lesion of the pancreas is solely considered, especial attention being paid to the influence exerted by the islands of Langerhans. It is pointed out that from the discovery of these structures by Langerhans in 1869, until within a few years, many and varied efforts have been made to explain their origin and function. They have been regarded from time to time as nervous elements primary ducts, embryonic remains, and as immature or wasted acini. The study of the ductless glands is largely responsible for the recognition of the similarity of structure of the islands and these organs. The structure of the islands—columns of cells rich in protoplasm, lying in an abundant vascular network of the sinusoidal character and with no excretory duct—naturally suggests as to their function the elaboration of some substance destined to be introduced into the circulation. This theory of the independence of the islands was first advanced by Shäfer, and received considerable support from the experiments of Ssobolew.

Again in the embryonic development of the islands Dr. Pearce insists that we have evidence that they are destined for some special function. As he demonstrated a short time ago, the islands at an early stage of the growth of the pancreas arise from the primary acini and for some time remain connected to these structures by a solid process of cells; but eventually become entirely separated, and with the development of a blood supply proportionately greater than that of the acinus, become anatomically independent. The writer therefore thinks that such anatomical differentation argues for a special function, and taking into consideration the recently accumulated knowledge, the result of pathological investigation, we are forced to the conclusion that this function is an internal secretion concerned in carbohydrate metabolism and conseqently of fundamental importance in any consideration of diabetes.

Dr. David L. Edsall of Philadelphia treats of the physiological chemistry of diabetes, and after giving a history of the disease, viewed from this standpoint, says the important facts known as to the nature of diabetes are unfortunately very few. When sifted down, they are found to be chiefly that the pancreas possesses an extremely important influence over carbohydrate metabolism; and that it is not knnow in what way this organ exerts its influence, except that it probably does not do so merely through providing a glycolytic ferment, but possibly through influencing the glycolytic activities of other tissues. Finally, it is becoming increasingly evident that carbohydrate metabolism is intimately associated, not only with the pancreas, but also with other tissues, and it is constantly assuming greater complexity than it has generally been conceived of exhibiting. At present, thinks the writer, one is justified in suspecting, at least, that carbohydrate metabolism is of a complexity that is comparable with that of proteid metabolism.

With regard to the medical treatment of diabetes, Dr. W. H. Thomson of New York, who writes on the subject, lays special emphasis on the point that functional medicines are only of use to relieve symptoms or to meet emergencies. In order to be of value in treating such a constitutional disease as diabetes, medicines other than functional must be sought. Dr. Thomson states that for a number of years he has had good results in the free administration of cod-liver oil in the treatment of diabetic patients. He also advocates the use of iron and certain medicinal antiseptics. To postpone diabetic coma as long as possible the writer recommends at the first symptoms of the approach of this condition, intestinal irrigation with hot normal saline solution.

Dr. Frederick C. Shattuck of Boston concludes the symposium with an article upon the general management of diabetes. He is of the opinion that the more diabetic patients are individualized, applying general principles to special cases, the better results shall we have. The writer does not believe in a rigid routine diet table, but is of the opinion that the diet should be adopted to each case. As to the length of time a strict diet is to be maintained, Dr. Shattuck says that this must depend upon the type of the disease, which, again largely depends upon the age and nutrition of the patient. He thinks it to be wiser, in milder cases, to keep the patient on a strict diet for one or two months, and then to test the tolerance for starch, giving first two or three ounces of bread daily and increasing the amount weekly as toleration warrants. In more severe cases, which are rendered sugar-free with difficulty, one must be more careful in allowing bread, and watch its effect even more closely. In the severest cases, in which the diet does not cause the sugar to disappear, it is ordinarily better to allow a fixed amount of bread. It is certainly so if under the strict diet weight and strength fall off, the sugar then being made from the nitrogenous food or the body tissues, the danger of acid intoxication being thereby increased.

Diabetic breads find but little favor with the writer, while if alcohol is considered desirable, the preference should be given to whiskey or brandy, a brut champagne, Moselle wine, or one of the California hocks. A day of starvation every two or three months has a beneficial effect in some cases. Special attention should be paid to the bowels, and particularly is this so if acetone and diacetic reactions are present in the urine. The skin should not be neglected, while great care should be taken to guard against cold. Worry and anxiety are to be avoided as far as possible, and muscular exercise should be taken in moderation, in that it burns sugar; in-

directly owing to the fact that it aids blood and lymph circulation. A change of climate during the winter may be of great importance.

In conclusion, Dr. Shattuck makes the following remark: "In the young, treatment of diabetes can at best only delay the fatal result. In those in the prime of life great service can generally be rendered, though actual cure occurs only in the minority of cases. In those past middle life the disease is usually well tolerated, and may be of comparatively little moment, provided that reasonable care be exercised; and yet, now and then we encounter cases the course of which proves other than first impressions would lead us to expect."

CHRONIC HABITUAL CONSTIPATION.

For the daily evacuation of the bowels a combination of several factors is necessary. In the first place the function of the muscular coat of the intestine and of the nerves controlling its activity must be neither excessive nor deficient. In the next place the secretions of the intestine and its accessory glands must be normal in quantity and in quality. Thirdly, the food-residue must be adequate in amount and capable of exerting a certain degree of irritation, in part from the presence and activity of fermentative bacteria. Finally the bowel must be habituated to regularity of action. Constipation may thus be due to a variety of causes, and these may be operative, singly or collectively. In many cases no doubt a condition of atony of the muscular coat of the intestine is present, while occasionally a state of spasticity may be the underlying factor. That in some instances, perhaps in many, the disorder is due to a too perfect digestion and absorption of the food, resulting in a deficiency of fecal matter, with diminished peristalsis, owing to absence of the products of fermentative activity, is not generally appreciated.

Observations have been made that go to show that not alone the total amount of fresh fæces is small in the case of individuals suffering from habitual constipation, but that the amount of dry substance is likewise greatly diminished as compared with the normal. Under such circumstances, further, the residue of food, including muscle-fibers, starch-cells, and cellulose membranes, has been found microscopically to be diminished, and likewise the number of bacteria. The conclusion has therefore been reached that chronic constipation is in some instances due to unduly perfect assimilation of the food in the stomach and small intestine, so that, among other things, there is an insufficiency of pabulum for the activity of the bacteria in the large intestine, with the result that the products of fermentation are generated in lesser amount and the stimulus to peristaltic activity is thus diminished in greater or lesser degree.

With the object of throwing additional light on this subject Dr. Hans Lohrisch (*Deutsches Archiv für klinische Medizin*, Nos. 3 and 4, Vol. 79) undertook a series of metabolism-experiments and found that the total amount of fecal matter discharged in cases of constipation was considerably diminished as compared with the normal—125.5:249.5. This diminution was due not alone to a lessened amount of water, but also to a lessened amount of dry substance, which was reduced almost one-half—33.9:59.3. The amounts of nitrogen, fat, and carbohydrates were also reduced, as well as that of cellulose. Further the difference in the number of calories eliminated by normal and constipated individuals was striking—namely, 266.1:190.2. When, on the other hand, constipation was induced artificially by the administration of opium and inhibition of peristalsis, the total amount of fecal matter was diminished, but this result was due to the large loss of water, the amount of dry substance being rather greater than normal. The evidence thus goes to support the view that in some cases of habitual constipation at least there is unduly perfect assimilation of the ingested food. That the deficiency in nitrogen, fat, carbohydrates, and cellulose is not due to the activity of bacteria is shown by the fact that these are actually diminished in number in cases of habitual constipation. It has, however, been suggested that the smaller number of bacteria present are afforded better opportunity for the exercise of their activities, but while such a view seems hardly probable it is difficult of contradiction, and the results of investigations on this point are inconclusive.

The practical lesson to be learned from the foregoing observations is that in cases of habitual constipation care should be taken to provide for a certain mass of physical bulk in the food advised, and in this connection fruits and vegetables subserve an especially useful purpose, and also for the ingestion of a definite and liberal supply of water.

Smallpox and Isolation.

Many of the opponents of vaccination contend that the chief reasons smallpox has so greatly decreased, are the general adoption of more efficient sanitation and the strict isolation of those suffering from the disease. When Germany is pointed to as a conspicuous example of the benefits of vaccination, these unbelievers say, but this result is not so greatly due to vaccination as to isolation. The British Local Government Board recently resolved to investigate the matter, and to decide as to whether isolation has been the main factor in practically driving smallpox out of Germany, or whether to vaccination must be given the credit for this desirable state of affairs. Accordingly Dr. Bruce Low, one of the inspectors of the Board, was despatched to Germany some few months ago with instructions to make a thorough investigation of the smallpox question. Dr. Low has performed the duty placed upon him, and has just published a report in which all the aspects of the situation are dealt with.

The law of Germany with regard to vaccination, is, as is well known, extremely strict and stringently enforced. This law requires infants to be vaccinated before the end of the calendar year following the year of birth, and all school children to be vaccinated in their twelfth year. The notification of smallpox is obligatory throughout the Empire, and all persons suffering, or suspected to be suffering, from smallpox can be ordered to hospital for isolation if, in the opinion of the medical officer of the local authority, the patient cannot be properly isolated at home. On the occurrence of a case of smallpox in a house, the "contacts" are immediately vaccinated or revaccinated; and in some towns they are removed to a place of isolation until the time for the development of the disease has passed away. The provision for "isolation" is nowhere of such a kind as would satisfy English practice or requirements.

A comparison of smallpox mortality cannot but convince the most prejudiced opponent of vaccination of the overwhelming superiority of German methods. Dr. Low supplies the following figures for the twelve years from 1891 to 1902 inclusive. In a population of over fifty-six millions the total German mortality for the twelve years was 607; the highest mortality for any year was 108, and the lowest was 51. In England and Wales, with a population of about two-thirds that of Germany the total mortality of the twelve years was 6,761; the highest mortality for any year was 2,461, and the lowest was 25. Dr. Low's general conclusion is that the German plan differs markedly from that employed in England and Wales by reason of the character of the so-called isolation. Untoward results to other presons from bringing smallpox to the sites of the general hospitals, have been seldom observed, and this, in Germany, is with one consent attributed to the protection afforded by statutory vaccination and revaccination, without which it is unanimously admitted that the method would break down. With this assistance Germany is able to dispense with separate smallpox hospitals and with any separate administration for the purpose of providing against the disease, and is thus freed, not only from a great expense, but from the suffering and inconvenience entailed upon England and Wales by the costly and half-hearted methods of dealing with epidemics as they arise, instead of preventing them from arising.

The instance of Germany, with reference to the methods in vogue there for the prevention of smallpox, is a conclusive proof that vaccination and revaccination, carried out thoroughly and conscientiously, confers so great an immunity against smallpox that other means of dealing with the disease are rendered superfluous. It would be well if other nations were to take the lesson taught by Germany to heart and follow in her footsteps. There are times when the objector to vaccination, however conscientious, must be ignored and his principles must be sacrificed for the public good.

Icterus in Secondary Syphilis.

Dr. W. J. Calvert, in the *Journal of Medical Sciences* for May, relates a case of icterus in secondary syphilis which came under his notice. This condition is of rare occurrence and when met is frequently not recognized as icterus. The literature, too, on the subject is scanty. Paracelsus in 1510 refers to icterus in secondary syphilis. In 1740 Astuc pointed out that icterus followed obstruction and congestion of the liver, as was later mentioned by von Swieten in 1743 and Fabre in 1765. Rosen de Rosentein in 1764 admitted the co-existence of icterus and syphilis, but thought the icterus was due to the mercurial treatment. Portal in 1812 admits that icterus is associated with secondary and tertiary syphilis; Guebler in 1852 reported five cases; and Luton in 1856 first pointed out the difference between icterus in secondary syphilis and that in catarrhal conditions. Three cases were reported in 1864 by Lancereaux; Lacombe in 1874, and Moreland in 1879, reported new cases, while Schroeder in 1887 reported seven cases. Engel Reimers in 1887 recorded a case of acute yellow atrophy in secondary syphilis terminating fatally. More recently Lasch, 1894, reported three of his own cases and forty-six from literature. Neumann in 1895 records fourteen cases; Lowenstein, one. From the record in Allgemeinen Krankenhause in Hamburg, Weiner reports fifty-seven new cases of icterus in secondary syphilis out of a total of 15,799 cases or 0.37 per cent. Aschner in 1896 reports three cases; and Jaumenne in 1899 two cases, making a total of 127 cases found in medical literature by Dr. Calvert.

As to the cause of icterus in syphilis, Lancereaux, Engel-Reimers, Quincke, and others think that is due to enlarged glands pressing on the bile-ducts. Senator Hutchinson and Chapotot agree with Guebler, who thinks the secondary eruptions in the intestines cause an obstruction in the flow of bile. Maurice thinks the hyperæmia of the bile capillaries, due to inflammation of the liver, is sufficient cause. Schroeder believes general catarrhal conditions, similar to the infectious diseases, exist, while Quadillac holds that the changes in the blood due to syphilis produce icterus. Several French writers think that the general condition of the nervous system plays a rôle. Neumann considers changes in the vessels a sufficient cause; Eichorst and others favor the chemicotoxic theory, and Liebermeister advocates Menkowsky's idea of acatactic or diffusious icterus.

Two types of this condition occur benign and grave. The writer says that the diagnosis of this manifestation is comparatively easy. There is a history and evident signs of syphilis and the following points are the most distinctive: (1) Appears in secondary stages of syphilis. (2) Simultaneous appearance with secondary lesions. (3) Influenced by specific treatment. (4) May vary in degree as the secondary eruption varies in intensity during the course of the disease, and, like the eruptions, may recur. (5) Rapid appearance without digestive disturbances. Dr. Calvert finally remarks that even grave cases are rarely fatal, and that treatment consists in ordinary treatment for syphilis in this stage.

News of the Week.

Dr. William Kelly Simpson of this city has been appointed consulting otologist to the Presbyterian Hospital.

Examination for Director of the Pathological Laboratories at Bellevue.—The Civil Service Commission will hold a competitive examination on June 7, 1904, for Director of Pathological Laboratories, Department of Bellevue and Allied Hospitals. Applications will be received by the commission, 61 Elm street, until May 28. The salary is $5,000 a year and the successful candidate will be required to devote all his time to the work, abstaining from private practice or connection with a medical college. The examination is open to residents of the State o f New York.

Generous Bequest to a Hospital in Philadelphia.—By the will of the late John N. Doak the sum of $20,000 is devised to the Methodist Hospital for the maintenance of four free beds in memory of the donor, his wife, and parents. An additional $200 is bequeathed for the purchase of the necessary furniture.

To Diminish the Dust Nuisance.—Arrangements have been made by the Street Cleaning Bureau of the city of Philadelphia to sprinkle certain prominent streets every two hours in the day during the summer; and also to flush the streets after having been swept with brooms, the streets subsequently being gone over by sweeping machines, and the dirt collected then carted away.

Tuberculosis among Street-sweepers.—Much excited comment has been indulged in by writers, both lay and medical, on a recent report to the effect that from one-fifth to one-third of the men in the Street Cleaning Department have been found to be suffering from tuberculosis. Long editorials have been written, and most important deductions drawn

from the alleged fact that the cause of this prevalence of consumption was the inhaling of bacilli by the men while sweeping up the dust on the streets. It appears, however, that the report was grossly exaggerated, and the latest news from the office of the Commissioner of Street Cleaning is that there is no foundation for the rumor about the tuberculosis epidemic. Less than 2 per cent. of the men in the department are suffering from consumption, and it is further stated that most of them had affected lungs before they became street-sweepers.

Resignation of Miss Clara Barton.—A new phase has been reached in the investigation of the American Red Cross. Miss Clara Barton resigned the presidency of the society on May 14, and has been succeeded by Mrs. John A. Logan, vice-president of the society. The change was affected quietly at the home of Mrs. Logan in Washington, where the executive committee met and accepted the resignation. Miss Barton read a letter reviewing her work in connection with the Red Cross, and concluded by expressing the wish that the organization would now "find that peace and quiet in its long disturbed elements so welcome to it, to us, and to the country. It is not believed, however, that this move will result in a breaking-off of the investigation, for the remonstrants insist that nothing short of a complete reorganization of the society with the election of an entire new set of officers will satisfy them.

American Confederation of Reciprocating Examining and Licensing Medical Boards.—Third annual meeting of this association will be held in the Great Northern Hotel, Chicago, on Tuesday, May 24, 1904. The first session begins at 9 A.M., the second at 2.30 P.M. All members and ex-members of medical examining boards and educators in medicine are invited to attend the meetings. The officers for 1904 are: *President*, Dr. W. A. Spurgeon, Muncie, Ind. (Member and ex-President Indiana State Board of Medical Examination and Registration); *Vice-Presidents*, Dr. H. Baxter, Cleveland, Ohio (Member Ohio State Board of Medical Registration and Examination), and Dr. John A. McKlveen, Chariton, Iowa (President Iowa State Board of Medical Examiners); *Secretary and Treasurer*, Dr. B. D. Harrison, Sault Ste. Marie, Mich. (Secretary Michigan State Board of Registration in Medicine).

The New Superintendent of Bellevue Hospital.—Dr. Willard P. Spratling, superintendent of the Craig Colony for Epileptics at Sonyea, near Rochester, N. Y., has been chosen superintendent of Bellevue and Allied Hospitals, to succeed Dr. William Mabon, who was recently appointed president of the State Commission in Lunacy. Dr. Spratling is a graduate of the College of Physicians and Surgeons, Baltimore, in 1886, and has been superintendent of the Craig Colony for several years.

American Urological Association.—The annual meeting of this association will be held at Atlantic City, June 8 and 9, 1904, under the presidency of Dr. Ramón Guitéras, 75 West Fifty-fifth Street, New York. The preliminary program contains twenty-nine titles. Authors who may desire to correct the titles of their papers are requested to notify the secretary, Dr. Ferd. C. Valentine, 31 West Sixty-first street, New York, before May 20. The annual dinner will be held at the Windsor Hotel on Wednesday, June 8, at 7.30 P.M. ($2 per plate). Members who desire to attend are requested to inform the President, stating the number of seats wanted. The following matters will be brought before the annual meeting: (1) Consideration of the invitation to affiliate with the American Medical Association. (2) Election of officers for the ensuing term.

Consolidation of the New York State Medical Associations.—At a meeting of the Joint Committee of Conference, held at the New York Academy of Medicine, May 6, 1904, the resolutions were passed that the president and the secretary of the Joint Committee of Conference be authorized and directed to make a certificate provided for in the tenth paragraph of the agreement, and the counsel of the committee be directed to proceed with diligence to obtain a final order for the consolidation of the corporations, pursuant to the terms of the agreement. Thirty out of thirty-five county associations have ratified. One, Onondaga, has refused to ratify, four have not yet reported. The associations that have ratified represent a membership of 1,711, and those that have not acted a membership of 42. The one refusing to ratify has 14 members. Ratifications have been received from 47 out of the 51 county societies, four have not yet acted. Those which have ratified represent a membership of 5,569. Those which have not yet acted a membership of 164. Article X of the agreement declares that "whenever the chairman and secretary of the joint conference committee shall certify that the conditions precedent to an application to the court have been fully complied with, the presidents of the respective corporations shall, and they are hereby authorized and required in the name and behalf of their respective corporations to petition the Supreme Court for an order to consolidate in accordance with the terms thereof." Therefore all county associations and societies that have not ratified will be asked to appear before the court at a specified date, appointed by the court, and show cause why the consolidation should not be completed according to the terms of the agreement, despite their failure to ratify.

Ambulances for London.—An effort is now being made in London to do away with the primitive method of handling street casualties, and to establish a system with most of the desirable features of the method in use in so many American cities, notably New York. To this end an association has been formed and an effort will be made to convince the London County Council of the utility of ambulances. A meeting was held on May 2, and resolutions were passed embodying this idea and suggesting making the Fire Brigade the basis on which to erect an ambulance system. Speeches in favor of the resolutions were made by Sir William Church, president of the Royal College of Physicians of London, by Mr. John Tweedy, President of the Royal College of Surgeons of England, and by Sir Thomas Barlow, and the New York system was described by Dr. E. Marion Cox, formerly of this city.

Night Classes of the Tuberculosis Clinic.—Dr. Thomas Darlington, President of the Board of Health, has decided to open a night class at the Tuberculosis Clinic of the Department of Health, the hours being from 8 to 9 P.M. on Monday, Wednesday, and Friday. This evening class began on Monday of this week. Since the opening of the clinic on March 1, 1904, from 250 to 300 patients a week have been in attendance from 9 A.M. to 4 P.M. This new clinic is for those patients who are unable to attend during the day. Special cards for the reference of patients to the clinic for diagnosis or treatment will be furnished on request. Physicians and others interested are cordially invited to visit the dispensary.

Physician Drugged and Left on Train.—Dr. J. A Boice of St. Agnes's Hospital, Baltimore, was taken

to St. Michael's Hospital, Newark, N. J., on the afternoon of May 11, suffering from what the physicians there said was poisoning. He was found unconscious on a Pennsylvania Railroad train due at Newark from Jersey City at 4 P.M. After being taken to the hospital he revived only long enough to reveal his identity. The police believe he was the victim of a carefully planned robbery, as he had neither jewelry nor money when taken to the hospital.

Smallpox in Theater.—According to Dr. Walter Bensel, Sanitary Superintendent of Brooklyn, a case of smallpox was detected on May 10, among the chorus of "Wang" at the Lyric Theatre. The man who was taken ill is now in the Kingston Avenue Hospital in Brooklyn. All the "Wang" company have been vaccinated, and the Lyric Theater has been thoroughly fumigated.

The New Bellevue Hospital.—The plans of the new Bellevue Hospital have been unanimously approved by the Municipal Art Commission to whom they were submitted recently.

Official Health Board News.—A notice, signed by Dr. Darlington, was recently posted in the Health Department building, to the effect that "in future no information relative to the work of the Department of Health shall be given to the public or representatives of newspapers without the personal sanction of the Board of Health," that is to say, of Dr. Darlington himself.

Radiotherapeutic Nurses.—Courses of instruction in the nursing of patients undergoing treatment with *x*-rays, the Finson light, etc., have recently been instituted in Berlin. Nurses who have taken these courses will receive a certificate of special proficiency in the care of *x*-ray patients.

Illness in the Japanese Army.—The correspondent of the *Sun* at Seoul reports that smallpox and typhoid fever are increasingly affecting the first Japanese army. Four thousand men are said to have been invalided home, while others are at the hospital stations in Corea. The authorities refuse to give any information concerning the sick.

Opposed to Kissing.—The Board of Health of Neenah, Wis., has issued an edict against kissing, and has asked that the custom be discontinued for the general good of the public. It is urged that the practice is dangerous in more ways than one and that it is a direct cause of the spread of contagious diseases.

Antisepsis in Paris Laundries.—The health authorities of Paris have presented to the Minister of Commerce, with recommendation that they be adopted, a number of rules for the guidance of laundresses. These call, among other provisions, for the use of closed bags for the conveyance of dirty linen, the thorough disinfection of all articles before they are washed, and the use by the washerwomen, for their own protection, of rubber gloves.

Revue Pratique des Maladies des Organes Génito-urinaires.—This new venture, which is to appear every second month under the editorial management of Dr. M. Gallois, is published at Lille and has the general appearance of a companion publication to a similarly named dermatological journal of Paris. It will be devoted to original contributions and a general review of the progress in genitourinary surgery and medicine for each preceding two months.

Old Manual Training School Rented.—The Board of Trustees of the Dearborn Medical College has leased the old Chicago Manual Training School building, together with the Pharmaceutical Department of the University of Illinois. Because of the removal of the school to its new quarters, the series of lectures to the police on first aid to the injured will be abandoned temporarily.

Donation to the Maurice Porter Hospital.—The Maurice Porter Hospital will be known in the future as the Children's Memorial Hospital. Mrs. Porter has given $75,000 toward a new building in memory of her son. This institution will be the nucleus of a new hospital where adequate provision for the care of the poor children of Chicago will be made.

Money for Augustana Hospital.—The Board of Directors of Augustana Hospital, Chicago, was authorized to borrow $100,000 with which to erect an addition to the hospital, at a recent conference of the Illinois Augustana Lutheran Synod. Dr. M. Wahlstrom was elected Superintendent of the Hospital, and Dr. G. C. Folsom of Galesburg, and Dr. Theodore Freeman of Chicago, were elected members of the Hospital Board.

Jewish Hospital Donation.—Mr. Julius Freiberg has sent his check for $25,000 to the Jewish Hospital, Cincinnati. The money is to be used for building an annex to the hospital for surgical operations. The gift was made on the anniversary of the death of Mrs. Freiberg. It was Mr. Freiberg's second gift to the institution, which now bids fair to be one of the best equipped in the United States.

Ohio Homœopathic Medical Society.—At a meeting of the society in Columbus, May 11, the following officers were elected: *President*, Dr. J. D. Nelson, Bellefontaine; *Vice-Presidents*, Drs. Sara E. Fletcher, Columbus, and J. A. Mitchell, Newark; *Secretary*, Dr. C. E. Silbernagei, Columbus; *Treasurer*, Dr. T. T. Church, Salem.

Protection from Tetanus.—The Springfield, Ohio, Council has passed an ordinance forbidding the use on July 4 of fire-crackers more than 7½ inches in length, of dynamite in any form, and of the toy pistol. Three Springfield boys died of tetanus from the toy pistol last Fourth of July.

Chicago Branch Hospitals.—Hospitals in several different sections of the city of Chicago, built by the county and maintained as branches of the County Hospital, have been proposed by the President of the County Board. The plan was outlined at a recent meeting, and was favorably received by the members. The plan is to submit to the people of the county at the election next fall the question of a bond issue for the creation of three branch hospitals, and the construction of new fireproof buildings in all instances where the county does not possess fireproof buildings more than two stories in height.

Medical Officers of the Illinois Militia.—An examination of candidates for medical officers for the Illinois National Guard was held at Rush Medical College on April 30. Eight candidates took the examination; of these, five were for the naval reserves, two were dental surgeons, and one examination was promotional. The range of subjects included anatomy, physiology, chemistry, materia medica and therapeutics, pathology and bacteriology, hygiene, and sanitation, military surgery, and practice of medicine. The naval candidates were examined on naval hygiene and sanitation, and the dentists on anatomy, physiology, and dentistry.

Iowa Provides for Reciprocity.—The Legislature of Iowa has empowered the Iowa State Board of Medical Examiners to allow physicians to register without examination when they come from States whose requirements for certificates are equal to those of Iowa. The system will not be in operation until certain practical details are arranged.

Charitable Bequests.—Mrs. Gordon Shillito of Cincinnati, who recently died, left $2,000 for the Children's Home; $2,000 for the Home for Friendless and Foundlings; and $1,000 to the Episcopal Hospital for Children.

Dr. Charles W. White was elected Health Officer to succeed himself by the Covington (Ky.) Board of Health last week. The term is two years, beginning May 12.

Monatsschrift für Harnkrankheiten und Sexuelle Hygiene.—This new journal, devoted to urinary diseases and sexual matters of hygiene, gives evidence, in the first issue, of having the support of worthy contributors and editorial direction which will win success. It is edited by Dr. Karl Ries of Stuttgart.

Ohio State Medical Association.—The association will hold it fifty-ninth annual meeting at Cleveland, Ohio, on May 18, 19, and 20. Dr. Brooks F. Beebe of Cincinnati, the chairman of the Publication Committee, has endeavored to secure as wide a representation as possible. The meetings will be in two sections, a medical and a surgical.

Presbyterian Hospital Internes.—Miss Karan Frederick and Mr. W. S. Keller have been appointed to the house staff in the Presbyterian Hospital, Cincinnati. Mr. Keller took his position on May 10, and Miss Frederick goes on in the autumn.

Isolation Hospital Abandoned.—After six years of setbacks and discouragements, the joint committee on an isolation hospital for the Oranges (N. J.) has thrown up the sponge. All the money subscribed toward the fund for site and construction, more than $10,000, will be returned to the givers. In every case property owners near prospective sites have objected successfully, and there seems to be no hope of obtaining a place where such a hospital can be built.

Race Suicide Discouraged.—In the Des Moines post office the following notice is posted: "Hereafter preference will be shown to clerks who are married, especially those with large families." The order is said to have come from the Post Office Department at Washington.

Obituary Notes.—Dr. ROBERTS BARTHOLOW died in Philadelphia on May 10, from pneumonia, at the age of seventy-two years. He was graduated in arts from Calvert College, and in medicine from the University of Maryland in 1852. He entered the United States Army as a surgeon in 1857 and continued in that capacity until 1864, when he resigned to become Professor of the Theory and Practice of Medicine in the Ohio Medical College. He later became dean in this institution, with which he remained connected until 1879, when he was elected Professor of Materia Medica and Therapeutics in Jefferson Medical College. He subsequently became dean for a short period in the latter institution, resigning in 1893 and becoming Emeritus Professor. Dr. Bartholow was an original investigator, particularly in the field of physiological therapeutics, and he made some important observations on cerebral localization. He made numerous contributions to medical literature, and he was the author of several recognized textbooks. He was a member of many learned societies, both foreign and domestic.

Dr. WILLIAM H. MCGEE, a leading physician of Warren County, N. J., died at his home in Belvidere on May 11, aged fifty-six years. He was a graduate of the Bellevue Hospital Medical College in the Class of 1872, and was a member of the Warren County Medical Society and resident surgeon of the Pennsylvania Railroad Company.

Dr. WILLIAM WATERWORTH, for twenty-two years a practising physician in Brooklyn, where he died at his home in that borough on May 11. He was born in Salem, Ohio, in 1851, was graduated from Adelbert College, and in 1878 from the Bellevue Hospital Medical College. He was a member of the American Medical Association, the New York State Medical Association, and the Medical Society of the County of Kings, and was surgeon to the Brooklyn Eye and Ear Hospital.

Dr. CRAYKE S. PRIESTLY died of pneumonia at his home in Des Moines on May 13. He was a graduate of the Medical Department of the University of Pennsylvania in the class of 1894, and came from a long line of medical practitioners. He was a descendant of Joseph Priestly, the discoverer of oxygen. He was a son of Dr. James Taggart Priestly of Des Moines, who survives him.

Dr. BERNARD MACKAY, a retired physician, residing in New York City, was killed on May 12, by being run over by a fire engine. He was born in England, seventy years ago, but came to this country at the age of thirty years, soon after receiving his medical degrees.

Dr. HENRY HUNTINGTON died at National City, Cal., April 27, in his eighty-sixth year. He was graduated from the Albany Medical College in 1866 and practised successively at Champlain, N. Y., Craftsburg, Vt., Atlanta, Ga., and Des Moines, Iowa. He went to California about ten years ago.

Dr. JARED W. DANIELS, a native of New Hampshire, died at Los Angeles, Cal., on May 3, at the age of seventy-seven years. Early in his professional career Dr. Daniels received appointment as resident physician to the Sioux Indians at the Yellow Medicine Agency and afterward was made an army surgeon. Most of his life was spent among the Sioux in Minnesota, until three years ago, he removed to Los Angeles.

Dr. JOHN MILTON DUFF died in Pittsburg, Pa., on May 14 of septicæmia, at the age of fifty-five years. He was graduated from Jefferson Medical College in the class of 1874. He participated as a soldier in the Civil War with Company B, 107th Pennsylvania Volunteers. He was clinical professor of gynecology in the West Penn Medical College, obstetrician-in-chief and abdominal surgeon to the Rhineman Hospital, surgeon to the South Side Hospital, and gynecologist to the Kaufman Clinic. He had been President of the Pittsburg and South Side Medical Societies and Chairman of the Section of Obstetrics and Gynecology of the American Medical Association. He was a frequent contributor to medical literature.

Dr. CHARLES WILLIAM NEWTON of Toledo, Ohio, died in Phœnix, Ariz., February 2, 1904, aged thirty-six years. He was a native of Marietta, O., a graduate of Marietta College in 1888, and of Ohio Medical College, Cincinnati, in 1891. He served as interne in the Good Samaritan Hospital, Cincinnati, and was for two years assistant surgeon at the National Military Home, Dayton, Ohio. In 1893 he established himself in practice in Toledo, where he became connected with the medical college and also with Toledo Hospital. In 1898 he was first assistant surgeon of Tenth Regiment O. V. I. A change of climate being necessary, he removed in 1903 to Arizona, where he became physician for the Western Navajo School on the Navajo Indian Reservation. Later he went to Phœnix, where he died. He was a member of the Toledo Medical Association, the Ohio Pediatric Society, the Loyal Legion, and the Spanish War Veterans. In 1894 he was married to Miss Elsie Eaton of Washington, D. C. She and two children survive him.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

SPITAL SATURDAY FUND AND HEALTH LECTURES—INFANTS' HEALTH SOCIETY—PUERPERAL ECLAMPSIA—LUMBAR PUNCTURE—CLIMATIC BUBO—LEEDS UNIVERSITY—DUBLIN COLLEGE—THE KING'S TRIP—FOOTBALL—EO ON CLIMATE, ETC.—A WOMAN'S BOOK—ANTI-VIVISECTIONISTS—OBITUARY NOTES.

LONDON, April 29, 1904.

IE Hospital Saturday Fund had a successful annual eting on the 23d, the Lord Mayor presiding. Sir S. ssley stated that the year's income exceeded by £710 at of 1902, the total being £23,674, the highest of any tained during the thirty years of the fund's operations. committee on sanatorium accommodation had been rmed. The Lady Mayoress then distributed a number first-aid and nursing certificates, after which Prof. R. Smith, President of the Royal Institute of Public alth, delivered an address on "Health, Public and rsonal." He said a great want of the present day is tention to questions of hygiene and the creation of health-conscience" in the minds of the people. At at point the work of public authorities seemed to stop ort, but the Royal Institute, of which he is president, s been giving lectures on such subjects, and he was eased to state that the Council of the Fund has taken eps to organize a crusade in that direction. He could omise cordial coöperation on the part of the royal body which he was president. They would be rewarded the consciousness that they were doing most effective ork in promoting health, lessening disease, and solving any of the problems which were perplexing the people. An "Infants' Health Society" has been started, to read a knowledge of the best methods of promoting e health of infants, to encourage such institutions as epôts for supplying pure milk and proper food, and to co-perate with other bodies having similar objects. It is oped when money comes in, to establish an institution tted with every arrangement for saving infant life and romoting scientific knowledge to that end.

Puerperal eclampsia has so tragic an interest that every ggestion as to treatment is sure to attract attention. n account of forty-one cases in which thyroid extract as freely employed was lately read at the Obstetrical ociety by Lieut.-Col. A. J. Sturmer, I. M. S. Ten grs. f the extract were given on admission and 5 grs. every our hours afterward. But other means were concurently employed, as morphine, saline injections in many ases. Rupture of the membranes, followed by dilatation of the cervix and early application of forceps, was sually practised. The mortality was reduced to 12.2 er cent. Colonel Sturmer said the urine considerably ncreased after two or three doses of extract and by the nd of twenty-four hours that increase was great; whereas, nder saline injections and morphine alone, improvement id not usually set in for twenty-four hours. Dr. Herman marked that increased urine was one of the most rustworthy indications of improvement, so that the xtract seemed to be of value. Dr. Nicholson thought he results of extract encouraging, but in severe cases e always gave morphine in addition. Dr. Malins remarked on the difficulty of determining the value of hyroid extract from cases in which other treatment ad also been used.

Eclampsia was also discussed at the Gynecological ociety on the 14th inst. *à propos* of a paper by Dr. T. . Helme, who said that to control the convulsions when hey had set in drugs were chiefly resorted to. He suggested, however, that withdrawal of cerebrospinal fluid y lumbar puncture would be more effectual and safer, s it would directly reduce the cerebrospinal tension, to he increase of which he attributed the convulsions. le reported a case in which this treatment had proved uccessful.

Dr. Macnaughton-Jones said no opinion could be xpressed on a single case, but if further experience conirmed Dr. Helme's view, puncture of the canal would be nost valuable. He thought pilocarpine was not sufficiently recognized as most valuable, and cited two cases n which the fits ceased as soon as profuse sweating roke out produced by a hypodermic injection of that rug.

Dr. B. Fenwick agreed that the fits were due to intraranial pressure as clearly explained by Dr. Helme, and, herefore, that treatment should be directed to the ascular system. Some years ago, acting on this idea, treated a succession of cases by bleeding from 15 up 25 ounces without drugs or injections of any kind, and recovered. Even without bleeding to such an extent, thought better results might be obtained by reducing the pelvic circulation by sulphate of soda and reducing heart pressure by means of amyl nitrite.

Dr. Hodgson testified to the value of pilocarpine and remarked that epileptic fits, which were not supposed to be due to cerebrospinal tension, were very like those of puerperal eclampsia.

Mr. Jordan asked what was the total amount of cerebrospinal fluid in the body. He hardly thought removing a drachm and a half would relieve intracranial pressure as much as venesection to, say, 15 ounces.

Dr. Helme, in reply, said he did not know if the amount of fluid had been determined, but as removing a few drops from a rubber ball full of water materially diminished its tension, he thought the abstraction of a drachm and a half of fluid from the cerebrospinal canal would have great influence. It would be dangerous to withdraw too much at once—six drachms had been followed by coma. He knew of a case of Bright's disease and lead poisoning in which drainage was allowed to go on after puncture until it stopped, which suggested that in some circumstances it might all escape without being fatal.

The affection called "climatic bubo" was the subject of a paper by Mr. James Cantlie and Prof. R. T. Hewlett, which is of special interest in relation to the spread of plague. Mr. Cantlie, who has had experience of both these diseases in China, thinks climatic bubo a form of pestis minor. He said it usually appeared before an epidemic of plague and continued afterward, especially attacking the white race. It ran a definite course of three or four weeks' fever, the glands affected enlarged and generally suppurated with but little pus, which has until now proved sterile. The gland should be excised, but as early excision does not arrest the disease it is better to delay doing so for two or three weeks. A case was described in a gentleman from Kolar gold fields with inguinal glands affected. He was seen by several who had experience of climatic bubo, and they agreed on that diagnosis. A gland was excised and Dr. Hewlett reported two forms of cocci were obtained—staphylococcus pyogenes albus and staphylococcus cereus albus. There was also a minute bacillus resembling closely that isolated by Kitasato in 1898 from a case of plague, but smaller, only about half the size, and rather more pointed. It stained by Gram's method and curdled milk. Did not stain very well with ordinary aniline dyes. On agar formed an extremely delicate growth resembling that of pneumococcus. Grew very slowly on gelatin, forming a white growth without liquefaction—more luxuriantly on serum, forming colonies resembling those of diphtheria, but whiter. This bacillus was not pathogenic for mice or guinea-pigs.

Dr. W. J. R. Simpson said he had often seen climatic bubo in Cape Town, and had met with a bacillus very like that described by the authors of the communication. This bacillus was obtained from a plague-infected cat, and the owner of the animal had a mild attack of plague, and the same bacillus was found in the glands removed. This form of bubo seemed always to precede the outbreak of plague.

Dr. A. E. Wright said there was only one plague bacillus, and he did not think this was a variety of it. He did not think there was any evidence that pestis minor could develop into plague. It was not proved that the enlargement of the glands was caused by either of the organisms described.

Dr. W. D'E. Emery said this bacillus somewhat resembled Sabouraud's acne bacillus. It might possibly be that it had reached the glands through a skin lesion.

Dr. E. Klein, who occupied the chair in this discussion, commented on the differences between Kitasato's bacillus and that of plague, and could not think they were the same—Kitasato had, indeed, modified his descriptions. As to the bacillus under discussion, it was difficult to identify it with another form. He had seen a similar one connected with the skin. Sections of the excised glands would help to decide whether the bacillus lay in the tissue, and he hoped if Mr. Cantlie had another opportunity he would investigate the distribution of the organism.

At the last meeting of the Pathological Society Dr. A. E. Wright read a paper on the value of a comparative examination of the blood and urine. He described a method of estimating the amount of salt in these fluids, which, jointly with Dr. Newport Kilner, he published in the *Lancet* of the 2d inst. He said that in judging of the efficiency of the kidney there were two points to consider, viz., the capacity of the kidney to eliminate (1) salt from the blood, (2) water. In a case of urticaria with a considerable amount of albumin in the urine, he found the salt normal, but the coagulation period of the blood prolonged to five minutes and the lime salts diminished. He concluded that the albumin was due to a serous hemorrhage into the kidney—not to structural

disease. Decrease of lime salts produces diminished coagulability and may be brought about by the introduction of soap, alcohol, sour fruit, gooseberries. The ingestion of such articles often produces urticaria. In all cases of renal disease Dr. Wright has found the excretory quotient of salt less than normal. In physiological albuminuria he found it normal.

Sometimes I have ventured to tell an enthusiastic footballer that his favorite sport seems rather a ruffianly game. If he plays Association he will admit that Rugby is somewhat dangerous, but if he is a Rugbean he will repudiate the general notion that Association is more fitted for younger teams. A pamphlet on "Football Injuries," by Dr. Whitelock, does not support the popular view, but shows that injuries are more frequent under Rugby rules but usually less serious, being sprains, wrenches, contusions, and so on, leaving no permanent damage behind them. On the other hand, he finds the Association game gives a smaller proportion of casualties, but they are generally more serious, not a few being injuries to the viscera. Another point the author brings out is the high proportion of injuries in both games at the beginning of the season. The same circumstance has been observed at Oxford, more injuries being inflicted in athletic games during the first fortnight of a term than during the six weeks succeeding. It is suggested that players at the beginning are not in sufficient condition to stand a strain they more easily sustain after a little practice.

Dr. Burney Yeo has revised and to a great extent rewritten his book on "Climate and Health Resorts," long out of print. A self-imposed winter holiday has afforded him the leisure to do so and perhaps added some practical experience. He has given the remodeled book the rather queer title of "The Therapeutics of Mineral Springs and Climates."

That the Obstetrical Society's diploma does what its council denies, in enabling unqualified women to pose as practitioners, is obvious from an advertisement of a new book on woman's ailments, by a woman who is C.O.S., Lond., and author of other works on health and sickness and how to manage the sick.

Leeds University is now to be reckoned among our institutions. The charter was received in the Yorkshire College and was read by the Vice-Chancellor in the College Hall on Tuesday. The next step is to complete the Establishment Fund of £100,000.

The most interesting incident of the Royal trip to Ireland is the laying of the foundation stone of the Royal College of Science in Dublin by the King yesterday. The telegrams stated that the stone was "well and truly laid," and His Majesty in reply to the address spoke of his sympathy with efforts to improve the material and intellectual condition of the country.

The Public Health Bill is still delayed. The revaccination bill's second reading is postponed.

The antivivisectionists met last night and uttered their usual denunciations. A live lord declared the "awful practice" to be "unscientific." A member of the lower house said if it was desirable "many persons could be found ready to be vivisected at a price," and so on. Neither of these legislators can be considered representatives of parliamentary wisdom.

Mr. Montagu H. C. Palmer of Newbury, Berks, died suddenly on Saturday evening, aged thirty-two. He studied at Cambridge and the London Hospital and took the double qualification in 1894. He was a member of the Newbury corporation and honorary curator of the museum. He succeeded to the practice of his late father, who was at one time mayor of the town, and who had himself succeeded to his father, Dr. Silas Palmer, and was a well-known antiquarian.

Among other deaths in the month now closing I may mention those of Surgeon-General Ward, I. M. S. (retired), aged eighty-seven; Surgeon F. C. Stearn, R.N., of peritonitis at Portsmouth, where he was on duty in the dockyard since 1902. He qualified in 1892. Dr. J. F. Taplin, suddenly, at Small Heath, where he had practised over thirty years, aged sixty-six. Dr. F. J. Lander, aged thirty-nine, killed in a bicycle accident, when riding with his wife, close to his house in Stamford.

Cocaine and Adrenalin.—James W. Robertson recommends, in operations for the cure of inguinal hernia, injecting the skin and muscular tissues with one-half per cent. solution of cocaine, containing from one to two drachms of adrenalin to the ounce. The advantages claimed are: (1) less chloroform; (2) less pain; (3) less capillary hemorrhages and (4) a better view of the parts operated upon.—*Northwestern Lancet.*

LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

MANILA, March 8, 1904.

IN view of the relatively high mortality attending the inoculation against rinderpest of the carabao being purchased by the Government in China, this inoculation will hereafter be done in Manila by the employees of the Serum Laboratory. Heretofore the Government risk was assumed after the animals had been inoculated at Shanghai, and the loss there was so great that the contractors succeeded in securing permission to have immunization done here. This importation of carabao for the restocking of the islands, following the tremendous losses from epidemic animal diseases during the past four years, has not, however, been by any means an unqualified success. These imported carabao have been brought from the much colder climate of the northern half of China and from quite different environment. On arrival in the Philippines they are brought under conditions for which acclimatization is necessary, and are exposed to diseases which do not prevail in the districts from which they come. They are depressed by the hardships of a long sea voyage, the sickness incident to inoculation against rinderpest enfeebles their power of resistance, and the change from wintry cold at Shanghai to the tropical temperature of Manila, together with a change of diet, exacts an unfavorable effect upon them. While protected against rinderpest, a large number of them contract surra, and experience has shown that when this disease once appears in a herd every animal ultimately becomes infected, even if daily blood examinations are made and animals so found to be infected are promptly removed and destroyed. The explanation of this would seem to be that an animal may harbor a latent surra infection during the period of incubation without presenting any symptoms of sickness or having the parasite discoverable in the blood by microscopical examination, and that biting flies may convey such infected blood to other animals before the existence of any disease can be clinically or microscopically determined. So far, the most successful plan appears to be to break up each shipment of carabao into small bunches, well scattered, and to have these small herds frequently examined by veterinarians, destroy without delay any animals found diseased: but this plan is not always practicable and requires a vast amount of veterinary service. Surra is a disease which, in horses, destroys life in two or three weeks, but in carabao it assumes a chronic form which may persist for many months without apparently affecting the strength or condition of the carabao, even when the blood of the animal is almost constantly found to be swarming with parasites. The infected animal ultimately falls sick, however, and then succumbs within a very few days. It is probable that such carabao are the main sources of infection from which the disease is spread, by virtue of the long carriage of the infection. Horses are less potent in maintaining an infection as they soon cease to be foci of the disease from early death. Recently an examination of the blood of all the carabao in the city of Manila was made, and in more than a thousand so examined a proportion of 3.9 per cent. was found to show the infection of surra, the diseased animal being pretty well distributed over the city.

Custom officers have been ordered to refuse hereafter to allow the landing of diseased animals in Manila, except for purposes of cremation or for experimental study in the laboratories, except on written order from the Board of Health. Animals not so landed must be returned to the port of shipment or otherwise disposed of outside the jurisdiction of the Philippine Islands. Several wily Chinese thought they saw an opportunity to make money by bringing sick animals ashore on cremation permits and then slaughtering them for food, but their action was promptly detected and they are now before the courts to answer for their misdeeds.

Plans, estimates, and specifications for the proposed General Hospital in Manila have been prepared by the Insular architect and submitted to the commission. The site selected is in the vicinity of the new Government laboratories on Calle Herran, on a plot of ground of about twenty-three acres. The plan calls for the opening of a new street, and also provides space on which the buildings of a medical school may subsequently be erected. The plans are based upon a 300-bed hospital, with provision for further expansion to 1,200 to 1,400 beds by the erection of additional pavilion wards and the utilization of certain sound buildings, now existing in the immediate vicinity, as wards. The 300-bed hospital contemplates the erection of twenty-five buildings, of which eleven are medical and surgical wards. There is also a reception ward, and buildings for administration, operations, bath house, insane ward, kitchen and cold storage,

laundry, disinfecting plant, quarters for male attendants, female nurses' home, maternity pavilion, ambulance stable, morgue, crematory, and chapel. The male wards have a capacity of 148 beds, divided equally between the medical and surgical sections. The female medical wards have 88 beds, with a surgical side of 48 beds and a maternity ward of 16 beds. The nurses' home has accommodations for 34 female nurses. The administration building contains offices, consultation rooms, dispensary and facilities for an out-patient clinic. The operating pavilion contains four amphitheatres, also anæsthetizing, sterilizing and dressing rooms, and rooms for *x*-ray, photography, and medico-mechanical apparatus. The maternity pavilion, bath house, kitchen, laundry, morgue, crematory, and chapel are very complete. The drainage and sewerage systems present some difficulties, because of the flat nature of the site, but on the other hand heating facilities do not have to be considered and a considerable saving is effected thereby. The buildings coming into direct use in the care of the sick are to be of wooden frames, lined outside and inside with iron lath covered with plaster rubbed to a smooth finish, the ground surfaces are to be concreted, the floors of terrazo, and the roofs and stairs of iron. The other buildings are to be of hard native woods. The cost of the 300-bed hospital is estimated at more than $600,000, or $2,143 per bed, which is extremely high as compared with similar institutions elsewhere, even when the latter includes the installation of expensive heating arrangements. If the hospital is expanded to 1,400 beds, the total cost is estimated at $1,300,000, or $940 per bed. There is an opinion that the cost of the hospital as planned is unnecessarily high, and may be considerably reduced without impairment of efficiency, particular since the contagious disease hospital recently erected in Manila cost only about $300 for each of its 120 beds, and if expanded to its proposed size of $225 beds would only cost about $200 per bed. In this climate, where internal heat does not have to be conserved and heating arrangements are not required, there should be a far greater economy in building construction than is shown in the above estimates, and it is probable that the authorities will take this view and return the plans to the architect for further consideration or appoint a board to further consider this important matter.

The commission has lately passed an act requiring all provincial and municipal health officers to give medical attendance without charge to any officer or enlisted man of the constabulary, when called upon to do so by the officer in command of the constabulary of that district or province. The same service must be rendered free to any indigent person under the direction of the governor of the province or the president of the municipality. The law also states that no pay for medical services can be received by provincial or municipal health officers from persons entitled to them by law.

Dr. C. S. Gilchrist has been appointed surgeon to the large engineering force constructing the road from Vigan into the province of Abra. Dr. Gilchrist came to the Philippines with the Thirty-ninth Volunteers, and has lately been an assistant at the quarantine station at Mariveles, and in the port quarantine service in Manila Bay.

A rather gruesome occurrence took place some time since in connection with the garroting of four condemned murderers in the province of Isabela. It appears that the American judge sentencing these men declined to witness their execution, embarking on a boat lying in the Rio Grande, opposite the prison. The execution was witnessed by several Americans, and the act of death certified by a native doctor and several provincial officials. This death certificate was brought to the judge, who signed it and at once departed down the river. The bodies of the four garroted men were removed to the church and laid out preparatory to a funeral service to be held later, and about three hours after the supposed execution two of the garroted men showed signs of returning consciousness and ultimately returned to life, with no worse results than badly bruised and wrenched necks. This put the judge, doctor, and others who had certified to the fact of death in an embarrassing position, and raised a very serious question as to the legal status of the men themselves. The records in their cases had been officially closed by a certificate of execution and they could thus have no legal existence. Apparently they could not be held or proceeded against in the courts, not having a legal entity; but, on the other hand, if they were allowed to go free and committed any further depredation, they could be shot down by the injured party without fear of punishment for such action. As a matter of law, a judgment cannot be attached except where accident, mistake, or fraud has crept into the record, but this cannot be at the instance of the party responsible for the mistake, as the Government was in the present instance. The condemned men certainly committed an intentional fraud in surviving after the Government executioner had choked them into insensibility, and in passing through such an experience it would certainly seem as if they had paid a large portion of the debt due. The Government has, however, held the survivors in custody, and recently the Governor has imposed a sentence of life imprisonment in lieu of the uncompleted one of death by the garrote. It is understood that the existence of these men having thus been legally recognized, they will now demand that they be heard in the courts, where they propose to contest the latest action of the governor. The case is one of such peculiar nature that the medicolegal questions raised will be of unusual interest and much importance.

The above experience is in marked contrast with a recent execution by the garrote in Bilibid Prison, where the fact of death was certified to in four minutes after the screw was turned. Death was apparently instantaneous and without pain, and the method was very favorably commented on, as compared to hanging by the Americans, who witnessed the execution. The unfortunate episode in Isabela province was apparently not the fault of the method, but the half-hearted and ineffective way in which it was carried out. It is a Spanish tradition, that it takes eight minutes to cause death by the garrote, but that the bodies should be left in the machine for four hours, and it is said that in Spain or the Philippines no executioner ever made a failure of his job on the above basis.

Progress of Medical Science.

The Boston Medical and Surgical Journal, May 12, 1904.

The Danger of Infection to the Attendants of Tuberculous Patients.—Louis Faugeres Bishop declares that the idea that tuberculosis is of necessity contagious, is not strictly true. We all take in germs of tuberculosis from time to time. There will be fewer tubercle bacilli found in the tuberculous ward of a hospital than in the air of a dusty street, for in a crowded street all conditions are favorable. We do not get tuberculosis because we enjoy a natural immunity against it. The tubercle bacilli may be introduced into the human body, but there will, ordinarily, be no ill effect. The one exception is in the case of a very severe infection if the person is inoculated with the germs of tuberculosis repeatedly, and the natural immunity temporarily broken down; but even then if the individual is not susceptible he will throw it off. Many people are afflicted with this disease for a little while, but the condition is not recognized, and the lesions heal and the patient recovers. The writer hardly considers it fair to put tuberculosis in the same category with other contagious diseases because it is only contagious in the sense that it may be transmitted from one to another, but is not contagious in the sense that the average person is liable to catch it. As far as danger in taking care of tuberculous patients is concerned, it is practically nil.

Hysteroneuroses and Their Relation to the Physical Examination of All Women Patients.—Daniel H. Craig believes that physical examination occupies the same position relative to the hysteroneuroses that judge and jury occupy to the accused, or suspected, criminal. Engelmann's definition of hysteroneuroses is: "Those phenomena which simulate a morbid condition in an organ which is in an anatomically healthy state, and which are due, not to structural changes in the organ in which they appear, but to morbid or physiological changes in the uterus or ovaries." The writer says that to uterus and ovaries he would like to add kidneys. The more thorough the physical examination of all women patients, the less opportunity there will be for over- or underestimating the hysteroneuroses. For his students, the writer has formulated the following rule: "Never accept any symptom as an hysteroneurosis until every other possible cause has been rationally ruled out." A pelvic examination is not necessary in the case of every woman. The physician should make a thorough study of etiology, pathogenesis, and pathology. If a thorough search be made for extra pelvic causes of symptoms, all necessity for intrapelvic examination may often prove wanting. Pelvic lesions may cause distant neuroses with pelvic symptoms so slight as to have been overlooked by the patient. After a thorough examination of the seat of reflex symptoms without discovery of the cause, pelvic examination may give the happiest results. One condition in which the hysteroneuroses have been made a diagnostic scapegoat is the menopause. When hysteroneuroses or local pelvic symptoms arise at the beginning of the menopause, they should be treated just as at any period of a woman's existence. Many cases of cervical carcinoma would then be recognized early. Comprehensive physical examination will sometimes discover that the patient is suffering from two or more distinct pathogenies in no way related to each other except in so far as both disturb general metab-

olism. The writer then gives a general outline of examination in the case of a new patient. He calls attention to the intimate relationship existent between respiratory and intrapelvic lesions. In supersensitive patients, the use of nitrous oxide greatly facilitates pelvic explorations. The writer then reviews the histories of several patients which emphasize the paramount importance of thorough and careful physical examinations.

Journal of the American Medical Association, May 14, 1904.

The Prevention of Tetanus.—D. Eisendrath reviews the literature of the prevention of tetanus and describes the procedures which, during recent years, have proven successful in his hands. The essential feature is to convert a closed wound filled with necrotic débris, blood-clots, cartridge-wads, etc., into an open one. His postulates for the successful treatment of wounds so as to prevent tetanus are as follows: (1) Early and thorough exposure of every portion of the tract which has been infected by the blank cartridge or instrument which caused the punctured wound, retracting the edges, so that the disinfection and removal of the infected tissues can be done under the guidance of the eye. (2) Prophylactic injections of tetanus antitoxin to aid the organism in combating whatever toxins may have been absorbed prior to the time of operation. (3) This thorough disinfection can only be carried out under anæsthesia, either local or general, and when the parts are rendered bloodless by the application of a constrictor. (4) The blank cartridge itself does not contain tetanus bacilli, but undoubtedly carries them in while penetrating the skin. (5) The instruments which cause punctured wounds either are covered as described above with tetanus bacilli or the manure of horses, etc., and are thus carried into the wound. (6) Our only hope in reducing the high mortality of tetanus is in a thorough application of such radical measures as have just been described.

Acute Ascending Paralysis and Landry's Paralysis.—According to L. H. Mettler, these two names are used synonomously, yet the two conditions are by no means the same, although there is a middle ground where they overlap. The author's paper is a discussion of the following propositions: (1) Landry himself described not a new disease but rather a symptom-complex or clinical picture, which included much less than what is now included under the term acute ascending paralysis. (2) Both Landry's disease and acute ascending paralysis are recognized to-day as mere phases of a particular form of specific intoxication of the nervous system. (3) The proof that this intoxication is of bacterial origin, the particular microorganism, if, indeed, there is a particular one being still unknown, is about established. (4) This bacterial intoxication produces functional disturbances, and later on diffuse inflammatory and degenerative changes in various parts of the central and peripheral nervous apparatus, thus accounting for the variability of the clinical phenomena. (5) Time, virulence of the poison and resistive power of the patient are the principal factors that determine the nature of the pathological findings and the clinical form of the trouble. Under some circumstances the post-mortem findings may be *nil*, while under other circumstances they may be highly suggestive of a diffuse myelitis, an acute anterior poliomyelitis or a peripheral multiple neuritis. It is an error, therefore, to identify Landry's paralysis, or even acute ascending paralysis, always with one or the other of these diseases. (6) The recognition of the class of cases under discussion, as a form of diffuse bacterial intoxication, not only explains most satisfactorily their striking clinical discrepancies, but suggests a far more rational guide for their management than has any explanation hitherto offered.

Medical News, May 14, 1904.

The Ammonium Sulphate Method of Sterilizing Catgut—Weller Van Hook recommends this method. It depends upon the principle that organic substances are insoluble in the fluids by which they are precipitated from their solutions. A saturated solution of ammonium sulphate answers these requirements. The writer has found that slightly chromicizing the material before sterilization prevents it from weakening and softening, and yields a product more easily handled and tied. The raw, rough, unbleached material should be chosen, and should be soaked for a week in pure ether or a mixture of chloroform one part and ether two parts. It is to be wound on glass spools in single layers and soaked for three days in aqueous solution of chromic acid, 1 to 1000. It is boiled for twenty minutes in water to which, while boiling, chemically pure ammonium sulphate has been added until the crystals cease to dissolve. The catgut is washed for half an hour in cold sterile water, and stored as desired. Should the material become infected, it may be reboiled. The writer places the spools in a solution of corrosive sublimate, one part in 95 per cent. alcohol, 1,000 parts.

A Case of Carcinoma of Retained Testis.—Sinclair Tousey reports this case which came under his care. The patient was a man of thirty-three years, with both tuberculosis and cancer in his family history. He was born with a number of malformations. Both testes were completely within the abdominal cavity. There was an inguinal hernia and an exaggerated hypospadias with apparent absence of the penis. This condition was operated on unsuccessfully. About twelve years later the patient began to have fainting spells with pain in the lumbar region; later convulsions occurred after overwork or exposure. In about two years there was an attack of intense pain in the small of the back, supposed to be of a rheumatic, neuralgic, or tuberculous origin. This continued for about a year. The condition was then found to be one of enormous swelling of the colon, forming a genuine enteroptosis. The application of a Rose's belt reduced the swelling in forty-eight hours to such an extent that the tumor could be felt. The tumor occupied the entire lower part of the abdomen from two inches above the umbilicus. This felt softer and cystic on the right side. A diagnosis of retained testis was made. At operation the tumor appeared at first like a fibroid uterus, but later a part of it was found to be a cyst. A digital prolongation extended from the cyst down into the hernial sac. The entire mass was removed without rupturing the sac. The solid part of the tumor weighed about four pounds. Microscopical examination showed this to be carcinoma with a considerable amount of soft fibrous tissue. None of the normal testis tissue could be distinguished microscopically. The patient made a rapid recovery, but recurrence took place in two months. Pain in the back returned, and he died about five and one-half months after the operation. At the autopsy the body was found in a frightful state of decomposition. The direct cause of death seemed to be an occlusion of the abdominal aorta caused by the pressure of the growth.

Asthenopia: A Clinical Study.—D. H. Wiesner defines the term "asthenopia" as a compound derivative, meaning without strong sight; ordinarily called "eye-strain." The writer shows that poor vision is becoming more and more frequent, especially in crowded populous cities. The cause lies in the close application of the eyes for many hours each day and far into the night, and that at close range. The first variety of asthenopia mentioned is the accommodative. In order to see clearly at close range, the ciliary muscle must be called into action. Hyperopes of any large degree have to use this muscle of accommodation for distant vision; with this refractive error, symptoms of eye-strain are common. The act of accommodation is accompanied and assisted by the act of convergence, both internal recti taking part in it. If this convergence be long continued, an overstrained muscle will assert itself. Nervous, hysterical, or psychical asthenopia is also met with. In simple hyperopia eye-strain is common; in hyperopic astigmatism it is usual; and in compound hyperopic astigmatism it is the general rule. In myopia, with the exception of the reduced distant vision, eye-strain is not met with. With myotic astigmatism eye-strain is noted, and also with the compound variety. The large majority of cases are those with hyperopia, with or without astigmatism, because the accommodative act is so continuously required. Sex does not enter materially into the diagnosis, temperament does, and age is a factor. Headache is a prominent symptom, so are blurring of vision and lacrimation. Diplopia is not infrequent. In spasmodic twitchings of the lids, a slight rubbing of the lids will generally bring relief. Blepharospasm is at times encountered as a direct result of asthenopia, and is hard to overcome. Certain inflammatory conditions result, from eye-strain usually of the refractive kind—blepharitis marginalis, hordeolum, and chalazion. The writer calls attention to the importance of limiting the treatment of the eyes to those who are qualified for this work.

New York Medical Journal, May 14, 1904.

Prostatic Crises.—Under this term S. H. Friend refers to the perineal pain which is one of the early symptoms of tabes and is located, according to the author, in the prostate gland. He refers to three patients in whom the pain occurred after coitus or nocturnal emission. In one case the pain came on during the day while the patient was riding in the street cars. These prostatic pains last steadily for from three to five minutes and do not recur. The patients closely examined themselves at the author's request and found that after each "crisis" the tissues of the perineum were yielding and not tender, that the rectum was soft, the insertion of the finger causing no pain and that the point of tenderness lay in the anterior wall of the rectum opposite the prostate gland. The latter is therefore considered as the starting point of the pain.

Intussusception.—J. F. Erdman believes that this condition calls for abdominal section, and that it is generally a waste of time to temporize with inflation or water injections. As to diagnosis the presence of a tumor in the abdomen is a most fallacious sign. In over 60 per cent. of a series of twenty-six cases, in all but three of which operation was done by the author, no tumor of any kind could be made out. The great diagnostic sign is blood, bloody serum, or mucus, either in the stool or expelled after rectal examination with the finger. There is some fever and quickened pulse. The author describes his manner of operating, using chloroform so as to lessen the liability of vomiting, making the incision in the middle third of the right rectus muscle and avoiding traction on the bowel. He gives the histories of two interesting cases. In one, preparations had been made for operation but spontaneous reduction occurred six hours after an enema had been given, this having been administered before the case was seen by the surgeon. In a second case, one of the subacute variety, of six days' duration, operation was successfully done. In the case recovering spontaneously there had been some abdominal manipulation and massage, and to these rather than to the enema the author attributes the happy outcome.

Mucous Colitis with Special Reference to Therapy.—F. J. Runyon states that if there is much abdominal pain and soreness, if much mucus is discharged, and if the latter is blood tinged, the patient must be put to bed and kept there till these acute symptoms have subsided. Constipation calls for liquid diet. Milk should be avoided, as it forms scybalous masses. Beef juice and broth are to be preferred, and to these bread and some of the cereals may be added, the whole being strained. Fruit juices are allowed. If diarrhœa is present, we should give a dry diet, such as toasted biscuit, rice, and broiled meats in moderation, a little tea being allowed. After the diarrhœa is checked we may give any food easy of digestion that does not contain coarse substances. We should prohibit corn bread, oatmeal, tomatoes, pastry fried foods, and sweets. For general tonic measures, cold baths, massage, electricity, all are indicated. The bowel must be thoroughly flushed, and for this purpose nothing is better than Epsom salts. Warm normal salt injections are also of service, and to these various astringent agents may be added. For the obstinate cases a right colotomy is sometimes necessary. The author states that he has seen it suggested that the appendix be utilized for the purpose in these obstinate cases of washing out the colon, the point of the syringe being introduced into the appendix, previously exposed and opened for the purpose. The appendix is left exposed and utilized for this as long as it is deemed advisable.

American Medicine, May 14, 1904.

The Puerpera: Her Care and Comfort During Convalescence, Particularly the Prevention of Visceral Prolapse.—A. Ernest Gallant believes that, from the standpoint of an up-to-date obstetrician, it is the duty of all such specialists to devote more time and attention to the local and general condition of the puerperal woman, in order that she may get up from the puerperal bed in every respect a healthy individual. For this purpose it is necessary that following labor, she secure proper rest and food, that the bowels act freely, that by insisting on the lateral or abdominal posture, avoiding the dorsal position, the uterus be encouraged to contract in its normal relation to the bladder, and after the first week by the use of tampons overcome any tendency to uterine displacement, or prevent its recurrence, if present before pregnancy, and continue the good effect by inserting a pessary, to be worn until assured that the uterus will remain in its proper position. For the relief of soreness, stiffness, and after-weakness, loss of muscular tone and strength, the prevention of abdominal laxness and consequent visceral prolapse, the patient must receive general massage for the first three days, massage with passive and active motions for the fourth, fifth, and sixth days, and be taught suitable exercises for strengthening the muscles of the abdomen, back, and extremities during the succeeding days in bed, and practise daily after she is permitted to get out of bed. As long as the patient is in bed, she should wear a snugly fitting abdominal binder, held in position by perineal straps. When she is out of bed she should wear a specially fitted corset, put on while in the dorsal position. The writer has had excellent success with this method of treatment in his cases.

Is the Epileptic Attack Explosive in Character?—J. W. Wherry gives interesting data in regard to mental confusion deepening into unconsciousness in several epileptics just prior to the convulsion. He presents the copy of a letter written by an epileptic which shows undoubtedly the gradual loss of consciousness which he believes is present in all cases of epilepsy, even though there is no visible evidence except as secured by accident. This initial stage of gradually increasing loss of consciousness gives rise to peculiar and confused sensations to which the name aura has been given. This aura is probably present in practically every case of true epilepsy. The writer believes that if the unconsciousness is due solely to the explosive character of the convulsion, there could then be no loss of consciousness until after the convulsion had been initiated. The condition of unconsciousness and the convulsion bear no closer relation to each other than that they are both the result of an identical elemental cause, each representing a stage in the epileptic attack. Unconsciousness precedes the convulsion. The treatment of epilepsy must ever remain unsatisfactory so long as it is directed exclusively toward the convulsion, or exclusively toward any single symptom of the epileptic condition. The writer then discusses the subject of methæmoglobin. He gives the key to the situation as follows: Remembering that the onset of the epileptic attack is not dynamic or explosive, and that the prime cause of epilepsy is an element, toxic, infectious, or whatever it may be, possessing a double characteristic: (1) to produce unconsciousness; (2) to cause convulsions; and then remembering that treatment to be effective must be directed toward those causes only which possess within themselves these two qualities. Given a toxin that will convert the oxyhæmoglobin in the blood into methæmoglobin, and the problem is solved; for from that moment the process of reconstruction is identical with that of the epileptic attack. The writer believes that back of the epileptic attack is a toxic condition which, if present in some individuals, not epileptics, would give rise to a symptom-complex identical with that found in epilepsy, and that heredity is indicated in the functional perversion which leads to the production of the prime cause, rather than in the resultant unconsciousness and convulsion.

The Lancet, May 7, 1904.

Amaas, or Kaffir Milkpox.—W. E. De Korte defines this disease as a specific contagious eruptive fever closely resembling smallpox in appearance, yet differing from it in some respects. The disease affects the pure-blooded native rather than the mulatto, and the white man is almost entirely immune. Vaccination or a previous attack of smallpox in the negro affords nearly absolute protection against amaas, yet vaccination of natives convalescent from amaas very often "takes" in a modified form. The period of incubation is, like that of smallpox, from ten to fourteen days, and similarly the eruption also appears on the third day. Defervescence occurs, as in smallpox, with the appearance of the eruption, but there is no secondary fever. The mortality from amaas is very slight, and the disease is especially mild in infants and children, often aborting, indeed, in sucklings. The general symptoms are headache and occasional backache, slight coryza, mild sore throat, enlargement of the cervical glands, fever, and vomiting.

Carbolic Acid Poisoning in an Infant.—Louis E. Stevenson reports the case of an infant, six weeks old, whom he circumcised on March 10. The wound was dressed with lint soaked in carbolic oil (1 in 20). The little patient was very well all day, sleeping most of the time, and had a good night. Early next morning he vomited and had apparently nausea at intervals during the day but did not vomit any more. He had two normal motions. During the afternoon the napkins were stained a dark color. The carbolic dressing was discontinued. On March 12 he was rather restless with no sound sleep. The appetite was poor and the urine was scanty and dark colored. He had two motions, one of which was dark in color. He had a very restless night, scarcely sleeping at all. On the 13th the patient had a temperature of 98° F.; the urine was passed freely and the motions were normal. The eyes had a glassy appearance with the eyelids somewhat injected. He was pallid and had twitchings in the limbs at intervals all day. On the 14th the same symptoms continued, and there was a slight rose-colored rash in patches on the chest and the abdomen. On the 15th rash was very thick over the chest and the abomen. At 9 A.M. the child became extremely pallid with feeble pulse. He was ordered brandy, five drops every two hours. He had a second fainting attack about 11 A.M. His temperature was 98°. At 6 A.M. the rash on the chest and the abdomen was disappearing, but a slight rash developed on the back. He slept well. On the 16th the rash was very thick on the back and very slight on the hips, the neck, and the face, On the 17th the rash was almost gone. The eyelid injection and the glassy appearance of the eyes were rapidly disappearing. The child became convalescent from this date. The author had frequently used carbolic oil of this strength in circumcisions, but never before saw it induce symptoms of poisoning.

British Medical Journal, May 7, 1904.

Hæmoglobinuric Fever.—Ernest A. Boxer has seen distinct rigors and exacerbation of the black urine follow exhibition of five grains of quinine. His conviction is that quinine in black-water fever should be avoided—and nearly all drugs until we know of some really trustworthy specific, except the most simple and gentle purgatives, for example, calomel. As for food, he would almost recommend entire rectal feeding until the gastritis and intense biliousness is allayed. For patients in that state seemingly waste much, if not all, that is given them by the mouth, and time being of immense value, it is as well that absorption should be taking place continually. The writer feels that the secret of successful treatment of black-water fever lies not so much with physicians as such, as in skilful and tender nursing.

Treatment of Acne, Furunculosis, and Sycosis by Therapeutic Inoculations of Staphylococcus Vaccine.—A. E. Wright thinks that chronic staphylococcus invasions—in particular, furunculosis, sycosis, and acne—can be treated very effectively by inoculation of a staphylococcus vaccine. By this method the chemical machinery of the patient is induced to elaborate by its own efforts, the protective secretion which is required for the destruction of the invading bacteria. A vaccine of standardized strength must be employed. Before proceeding to reinoculation, the effect produced in each case upon the patient's blood by the previous inoculation must be measured to obtain the best results. It is advisable in obstinate cases to resort to a vaccine made with the particular strain of microorganism in which has acclimatized itself to grow in the patient's organism. In the cases here reported, clinical improvement invariably went hand in hand with improvement in the phagocytic power, and the negative phase which everywhere supervenes upon inoculation revealed itself to blood examination in the form of diminution of the phagocytic power and in some cases to clinical observation in the development of fresh pimples and boils. The writer concludes by saying that this transient and, clinically speaking, insignificant aggravation of the symptoms is full of instruction, inasmuch as it is indicative of the possibility of aggravating the patient's condition by the employment of excessive and too frequently repeated doses of vaccine.

Congenital Hour-glass Stomach.—W. F. Brook believes the following case of hour-glass stomach to be clearly one of congenital origin. The patient was a school teacher, aged fifty. She had been liable since girlhood to attacks of pain after food at no fixed interval, followed and relieved by vomiting. There was no history of hæmatemesis or melæna. The diagnosis lay between pyloric or hour-glass stenosis. The general enfeeblement was so marked that it was decided before operating to endeavor to pick up the strength by rectal feeding. Under this treatment the condition greatly improved for several days, till the seventh day, when the enemata were returned and vomiting recurred. At operation, the stomach which was unusually thin-walled, was found to be divided into two pouches by a narrow constriction. The peritoneum covering the isthmus was free from adhesions both in front and behind. It was transparent, glossy, and free from thickening. The omenta continuous with it, showed no sign of puckering. The pylorus and both pouches were free from thickening, and showed no external indication of chronic ulceration. Upon incising the isthmus, the mucous membrane showed no sign of cicatrix. The operation of gastroplasty was rapidly completed, but the patient died ten hours later. So narrow a constriction in the stomach must be a very vulnerable spot, so that it is not improbable that congenital hour-glass contraction may actually lead to ulceration, when traces of the latter, if found, would be liable to be wrongly interpreted as evidence of a pathological origin of the deformity.

Foreign Body Impacted for Seven Months in the Œsophagus.—Andrew Fullerton reports this case. The patient was a girl of seven years, and had swallowed a half penny seven months before admission to the hospital. The interesting points are as follows: The length of time since impaction, seven months. The absence of symptoms until three weeks before admission to the hospital, when ulceration of the œsophageal walls was evidently in progress. The situation of the coin, close to the arch of the aorta, into which ulceration would possibly have taken place, and in a position where the use of forceps might have been fatal. The method of dealing with the œsophageal wound: As it was in healthy structures, it was completely closed by a row of sutures in mucous membrane and a second row in the muscular walls. No tube was passed down the œsophagus to feed the patient. Rectal feeding was of doubtful effect. Soft, easily digested food was given at the end of the first week. The child made an excellent recovery.

Deutsche medizinische Wochenschrift, April 28, 1904.

Effects of the Röntgen and the Radium Rays on Cell Division.—Perthes claims that both of these rays have a well-marked inhibitive effect on division in both animal and plant cells. Observations made on the developing eggs of "ascaris" show that the *x*-rays exert a distinct harmful effect, independently of whether nuclear division has begun or not. The damage does not appear at once, but comes on later as cellular division proceeds, and is marked by an irregular course in the development and the production of abnormal end products. Analogous results were obtained when the radium rays were employed. Exposures of growing plant roots to the influence of both varieties of rays, also disclosed a marked inhibitive action on their growth. The author suggests that the effects are due in all probability to the production in the living cell by the rays of substances which damage the chromatin in the nucleus.

Berliner klinische Wochenschrift, April 25, 1904.

Zones of Hyperalgesia in the Neck after Bullet Wounds in the Head.—Milner believes that the principle elaborated by Head, whereby areas of analgesia in the skin may lead to the localization of disease processes in the internal organs, may also be applied with certain modifications to head injuries. He reports a case in which after the infliction of a bullet wound which involved the surface of the brain, but did not cause any marked general symptoms, localized areas of analgesia could be demonstrated in the neck. In this instance there was probably a direct irritation of the minute divisions of the sympathetic, either in the pia or the gray matter, and the extent of the hyperalgesic zone corresponded to the upper cervical segment, probably the second. Milner thinks that further observations in this field may demonstrate that accurate recognition of these dermal zones may facilitate the diagnosis in injuries of the brain, as by bullets, when the picture afforded by the *x*-rays is not sufficiently clear or conclusive.

Organotherapy in Pancreatic Disease.—Glaessner and Sigel have carefully studied the administration of various organic products in a s ries of cases in which pancreatic disease was suspected. The symptoms considered as characteristic were pancreatic colic and disturbances of metabolism and digestion, marked by the appearance of sugar in the urine, fatty stools, and insufficient absorption of albuminoid substances. They found that thyreoidin exerted an unfavorable influence on the symptoms. Pancreon had little effect on the nitrogen absorption and none at all on the resorption of the fat. The administration of pancreatin, however, produced an increase in the nitrogen resorption from 52 per cent. to 56 per cent., and of the fat from 41 per cent. to 68 per cent. The most favorable effects were found when large doses of the alkaline carbonates were given with the pancreatin, although the alkali alone was not followed by any marked increase. Pancreatin and sodium bicarbonate seemed to be the best combination.

Effect of the Application of Cold on the Heart Action.—W. Krebs has made some very careful observations in various diseased conditions, in order to determine the truth of the almost universally accepted dictum that cold acts as a sedative to cardiac action. He comes to the conclusion that the application of cold in the cardiac region benefits a certain class of patients suffering from cardiac insufficiency, whether of a neurotic or organic nature. This is shown by an improvement in the pulse rate, a reduction in its frequency, and an increased arterial pressure. He considers that one of the most important factors in the attainment of a favorable result is the enforced quiet to which the patient is subjected. In other cases no results can be perceived of an objective character, and these cooling methods cannot compare in their effects with digitalis. The application of cold is agreeable to the patient, but equally good effects are produced in most cases by water of an indifferent temperature. Moreover the application of a certain amount of moderate pressure on the cardiac region also seems to relieve the patient to a more or less marked degree.

Münchener medizinische Wochenschrift, April 26, 1904.

Complications of Fractured Clavicle.—Meinhold comments on the fact that in this fracture there is rarely any damage done to the underlying nerve trunks and blood-vessels. He reports a case in which man sustained a fracture of the middle of the clavicle by direct violence. Healing did not take place promptly, and it became necessary to remove a fragment of bone which was penetrating the skin. The fragments then united with the formation of a large callus. About ten weeks after the injury and while indulging in some severe exercises, the arm suddenly became numb and pulseless. An exploratory operation showed that the fragments had slid one over the

other and had become united in this position. A large callus apparently pressed on the subclavian artery through the scalenus muscle, and the sudden cessation of pulse may be accounted by a spasmodic contraction of the walls of the vessel due to the prolonged previous pressure, aided by the severe exertion.

The Prognosis in Intestinal Sarcomata.—Steinthal believes that the prognosis in this condition is not so bad as formerly assumed. The disease is quite rare and but few cases have been reported. The author operated on two patients, one of whom presented a sarcoma of the jejunum, which necessitated extensive resection of the intestine, and the other a sarcoma of the ilium, for which about seven inches of gut was resected. Both of these patients were operated upon about four years ago and have since then remained free from recurrences. The variety of sarcoma has an important bearing on the prognosis. The spindle-celled sarcomata usually produce a constriction of the lumen of the gut and therefore lead to the production of clinical symptoms earlier than the round-celled or lymphoid sarcoma, for the latter are apt to be accompanied by a dilatation. Operation is therefore undertaken at an earlier period in the former than in the latter class of cases.

Action of Fluorescent Substances on Diphtheria and Tetanus Toxin.—Tappeiner and Jodlbauer have supplemented their observations on the photodynamic effects of fluorescent substances on infusoria and enzymes, by experiments on bacterial toxins. They conclude that the practical application of their findings in therapeusis depends on two points of view. It has been demonstrated that the effect of fluorescent substances depends on absorption and also that the light rays penetrate the tissues to an extent which depends on the extent of their wave lengths. It would seem, therefore, that those substances are to be preferred which are rendered fluorescent by rays made up of long wave lenghts, *i.e.* green, yellow, or red. Then, again, other things being equal, those substances would be most suitable which show a particular affinity for those organs in which the toxin has become fixed. Methylen blue, for example, would be most appropriate for tetanus toxin, because, as Ehrlich has shown, this substance has a particular affinity for nerve tissue, and it is here that the tetanus toxin is localized. It also remains to be seen whether the substance when taken up into the tissues can only be excited to fluorescence as long as it remains in solution in the tissue fluids, or whether this continues when it has become fixed in the tissue. This opens a field for extended research.

French and Italian Journals.

Sudden Death in Chorea.—Barié observes that rapid or sudden death in chorea, even uncomplicated, is not very rare. Statistics give $2\frac{1}{6}$ per cent. of deaths in simple chorea. Generally nothing especial is discovered at autopsy and the fatal issue is unexplained; but in complicated chorea the mechanism of death is often very simple, being due to heart lesions, embolism, apoplexy, etc.—*Le Bulletin Médical*, April 23, 1904.

Syphilitic Origin of Appendicitis.—Faucher, in making statistics of cases in which syphilis has preceded other maladies, has found that out of 32 cases of appendicitis 29 developed in syphilitics. Of patients over 30 years, 4 were men, all of whom had had syphilis; 5 were women, 1 a syphilitic, while the husbands of 3 admitted syphilis. The author says that appendicitis occurs especially in cases of acquired syphilis. Of those under 30 years, there were 23 cases, 21 being hereditary syphilitics. In 2 instances there were 2 children in the same family. The writer has given specific treatment but once, and then without result. He considers appendicitis as a quaternary manifestation of syphilis, a form of parasyphilis.—*La Presse Médicale*, April 20, 1904.

Imperforation of the Hymen.—L. Laroyenne reports the following case. The patient was a girl of seventeen years. She had never menstruated. For fifteen days she had complained of vague pains, headache, and lumbar pain which had not hindered her from doing her housework. But for two days the pain had been very severe and she had found it impossible to urinate. Examination revealed an imperforate condition of the hymen, which bulged out, was red, tense, and fluctuating. The hypogastrium was distended and painful on palpation. The temperature was above normal. The hymen was incised with a thermocautery without anæsthesia. Pus was evacuated in the quantity of five or six hundred grams, containing no clots. The vagina was found to be distended. There was a condition of pyocolpos without pyometria. The temperature fell and the patient has continued in good health. Two months later menstruation began to appear for the first time. Bacteriological examination of the pus revealed small diplococci, some streptococci in short chains. Staphylococci were also obtained.—*Annales de Gynécologie et d'Obstétrique*, April, 1904.

Aneurysm of the Aorta Complicated with Addison's Disease.—Ducos relates this case. The beginning of the trouble was noticed four years ago. The patient suffered with asthenia, gastrointestinal disorders, lumbar pains; the characteristic tinting of the skin became very marked. At the first examination the abdominal aorta was found to be hard and dilated, but no other signs of aneurysm appeared. The patient was given adrenal medication with remissions. About six months later, after the strain of vomiting, there was a sharp pain in the epigastrium, followed by fainting. The tumor appeared about the size of a fist. The tumor persisted for about a month when hæmatemesis and melæna occurred; ice, both internally and externally, was applied and a hypodermic of ergotine was given. The symptoms subsided. There were two recurrences of hemorrhage, the latter being followed by death. Autopsy revealed a communication between the duodenum and the aneurysmal pocket. Microscopical examination of the suprarenal bodies showed nothing of special interest, and the histological examination has not yet been reported.—*Journal de Médecine de Bordeaux*, May 1, 1904.

A Case of Aneurysm Localized in the Arch of the Aorta.—V. Maragliano describes a case of aneurysm of the arch of the aorta, in which the diagnosis was made by the use of the *x*-rays. He considers radioscopy the best method for the diagnosis of such troubles. The patient was forty-one years of age. The beginning of the disease was rather sudden, coming on with cough. Five months before the patient was seen by the author. There was also loss of voice and pain in the right interscapular region. Later there were added to the symptoms a pronounced sense of suffocation when lying on the right side, and a characteristic harsh and prolonged murmur. On inspection the manubrium sterni was more prominent than normal, especially to the right. In the second intercostal space, on the right, along the margin of the sternum, was to be seen a rhythmical pulsation extending over the entire clavi-pectoral region. Percussion gave a marked hyperresonance over the manubrium and along the sternal margin. On auscultation the first sound was prolonged, the second increased in intensity. The left radical pulse was weaker than the right. Laryngoscopic examination showed that the left vocal cord was contracted. The radioscopic examination showed on the level of the second and third intercostal spaces, in a plane parallel with the middle plane of the body, a pulsating mass, which seemed to be deeply situated. It had a width of 11 centimeters. The patient died suddenly after a severe attack of coughing.—*Annali di Elettricità Medica e Terapia Fisica*, March, 1904.

Two Observations of Congenital Hydronephrosis in Young Infants.—Rabot and J. Bertier state that of all the different types of hydronephrosis, that of congenital origin, developing slowly during childhood and adolescence, is the least understood. Two cases have recently come under their notice. The first patient was a boy two years old, who entered the hospital on account of diphtheria. The urine was thick with albumin. The child died, and autopsy was performed. The two ureters were much distended, filled with urine, and of the size of the middle finger. They were perfectly permeable, and the bladder was healthy. Both ureteral openings into the bladder were very small and scarcely admitted a fine needle, and the urine passed drop by drop very slowly when it was forced from above. There were no traces of any inflammatory process. The kidneys themselves were apparently equal and normal. On incision, the parenchyma was seen to be diminished in thickness, while the calices and pelvis were distended. But the distention was much less in proportion to that of the ureters. The second patient was a boy of eighteen months, admitted to the hospital for measles with a severe laryngitis. The family history was negative, and the child had been healthy up to the present illness. Intubation was performed. During the twenty hours that the child was in the hospital, it passed urine only once. There were no signs of bronchopneumonia. There was no apparent disturbance aside from measles of a severe form, complicated by non-diphtheritic laryngitis. At autopsy, as soon as the abdomen was opened, both ureters were found to be very large, the left especially, and filled with urine. The ureters were bosselated. Dilation alternately with constriction. The kidneys appeared to be totally different. The left was hypertrophied almost to the size of an adult organ. On the right, the kidney was atrophied and was about the size of a little finger. The bladder was normal in size, but its walls were a little hypertrophied. On incision, the left kidney showed calices and pelvis somewhat dilated, while the right showed very advanced renal atrophy. The writer believes that the frequency of congenital hydronephrosis is greater than has been hitherto supposed. The treatment is surgical, various methods being employed; nephrectomy, nephrotomy, and conservative operations such as punctures.—*Lyon Médical*, May 1, 1904.

Society Reports.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held April 21, 1904.

ANDREW H. SMITH, M.D., IN THE CHAIR.

THIS meeting was held under the auspices of the Section on Laryngology and Rhinology.

Presentation of Portrait of the Late Dr. Joseph O'Dwyer.—Dr. WM. P. NORTHRUP committed to the keeping of the president and trustees of the Academy of Medicine, in behalf of the following-named members of the Medical Board of the New York Foundling Hospital the portrait of the late Dr. Joseph O'Dwyer: Drs. J. Appel, President; T. Halsted Myers, Secretary; Thomas Darlington, Health Officer of the City; John Reid, oldest associate member with Dr. O.Dwyer; L. E. Holt, R. G. Freeman, C. W. Cutler, J. A. Kenefick, and W. P. Northrup. Dr. Northrup said he had been commissioned by the above-named gentlemen to procure and present the best possible likeness of their distinguished colleague, Dr. O'Dwyer. There existed but one photographic negative, and whatever was accomplished had to be done from this. Though the negative was an excellent one, it had been retouched until the photographer's utmost desires were satisfied, and the result, an untouched photographic enlargement and carbon print, had met with the approval of the friends interested. The reproduction was unfading, the black printer's ink would last longer than the paper on which it was impressed. He regretted that it was impossible to obtain a good likeness in oil. The name and the two dates 1841-1898 had been clearly printed on the paper, and when the portrait would look down on successive generations of young men, who should come to see the honor list, no added comment would be needed. He hoped that the portrait would be accorded a place over the case of instruments containing Dr. O'Dwyer's inventions, as thus a life history would be represented, and we could say with pride that Dr. O'Dwyer had not been unrecognized by this Academy or unhonored by his friends. The speaker said that he was aware of the personal regard of the President and of every member of the Academy for the memory of Dr. O'Dwyer, and that this memorial tribute would be pleasing to everyone. He knew, that though Dr. O'Dwyer was the most modest and retiring of men, he would be pleased and comforted by the sympathy and kindly feeling of his friends thus expressed, although one would never have dared praise him to his face. He had once asked him to write out a sketch of his life, saying: 'It may be of interest to your boys, it may be of interest to the profession, it is of interest to me." Dr. O'Dwyer replied that all could be found in a certain directory which he named. When he opened the book, hoping to find "all," he found about ten lines in fine print telling when he was born, where educated, and that he was a member of the Widows and Orphans' Relief Society. . . . He asked that the President and members of the Academy consecrate a little space to the memory of Joseph O'Dwyer, for when the records of this Academy at the opening of another century were scanned no name would be more familiar, and the new fledged practitioner as he reverently moved from one portrait to another, and as he gazed upon those grave and noble faces would be himself ennobled and stimulated. He hoped that the portrait might survive accident and endure through all time as a tribute to that most modest, most honest, most useful of men, Joseph O'Dwyer.

The subject of the evening was tuberculosis of the upper respiratory tract.

Tuberculosis of the Nares.—Dr. CHARLES H. KNIGHT read this paper. He said that if the tubercle bacillus be the source or the vehicle of contagion, if it be capable of invading the organism through a break in the protecting epithelium, or even through a mucous membran still intact, the nasal fossæ might be expected to show the first evidences of its attack. Statistics proved that precisely the contrary was the fact. This immunity of the nasal mucosa was, perhaps, explained by the existence in the secretion of the Schneiderian membrane of some quality antagonistic to morbific germs. In fact, Herzog had only reported twenty cases of primary nasal tuberculosis. Secondary deposits were believed to be due to the conveyance of bacilli or toxins through the lymph channels, or less frequently by the blood current, to their point of development. The infrequency of generalization by way of the meninges was accounted for by the fact that the flow of lymph was *from* the brain *toward* the nasal cavities. Although all authorities were not in accord in regard to the bactericidal power of the nasal mucosa, still some explained the scarcity of bacteria in the nose by the irrigating effect of the secretions from the roof of the nasal cavities, by action of the cilia in repelling intruders, by the filtering function of the vibrissæ, and finally by the fact that ordinarily the inspired air contained very few pathogenic germs.

In regard to the coincidence of nasal atrophy and tuberculosis of the lungs a review of the subject made it reasonable to infer that the physical state predisposing to tuberculosis, or the resulting malnutrition, provoked the intranasal degeneration, rather than the reverse. The whole number of cases of primary nasal tuberculosis reported up to 1901 was 108, and a few have been since added.

Differential Diagnosis.—It was difficult to give a description of nasal tuberculosis that would enable one to identify it unfailingly. It was most likely to be confounded with lupus and syphilis. In distinction from lupus he relied chiefly upon the insensitiveness of the tuberculous nodules and the absence of a tendency to spontaneous repair after ulceration had been established. The serpiginous progress of the lupoid ulcer was diagnostic. Their resemblance, however, was often so striking as to justify the assumption that lupus was really a superficial form of tuberculosis. The practical identity of lupus from tuberculosis being admitted, the difference in their symptomatology being rather one of virulence or intensity, and the treatment of either being the same the question naturally arose why should they be continued to be regarded as independent diseases. From syphilis, with its proneness to simulate almost every other disease, and with its demands for a totally different mode of treatment, the diagnosis was more important and more difficult. Tuberculosis almost never involved the bony framework of the nose and but seldom the cartilage, but it would be unfortunate if we were forced to await such a differential sign as this, and often a tentative course of specific treatment would promptly cure a doubtful case.

He said it seemed proper to recognize in the nose as elsewhere two stages of tuberculosis, that of infiltration and that of ulceration. We met with the former as a diffuse condition or as a circumscribed tumor. Even a microscopical examination of the secretions or of the tissue itself might be inconclusive, as tubercle bacilli were sometimes absent from a lesion undoubtedly tuberculous, while they might be found in the air tract of a perfectly healthy individual. Ulceration was generally secondary to infiltration. The appearance of a typical tuberculous ulcer was usually pale, grayish, granular, with irregular "worm-eaten" borders, often thickened and dotted with translucent or opaque miliary tubercles, or it might be disguised by a profuse proliferation of exuberant granulations. Free hemorrhage was sometimes a marked symptom. It was more than likely that in every case there was a preliminary stage of infiltration, the ulcer resulting from disintegration of more or less extensive tuberculous foci.

Site.—As regards the site of nasal tuberculosis the septum, the inferior turbinated, and the middle turbinated was the order of frequency. The disease might start on the septum and creep across the floor of the nose to the turbinated, or it might invade the nose from the pharynx, or the palate, or again it might extend from the nose to the

lacrymal duct and the eye. As a rule the patient succumbed to general tuberculosis before extensive loss of tissue had been effected. There was general agreement that the prognosis, except in lupoid cases, was bad.

Treatment.—The treatment might be summed up as follows: The morbid deposit, if circumscribed and accessible, should be extirpated with curette and caustics, provided the general condition of the patient and the existence of active lesions in other regions of the body did not forbid interference. Phototherapy, of which they had had great expectations, had hitherto given no satisfactory results except in lupoid tuberculosis and in disease located near the *introitus nasi*. Although a rare disease, owing to various means of defence with which the nasal chambers were furnished, the obvious indication, especially as regards nurses and attendants upon tuberculous subjects, was to avoid causing an abrasion of the surface which might become an open door to the tubercle bacillus.

Tuberculosis of the Pharynx.—Dr. J. E. NEWCOMB discussed this phase of the subject and admitted the possibility of primary infection, though stating that most cases appeared as a late complication of lung disease while a few were seen in the earlier stages of acute general miliary tuberculosis. In view of the direct exposure of the pharynx to infection it was surprising that more pharyngeal lesions of this nature did not occur. It had been suggested that the pharynx enjoyed a special immunity, and that this resided in the scanty anastomosis between the external and internal lymphatics. There seemed no doubt that bacilli had been found able to penetrate intact epithelium, the resisting power of which was below par. It was possible that in the stage of mixed infection in lung disease the pus germs worked in between the epithelia, setting up minute abscesses, through which the bacilli entered.

In adults the involvement of the tonsils and cervical glands was secondary to the lung changes, but in children the reverse obtained. A possible source of infection was tuberculous disease of the spine. In men, the beard might become infected from the sputa and secondarily infect the pharynx. The sanitary suggestion from this fact was obvious.

When once infection had occurred we might have (1) a latent tuberculosis, (2) a typical infiltration and ulceration, and (3) the latter plus a systematic invasion. As to treatment of all these pharyngeal lesions, curettage, applications of silver solutions and various acids, and phototherapy were at our disposal.

As between lupus and tuberculosis, an initial febrile course, intense pain, an isolated origin on the posterior pharyngeal wall or other side, avoidance of the epiglottis (a favorite site of lupus), and a marked infiltration with a flattened surface, all indicated tuberculosis. The decision was strengthened by the occurrence of lung lesions and the absence of any old nasal scars.

From a review of the recent literature of the subject three things had impressed themselves on the writer. The first was that there was a form of the disease running an acute course in children and resembling on inspection the invasion of diphtheria. Examination of the deposit showed no bacilli, but lung disease coming on very shortly revealed the true nature of the malady. There were flaws in the arguments advanced to prove the tuberculous nature of these cases, for the bacteriological findings were incomplete. Granting that the initial lesion in the pharynx was tuberculous, it may have been secondary to some lesion in the chest, undiscoverable at first but becoming more evident under the general systemic deterioration.

The second fact worthy of note was that tuberculosis might cause perforation of either soft or hard palate. At least ten authentic cases were on record. Of this number eight were undoubtedly secondary to disease elsewhere. Examination of these cases showed yellowish polycyclic granulations on the palate with an adherent bloody covering, low borders, superficial, extremely sensitive, and surrounded by a reddish violet zone. The ulcerated areas gradually increased in depth until perforation resulted. They were generally of an irregular sinuous shape, and frequently appeared as fissures at the bottom of a narrow space. In this respect they offered a noticeable contrast to syphilitic perforations. Smaller openings might close up while larger ones called for surgery and prosthesis. A differential diagnosis was called for from (in addition to syphilis) congenital perforations, those due to trauma, scurvy and malignant disease and the "mal perforant buccal" of the French writers. The latter had been noted especially in tabes and pyorrhœa alveolaris. In the smaller cases the lesion might be the only one present, but in the larger the perforation was but one expression of the general malady.

The third fact worthy of emphasis referred to the so-called latent tuberculosis of the tonsils. The discussion on this topic dated back to 1884, but was revived by the appearance of the paper of Dieulafoy in 1895, who, from animal inoculation of preparations made from tonsils and adenoids, found that, judged by this test, one of every nine cases of apparent simple tonsillar hypertrophy and one of every five cases of apparently simple adenoids gave positive results. Lewin found that 5 per cent. of hyperplastic tonsils concealed tuberculous foci. This latent tuberculosis was almost impossible of clinical determination, as it occurred in tonsils of normal size as well as in enlarged organs. As to whether hyperplasis of the tonsils was brought about by some toxin influence was doubtful, but the latter could retard the normal involution of these organs.

The figures of the continental writers on this point had not been verified by the results of American investigators. While there was undoubtedly such a thing as latent tuberculosis of the tonsils, it was not as common as the earlier exponents of the theory would have us believe.

All the laryngologist could do in most cases was to heal up ulcerated areas, removing sometimes excess of infiltration. This made life more endurable though the patient steadily declined.

Laryngeal Tuberculosis.—Dr. J. W. GLEITSMANN read this paper.

Sources of Infection.—He said that after a review of the literature and experiments of investigators in regard to the source of infection of the larynx by the tubercle bacilli, it was evident that there was more than one source of infection. It had been shown that tuberculous invasion of the larynx through the epithelial structures was possible even when these were intact. Another mode of ingress was through surface erotions and through the floor of shallow ulcers. According to Horn, they might enter through the gland ducts, notably the subglottic region and the ventricles. A large number of recent writers considered the lymph vessels the principal channels of infection of the larynx.

Primary Laryngeal Tuberculosis.—The majority of laryngologists were averse to accepting its occurrence and believed that either a definable or latent tuberculous focus in the lungs coexisted or preceded the laryngeal lesion. He, however, believed in the occasional occurrence of primary laryngeal tuberculosis, though he did not consider it frequent. A complete absence of pulmonary tuberculosis must be established beyond a doubt. He did not see the rationale of the argument that there must be a complete absence of the disease in order to believe in the existence of another, viz., primary laryngeal tuberculosis. We saw tuberculosis without such in the lungs develop in other parts of the body, as the meninges, the genito-urinary tract, the peritoneal cavity, the bones, and with different sources of infection at work, and he did not see why the larynx should be exempt from yielding to such an exposure under favorable circumstances.

Early Symptoms.—Clinically, we were accustomed to recognize four forms of laryngeal tuberculosis: the miliary nodule, the infiltration, the ulceration and the tumor, but it was principally with the initial stage that we ought to interest ourselves because we could hope for better results than in a well-developed or far-advanced case. Anæmia of the palatine region was no longer considered a pathognostic sign of the disease, but we were inclined to consider it a resultant of deficient malnutrition. He said we sometimes saw hyperæmia of the faucial regions, and intense hyperæmias of the vocal cords long before any signs of tuberculosis, as infiltration or bulging of the posterior wall of the larynx appeared. A unilateral congestion was indicative of a grave lesion, although there were many puzzling exceptions. We occasionally noticed, among early symptoms, lessened sensibility and further changes of the voice not necessarily produced by congestion, but due to deficient function. Any proliferation, or thickening of the mucosa of the posterior wall, must receive immediate attention without waiting until the arytenoid region itself was infiltrated or the border of the epiglottis became thickened. Cauterization sometimes helped to determine the true nature of such fulness, and he had also employed silver nitrate fused on a probe; recurrence might also be had to the tuberculin test when an immediate decision was desired.

Pregnancy and Laryngeal Tuberculosis.—The consensus of opinion seemed to be that by far the greatest majority of women so afflicted died either during pregnancy or soon after delivery, although Seifert reported a case of a woman who had been treated for severe tuberculosis before a fourth pregnancy and who was discharged almost cured. When pregnant the fourth month she had similar laryngeal lesion and extensive infiltration of the upper left lobe. Under persevering treatment the laryngeal symptoms subsided and the doctor thought she could be considered cured. Such a happy issue was exceptional. Kuttner advocated expectancy in good condition of the patient with slight laryngeal affection, tracheotomy in infiltration, and if this had no effect, artificial abortion. Godkensen and Lewy considered artificial abortion justifiable in the first few months and in a condition of the larynx which otherwise offered a prospect of improvement without pregnancy.

Treatment.—Aside from general therapeutics and climate, the treatment could be considered under three headings—medicinal, surgical, and radiotherapy. Adrenalin, orthoform, and anæsthesin were valuable additions to our therapeutics. Formaldehyde, thiocol, guaiacol, eucalyptol, resorcin, and menthol were favorite remedies. He had used the latter combined with camphor and benzoinal as a spray or by laryngeal syringe with great satisfaction. He advocated the use of lactic acid for ulcerations but deprecated its use for infiltrations with intact mucosa. If milder means were of no avail a reasonable prospect of success could be expected from the different phenol preparations, viz., Monobromo—monochloroorthophenol, parachlorophenol, etc. The intravenous injection of cinnamic acid had been advised by Krause, who reported that not only superficial lesions of the mucosa healed without other remedies, but that medical and surgical treatment gave quicker results. As to surgical treatment curettage or excision of tuberculous tissue had some justifiable objections, the chief one being that it was difficult if not impossible always to remove all the diseased parts. However, this failure was not of such vital importance in tuberculosis as in cancer, because tuberculosis, if properly handled, was more amenable to treatment and had a tendency to self-limitation. He said that we should guard against overzeal in operating and decide each case upon its merits. Although the enthusiasm for surgical treatment had decreased and the great expectations at its inception had not been realized, it was still to be adopted in suitable cases and retained its place as a therapeutic measure. In regard to radiopathy, he said that it did not admit of doubt that certain rays produced visible effects, as decrease of pain, improvement of cough, expectoration, ulcerations, and the general condition of the patient, but to his knowledge there was no authenticated complete cure by rays alone reported. This failure so far ought not to lessen our efforts to master these mysterious forces for the benefit of our patients.

Dr. Walter F. Chappell said he was glad to hear the gentlemen admit the possibility of a primary tuberculous infection of the upper air passages. Personally, he believed in it, for he had seen one case of primary tuberculosis of the tongue, one of the nasopharynx, one of the tonsil, and three of the larynx. Knowing that the tubercle bacilli could invade every part of the system, he said he could not understand why some believed primary infection of the upper air tract was impossible.

With regard to the treatment of tuberculosis of the upper air tract it had been his experience that not enough attention had been paid to climate. It should be born in mind that climates that were suitable for cases of pulmonary tuberculosis would not do for those suffering from laryngeal tuberculosis. In the early manifestations of laryngeal tuberculosis, without laryngeal ulcerations, or, if they were present, without being active, he advocated the cold dry climates; but, in the older cases with active ulcerations, he advocated the warm climates and lower altitudes.

In reference to the surgical treatment personally, he used the curette in but two classes of cases, *i.e.* when there was a great deal of hypertrophied tissue present to relieve the dyspnœa, and again when superficial ulcerations were present, but without producing any hemorrhage upon the surface. He wished to join with Dr. Gleitsmann in sounding a note of warning against the indiscriminate use of the curette in cases of laryngeal tuberculosis.

Dr. Wolff Freudenthal said that he had never seen a case of primary tuberculosis of the upper air tract, and he would not believe in the existence of these primary lesion unless proven by post mortem. The Schneiderian membrane came so readily in contact with the oxygen of the air that the tubercle bacilli, which may have gained a lodgement there, were destroyed. On this account he did not agree with the statement that there was so very great danger of infection by reason of people spitting upon the streets. Regarding primary infection of the pharynx, he did not doubt but that this could occur through the lymphatic ring, and he wished that his colleagues would pay more attention to this fact. It had been his experience that women with tuberculosis of the upper air passages, and who were pregnant, invariably died. In such instances the interruption of the pregnancy was advocated.

In the treatment of tuberculosis of the upper air tract, he said that his results from the use of an emulsion of lactic acid and orthoform had been remarkable, and that he could relieve these patients in from 50 to 60 per cent. of the cases. In the Montefiore Home this application had relieved those patients when the use of lactic acic had failed to give relief. He used a great deal of the high-frequency current, although he believed the ray and light treatment yet to be in the experimental stage. He now only used the curette for two reasons, viz., when dysphasia was present and when the disease could not be removed otherwise. Tuberculous lesion of the lower part of the epiglottis could not be readily reached and removal of the epiglottis helped. He could not understand how scraping the ulcerations, as done by Dr. Chappell, could possibly have any valuable therapeutic effect. He emphasized the importance of giving Nature a chance to cure these patients by placing these ulcerations as much as possible at rest, and giving the patients a chance to eat and swallow.

Dr. S. A. Knopf referred to the value of prophylaxis in the treatment of these cases of laryngeal tuberculosis. Keeping the mouth shut and the voice quiet was very important and should be insisted upon. A great deal could

: done by proper hygienic and dietetic treatment besides s topical and surgical treatment in cases of laryngeal iberculosis. Although he recognized the value of the nlight and air when long enough in contact with the ibercle bacilli, he could not agree with Dr. Freudenthal at spitting upon the street was not very dangerous.

Dr. GLEITSMANN closed the discussion.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON MEDICINE.

Stated Meeting, Held April 19, 1904.

DR. CHARLES H. LEWIS, CHAIRMAN.

lyxœdema, with Exhibition of Patient.—Dr. H. S. PATERSON presented a boy, sixteen years old, who had been nder observation since March 22, 1904. As long as he ould remember, he had a swelling in the region of the thyid which was composed of two lateral lobes the size of an gg on either side of the midline and joined by a central nnecting portion. Two years ago he was sent to the resbyterian Hospital and was there from October, 1901, ntil January, 1902. On admission he was described as eing well nourished and not anæmic. The impression revailed among the men of the house staff that he was uffering from imperfect thyroid function. Previous to is admission to the hospital he had been treated at Bellevue Dispensary, and thought he was given thyroid. In October, 1901, he was operated upon by Dr. McCosh, the isthmus and lower part of the left lobe being spared. The pathologist reported adenoma and very little thyroid tissue. The wound healed up kindly. When he was discharged he was told to take thyroid. Although his statements as to his growth previous to operation are not of value, he was sure he had not grown since. He was an office boy in a brokerage office and did his work intelligently.

For several days previous to his admission to the Hudson Street Dispensary he had been constipated and had had abdominal pain. The physical examination was negative. He was anæmic in appearance; his face was puffy, nose broad, and there was a distinct longitudinal puffy fold under both lower eyelids. The hair was normal, the skin rough, especially over the abdomen and chest, the pelvis was small, and there was no pubic hair, but the testicles were well-developed. Over the situation of the thyroid there was a curved scar with the convexity downward, six or seven inches in length. The patient was given thyroid extract two and a half grains three times a day after meals. On March 26 his face was not so swollen and was less tense. The urine was negative and there was no mucin. Blood examination showed the red cells 4,100,000, the leucocytes 12,000, and hæmoglobin 73 per cent. (Sahli apparatus). The differential blood count of 300 leucocytes showed polynuclears 41 per cent., lymphocytes 54⅔ per cent., eosinophiles 4 per cent., megalocytes ⅓ per cent. On April 2, condition about the same as on March 26. The differential blood count of 300 leucocytes showed polynuclears 37 per cent., lymphocytes 59 per cent., eosinophiles 2⅔ per cent., basophiles ⅔ per cent., and large mononuclears ⅔ per cent. On April 10, red cells were 4,200,000, leucocytes 9,000, and hæmoglobin 80 per cent. The differential count of 300 leucocytes showed the polynuclears 43⅔ per cent., lymphocytes 51⅓ per cent., eosinophiles 2⅔ per cent., and basophiles 2 per cent. On April 16, the face appeared to be thinner, especially under the left eye. The differential count of 300 leucocytes showed polynuclears 54⅔ per cent., lymphocytes 40⅔ per cent., eosinophiles 3 per cent., transitionals 1 per cent., and basophiles ⅔ per cent.

The previous history, with the distinct change in the patient's condition since he had been under observation and under the thyroid treatment, showed that evidently there had been an insufficient thyroid function. Dr. Patterson said that, as a rule, people were inclined to think that those who were afflicted with myxœdema had associated with it marked mental obtuseness, but this was not the case at all in this patient. To him, one of the most interesting features in the case was the blood picture, although he recognized the fact that a 300 leucocyte count was not conclusive, although it was suggestive.

Dr. W. B. NOYES said that the mental condition of the patient depended upon the time of life the myxœdema began. In the case of cretins there was no mental development until they were cured, or else it was very slow improvement, leaving them semi-imbeciles. In a case reported by the speaker in 1896, in which a child who had begun to develope cretinism at the end of the first year and after some months, presented all the typical symptoms of that condition, treatment by thyroid extract had produced prompt and remarkable results in removing all symptoms of a myxœdematous nature, and had moreover produced an increase of height of eight inches in two months. For a year the mental development seemed to progress with the physical, but never reached the normal. The symptoms of cretinism were absolutely under the control of the thyroid extract, but the brain was not. It was not impossible that the congenital deficiency in the thyroid gland and congenital mal-development of the brain existed together. The fact remains that in this case, which excited much interest in the profession as one of the earliest and most successful of the cases of sporadic cretinism treated by the thyroid extract, was not cured mentally, but remained a backward or defective child intellectually.

Tabes Dorsalis with Early Appearance of Charcot Joint.—Dr. WILLIAM B. NOYES showed skiagraphs illustrating an early arthropathy in a case of tabes, referred to his clinic in the Demilt Dispensary from the Hudson Street Hospital. The patient had sought surgical treatment for a sinus under the ball of the big toe of the right foot, and for some obscure symptoms in the joint which were not causing him any special inconvenience. He complained of no symptoms subjective or objective except sudden attacks of pain in his lower extremities and occasional attacks of vomiting. His gait was normal except when he closed his eyes, when moderate ataxia was shown. His eyes were normal and no change of reflex excitability to light or accommodation was elicited. The only sensory changes found by careful examination was a moderate amount of anæsthesia of the feet, and delayed sensation to pin prick. He could not always differentiate a hot from a cold test-tube. The knee-jerks were lost and there was a diminution of muscular tone in the legs. There was slight ataxia of the arms when his eyes were closed. No abnormal mental, or bulbar symptoms were noticable. The first metatarsal-phalangeal joint was somewhat enlarged with an abnormally free range of motion, but no pain. He presented a half-healed perforating ulcer of the foot which was directly under the diseased joint. This sinus healed up in a few weeks under simple surgical treatment, but the joint remained unchanged, and one of the smaller phalangeal joints became somewhat affected. An *x*-ray photograph taken by Dr. Edward F. Killbane revealed an interesting state of affairs. The right foot showed a moderate swelling around the big toe; the first phalangeal bone was about three-quarters of an inch shorter than the corresponding bone of the other foot, and thickened at the central articular surface; considerable osteoporosis was shown. The metatarsal bone was elongated about the same amount, and showed considerable hyperplastic bone formation. Idiopathic, trophic changes in these two bones might have explained this, partly rarifying and partly proliferative, but the more probable explanation was a fracture of the first phalangeal bone with healing with a pseudo-articulation, and an ankylosis of the short central fragment to the metatarsal bone. Such fractures in early cases of tabes are fairly frequent, are not felt by the patient, and the lesion may be healed with enormous development of callus or the joint may become disorgan-

ized from the presence of the fragments of bone. This type of arthropathy secondary to fracture, is one of the commonest sources of tabetic arthropathies. Another method is also illustrated by the case reported, and that is by means of some infection introduced by a perforating ulcer of the foot. In this patient, as in most of these cases, the primary seat of the trouble is a corn on the sole of the foot, which becomes irritated, and suppuration takes place in the subcutaneous tissues, all of which is unfelt by the patient. A sloughing occurs, and in the low vitality of the tissues, perforation to the nearest joint is frequent and a disorganization of the joint occurs. The third method of producing a Charcot joint is illustrated by the general loss of tone in the muscles and joints of a tabetic. The loss of knee-jerk, which may frequently be noted in normal subjects in a tabetic, is associated with a general loss of tone, and a marked relaxation of ligaments and structures around a joint. Any slight traumatism may thus result in damage that would not affect the joint of a normal man. The anæsthesia of the joint surface makes these arthropathies painless, and no opportunity is given them to recover by ordinary methods of rest and protection. Such perforating ulcers are seen frequently in general paresis, when the changes in the spinal cord and nerves are similar to tabes, and also in diabetes and alcoholism which also present some of the same pathological changes in the nervous system.

Typhoid Fever with Repeated Chills.—Dr. JOHN HOWLAND reported the case of a man, thirty years old, who was admitted to St. Vincent's Hospital in July, 1903. His family history was good. He had never been seriously ill before. The present illness began one week before admission with general weakness, loss of appetite, and vertigo. Bowels were regular and stools normal. He had been three days in bed. On admission his temperature was 103.8, pulse 100, and respirations 30. The heart and lungs were normal. The spleen was palpable, and the abdomen had the typical rose-colored spots scattered over it. The urine contained indican. The Widal reaction, 1:50, was present. The usual treatment for typhoid fever was given and, during the first week, nothing of note happened, the temperature running from 102.5 to 104.5 and the pulse was of good quality. On the 10th day after admission the temperature was 101, and it remained low for three days. On the 20th day of the disease there was a severe chill lasting half an hour, and which was followed by a rise of temperature to 104.2. Nothing abnormal could be discovered beyond a trace of albumin and some granular casts in the urine. No malarial organisms could be found. Leucocytes numbered 7,600. On the 21st day another chill occurred, and these were repeated on the 23d, 24th, 26th, 29th, and between the 26th and 29th days the chills were repeated at frequent intervals. Two days later the temperature was nearly normal. Each of the chills was followed by a rise in the temperature. Following the chill on the 24th day the patient did not react well, and it was necessary to place the patient in the hot pack. On the 31st day there were two more chills and, during the next eight days, the patient ran an irregular temperature, usually under 100. On the 39th, 40th, 41st, 42d, 43d, and 44th days chills occurred which were followed by a temperature rise to 104 or over. Once it dropped to 96 in four hours. On the 41st day a femoral thrombus on the right side was noted, but it did not seem to complicate matters. Frequent examinations of the blood showed no leucocytosis. Blood cultures were taken and found to be negative. This patient had fourteen distinct chills, each followed by a rise in the temperature, and nothing could be found to account for them. Quinine in ten-grain doses three times a day was given without effect. None of the organs revealed anything abnormal, and the only thing that could be found which did not belong to the classical symptoms or signs of typhoid fever was the thrombus of the femoral on the right side, but this evidently had but little, if anything, to do with the occurrence of the chills. He reported the case as one of typhoid fever with repeated chills of unknown origin.

Dr. JAMES K. CROOK said that one seldom met with more than the initial chill in typhoid fever of classical type, and when they occurred during the disease one should be on the lookout for some beginning complication, or relapse. He referred to a case seen by him last year in which the woman presented all the typical signs and symptoms of typhoid fever up to the middle of the second week, when she had a marked chill, followed by a temperature of 107, which quickly subsided. The following day she had another chill, and these kept up at irregular intervals for two or three days. There was found an enormous leucocytosis. It was not until quite late in her history that she was found to be suffering from an enormous perituterine abscess. Dr. Crook asked Dr. Howland at what time the examination for the malarial organism was made.

Dr. RICHARD C. NEWTON of Montclair, N. J., asked Dr. Howland if sweating followed the chill and what was the line of diet. Years ago he had noted that certain alterations in the diet cause the recurrence of chills and fever.

Dr. J. FINLEY BELL of Englewood, N. J., reported the case of a young lady who had all the symptoms of typhoid fever in the second week, but who did not respond to the Widal reaction. On the twenty-fourth day of the disease she developed a chill. Repeated examinations of the blood showed a relative leucocytosis. He believed a leucocytosis of 10,000 to be only relative. He made four examinations of the blood and found some crescents. These crescents were only found when the blood was examined three hours before the advent of the chill; at other times they were not found.

Dr. CHARLES H. LEWIS referred to the importance of excluding, in such cases, malaria by giving quinine; then the blood should be carefully examined; then one should think of a possible sepsis or else a recrudescence of the trouble. The temperature chart shown was certainly not one of typhoid fever uncomplicated. He asked if a differential count had been made.

Dr. JOHN HOWLAND, in closing the discussion, said that chills followed the most pronounced sweating. The blood examinations were made before, during, and after the chills. No malarial organisms could be detected. Quinine had had no effect upon the temperature. The diet was mostly of milk, 32 to 48 ounces being given daily. When the temperature became normal the patient was given junket, toast, and scraped beef, but the diet seemed to have no effect upon the chills. No differential count was made and the blood examined showed no leucocytosis.

The Isle of Man as a Climatic Station.—Dr. JAMES K. CROOK read this paper As a result of a tour of European health resorts, in 1903, he stated that he was much surprised to observe the slight attention given to the picturesque little Isle of Man, by travellers from this side of the ocean. The ubiquitous Yankee tourist would be found during the vacation season in most of the queer nooks and corners of Europe, regardless apparently of any particular attractions possessed by many of them. Yet this romantic islet, so fraught with legiondary and historic interest, so easy of access, and withal forming peculiar climatic advantages, would appear to be a veritable *terra incognita* to our wandering fellow countrymen. The American tourist, he said, was all but unknown at the chief hotels on the island and some old Manxmen stated that they had never laid eyes on a Yankee. After referring to the geographical and topographical features, and briefly describing the fauna and flora, he stated that an important feature of the Isle of Man was the remarkable equability of the atmospheric temperature range. The annual variation was found to be less than that of any other health resort of the British archipelago. This smoothness of climatic condition could be aptly shown by a comparison with the annual variations observed in New York city. Here, he said, we had a mean annual temperature of slightly less than 52°F. The Manx yearly average was a little more than 49°F.

This showed only about 2° of difference in the yearly average. It would be observed, however, that while our summer range in New York was 71.5° that of Manxland was 57.1°, or about 14° less. The winter average in New York was 31.4° and that of the Isle of Man 45.1°, or about 16° higher. Our annual variation of over 40° is thus something like 26° more than that of the island. The equability of the Manx climate, as compared with that of points in nearly all of England, could be explained by the fact that the Irish Sea, which surrounded the island, was practically an inland body of salt water protected on all sides but the southwest, where it was co-terminous with the Atlantic Ocean. The air currents reaching the island from that direction were undoubtedly considerably tempered by the influence of the gulf stream. It was thus observed that the sea water immediately surrounding the Isle of Man was .7° F. warmer than that surrounding the British Islands generally, and .6° warmer than at Liverpool, only 82 miles distant. Dr. Crook thought that this equability of temperature constituted the one peculiar climatic advantage of the Isle of Man. Possibly, the sense of seclusion and isolation from the busy haunts of men, produced by the apparent remotiveness of the island from other bodies of land, would be found beneficial to persons of a neurotic temperament. Here was to be found a genuine mild, warm climate in the midst of a busy sea, but on firm ground and within easy call of great centers of population. Among other attractions of Manxland might be mentioned the pleasing and romantic scenery, the innumerable diversions at the choice of the seeker after health and recreation, and the astonishingly low rates demanded at the numerous clean and well-kept boarding houses and hotels.

Who Is Underfed?—Dr. HEINRICH STERN read this paper. He said, as long as in the lean the egress of material is made good by an ingress of assimilable material, there does not exist a condition of underfeeding. Excessive weight shows that the individual has been overfed. The appearance of the lean, he continued, may not always conform to our æsthetic sense; he may be affected by heat and cold, he may exhibit an irritable nature, but still may be healthy and may be enabled to stand many more trials than the overnourished. The dietary standards of the present day are entirely too high. He related some clinical observations in which the individuals were kept in nitrogen balance on as low a diet as twenty calories per day and kilo of body-weight. He said that a diet of from 35 to 50 calories, the usual amounts of food ingested, is entirely too large. He reached the conclusion that from 30 to 35 of total ingested calories and from 23 to 28 of "assimilable" calories are all that is needed by the individual employed in moderate labor for from eight to ten hours every day. He defines the underfed adult as one in whose economy a portion of the ingested substances is utilized perversely, one by whose excreta more nitrogenous material is carried from the organism in one week than has been introduced to it during the same period, and in whom the loss of absolute body-weight is always accompanied by decline of strength and resistance and occasionally by diminution of corporeal density.

Dr. E. E. SMITH said he was reminded of a case that he now had under observation. A man, past middle life, was on a peculiar dietary, eating practically no starch and but very little fat except what was contained incidently in lean meat. He had two eggs in the morning, lean meat with spinach at noon, and lean meat with spinach, or some other vegetable, at night. In making his calculations he found that this represented 15 calories per kilogram of body-weight. The patient had lost during the past year 7 kilograms. Dr. Smith still had this patient under observation and was trying to decide whether or not he was underfed. He said he was rather surprised at Dr. Stern's figures regarding the waist from course food.

Dr. NEWTON said that we should remember that different animals had different assimilative power, and this power varied with the ages of the animals. Thus, man could not assimilate food during the last third of his life as he could during the middle period. At this late period, the digestive apparatus becomes easily clogged, and one readily got into a state of "food-drunkenness." He believed that eight out of ten people over fifty years of age were in this condition.

Dr. Heinrich Stern closed the discussion.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held April 18, 1904.

DR. ALEXANDER LAMBERT, CHAIRMAN.

Specimen of Gallstone.—Dr. FREDERICK HOLME WIGGIN presented an unusually large gallstone, the size of a leghorn egg. He removed this some time ago from a woman, sixty-four years old, who had been a sufferer from a chronic nephritis. She complained of severe abdominal pain and, on examination, no difficulty was experienced in making a diagnosis of gallstone, and he feared that the gallstone had ruptured through into the intestine. Upon operation he was surprised to find the gall-bladder was not inflamed, but the pain was due to an attack of appendicitis. He said it had been stated that elderly people were not so subject to attacks of appendicitis, but he had frequently met it in people over sixty years of age. Although the kidneys were in bad condition at the time of operation, no bad effects resulted, and this he believed to be due to the hypodermic injections of ergot the patient received prior to and during the operation.

The Management of Some Forms of Spasmodic Asthma.—Dr. THOMAS F. REILLY read this paper and referred first to the report of 2,130 cases by Brügelman of Wiesbaden, Prussia, who believed that the symptoms of asthma were due to disturbances of the sensory nervous system, set forth by one of the three states of the following general causes: (1) Traumatic; (2) toxic and (3) reflex, due to reflex irritation of the air tract in particular. Of this number 2,130, only seven were ascribed to cerebral traumatism, 222 to toxic conditions and the remainder to reflex irritations. Six hundred and sixty-five cases were referred to certain nasal points and 464 to certain points in the pharynx. He said the most frequent point at fault in the production of asthma was in the nose where the ethmoid nerve ran near the surface about at the junction of the bony and cartilaginous part of the nose. These attacks of asthma were very often relieved by producing a dryness or relaxation of the mucous membrane, such as could be done with stramonium. The stramonium salts all dried up the nasal chambers.

Dr. Reilly himself had seen half a dozen cases of asthma of paroxysmal character relieved remarkably by the use of suprarenal extract applied locally and administered internally. He had used this form of treatment in eleven cases with relief in all but two, and he believed this was a far better method of treatment than by the administration of the usual nauseating drugs. He advised the careful investigation as to the cause of the asthma, giving the suprarenal extract by spray and on cotton tampon and, finally, if necessary, morphine.

Dr. CHARLES E. QUIMBY protested against the use of the word "spasmodic" in the title of Dr. Reilly's paper, because this was not a spasmodic condition but a vasomotor disturbance, accompanied by the filling up of the blood-vessels of the lungs similar to the filling up of the blood-vessels of the turbinates when one had a severe cold. Traumatic cases were of such rarity that the causes, he believed, could be reduced to only the toxic and reflex. No attacks of asthma could be cured until one arrived at its cause and paid attention first to it. Dr. Quimby referred to hyperacidity of the stomach as one of the causes and reported a very rebellious case of asthma he had cured by the administration of bicarbonate of soda. One other case he cured by circumcision. He believed the percentage of

cases in which the reflex was contained within the nasal chambers were comparatively small. Very often the toxic causes were overlooked. He emphasized the importance of classifying the causes and, having determined the cause, remove it before we should expect to cure these cases.

Dr. FRANCIS J. QUINLAN emphasized the importance of thoroughly inspecting the nasopharynx in searching for the cause of asthma. He said nobody would question the vasomotor nervous system at fault in the production of this dread disease, and the upper part of the respiratory tract should always be examined carefully in each case. A few years ago writers on this subject did not speak of the nasal cavities at all in considering this disease, but started at the bronchial tubes; he wished it to be remembered that the nostrils and pharynx were part of the respiratory tract. He felt that, after his own experience, he must differ with Dr. Quimby when it was stated that many of the cases of asthma were not due to irritations about the nose. It was a regrettable fact that so many nauseating drugs were poured into the stomach, such as stramonium, iodide of potassium, etc., when the cause of the trouble could so often be found in the upper air tract and the asthma cured by attention to it.

Dr. L. F. BISHOP advocated the use of the suprarenal extract in the treatment of asthma, and gave illustrative cases to prove its value.

Ergot in Surgery.—Dr. ALFRED T. LIVINGSTON of Jamestown, N. Y., read this paper. In all operations it was desirable to produce an equable distribution of the blood in all parts of the body, and not to have an abnormal proportion in any one part, and this could be accomplished by the use of ergot which contracted the unstriated muscular fibers and toned up the blood-vessels. In fact, this drug contracted all relaxed unstriated muscular fibers. He first advocated the use of ergot in surgery in 1885. Until very lately his claims had received but little attention. The two conditions most dreaded by the surgeon were inflammation and shock. In inflammation there was an inefficient tone of the unstriated muscular fibers and here ergot was of great value. Shock could be largely prevented by the administration of ergot prior to, during, and after operations. It should be given hypodermically two or three days before the time of operation. Shock stimulated the vasomotor centers, made the circulation sluggish, the blood was not oxydized, and the body surface became blanched. This could be prevented by stimulating the non-striated muscular fibers by the use of ergot, making the heart's action better, the extremities warmer, and everything gave evidences of improved circulation. He said that Dr. Crile of Cleveland had referred to the uselessness of that general class of heart stimulants, such as strychnine, nitroglycerin, etc., and to the use of that powerful cardiac stimulant, adrenalin. The importance of equalizing the blood distribution to all parts of the body was emphasized, as also was the toning up of relaxed parts. By the use of ergot he said that anæsthesia could be continued for hours. It will greatly relieve the post-operative pain, the discomfort and nervousness. The danger of intestinal paresis, or paralysis of the muscular coat of the bowel, was much lessened by the use of ergot and the constant current. Post-operative delirium was largely controlled by the giving of ergot. Ergot, dry cupping, and the constant current he believed to be of value in appendicitis.

The most important use of ergot he said was in preparing the patient for operation, for the anæsthetic, and to prevent the undesirable sequelæ, such as shock, inflammation, post-operative pain, delirium, and other conditions.

Dr. FREDERICK HOLME WIGGIN wished to corroborate all that Dr. Livingston had stated, because he had used ergot for a long time, his attention being first called to its use in surgery by Dr. Livingston. When ergot was used there certainly was much less trouble in giving the anæsthetic and nausea seldom followed and the patients were less nervous. He believed ergot was particularly of value in abdominal work, controlling or limiting the peritonitis, and he cited many cases to illustrate its efficacy in surgery.

Dr. GEORGE TUCKER HARRISON gave enthusiastic praise of the efficacy of ergot, especially in surgery, and of its good in preventing intestinal paresis. By its use many patients might be saved who otherwise would have succumbed. Regarding what was said about the use of ergot in appendicitis he wished to be understood as placing appendicitis among surgical diseases, and the sooner that fact was recognized the better. Ergot seemed to limit the extent of peritonitis.

Dr. HERMANN GRAD said that ergot greatly lessened or prevented the nausa which followed the administration of an anæsthetic. Ergot should be given before the operation and, if the operation was a prolonged one, another dose should be given during the operation. When the patient was placed in bed other doses should be given every hour, if necessary, until the full physiological effect of the agent was obtained. He said that members of the Woman's Hospital Society had given this agent a trial with indifferent results, and he believed it had been given in sufficiently large doses.

In cases of post-operative pain a very small quantity of morphine would give relief to the pain if ergot had already been given; otherwise it would require large doses of morphine to control it.

Dr. LIVINGSTON closed the discussion.

Officers Elected.—The annual election resulted as follows: *President*, Dr. Francis J. Quinlan; *First Vice-President*, Dr. H. A. Dodin; *Second Vice-President*, Dr. S. Busby Allen; *Secretary*, Dr. W. R. Stone; *Corresponding Secretary*, Dr. J. J. Nutt; *Treasurer*, Dr. Charles E. Denison; *Member of Executive Committee for three years*, Dr. Alexander Lambert; *Member of Nominating Committee, Fifth District Branch*, Dr. Frederick W. Loughran. Sixty fellow and alternates were also elected to the State Association.

THE PITTSBURG ACADEMY OF MEDICINE.

At a scientific meeting, held March 29, 1904 (the president, Dr. Ewing W. Day in the chair), Dr. Johnston reported a case of a woman with tuberculosis. He was called to attend a hemorrhage from the lungs, but found on examination that the blood had been swallowed from the posterior nares. Adrenalin had stopped the hemorrhage, but later it recurred, and in spite of thorough packing of the nares by the interne, it again recurred and proved fatal. An autopsy was not permitted.

Dr. Boyce reported a case of epistaxis in which the nares were packed expertly by a leading rhinologist, yet the patient died. Then again he knew of other cases in which the nares were not packed and the patients recovered. He thought in many instances these cases were severe injections and the patients died not of hemorrhage but of toxæmia.

Dr. Litchfield reported a case of hereditary glycosuria. The family history of the patient revealed that a paternal aunt and a paternal grand aunt and grand uncle had died of diabetes.

Dr. Singley reported the occurrence of glycosuria in four members of one family. All are living at the present time.

Dr. Robert Milligan reported a case of hemorrhagic otitis.

Symposium on Typhoid Fever.—Dr. C. O. Goulding read a paper on "The Diagnosis of Typhoid Fever." He regards it as one of the most difficult of the infectious diseases to diagnose, as there is no single sign nor symptom pathognomonic of typhoid fever. He thinks the ideal sign of the disease would be the demonstration of the bacillus typhosus in the body of the patient, but owing to the difficulties and uncertainties attending such demonstration at present, it is not of great practical utility. He regards the bacteriological examination as confirmatory rather than diagnostic, and especially useful in irregular types of

the disease. He said that in his experience he found that the determining of the day of the fever had an important bearing on the prognosis and treatment. Among the later symptoms he regards the enlargement of the spleen as one of the most constant signs of typhoid fever, and has observed a relatively earlier and greater degree of enlargement in children than adults. He thinks absence of leucocytosis a valuable sign of typhoid fever. The Widal reaction he regards as confirmatory, as it often occurs too late for diagnostic purposes.

Dr. Lawrence Litchfield read a paper on "Treatment of Typhoid Fever."

Dr. Stuart Patterson, on the subject of Diet in Typhoid said: "We have, especially in the earlier stages, in typhoid fever, suspended or enfeebled digestion with anorexia, as the rule.

"At best, but a very small amount of the food taken is digested or absorbed. The residue acting as a culture medium in which all sorts of microorganisms develop; producing gases and poisons which give rise to the most distressing symptoms of the disease, as tympanites, high temperature, delirium, etc.

"Comparison of patients fed throughout the disease with those fasting, shows that those fed are *not* in any better physical condition, or any stronger at the beginning of convalescence, than are those fasting; while the fasting patients have *not* had the high temperature, delirium, or tympany we ordinarily see in this disease. There are rare exceptions. I am fully convinced that harm done by the residue far outweighs the good produced by the small amount of food used in these cases.

"My plan is to feed a patient when he is hungry and really wants food and *only* at such a time. Absolute fasting, except all the boiled water he will drink, is his rule. Has had a patient go twenty-two days without any nutriment whatsoever, and be apparently in as good condition as the average typhoid-fever patient who has been fed throughout the disease. He rarely had occasion to use alcohol. I begin feeding when the patient gets hungry and asks for food.

"Small amounts of sterilized milk, prepared in one of the many ways possible to suit the individual taste. Had always found a way to give milk to any patient no matter how much he objected that he 'could not take milk.' He gives enough after second or third day to satisfy hunger. Begin solid food or general diet when tongue is clean and temperature has been normal for about a week."

Dr. John W. Boyce said: In spite of the increase of our knowledge of the anatomy of typhoid, I cannot feel absolutely certain that we have made any advance in treatment. A careful reading of Nathan Smith's essay on typhoid fever convinces me that Dr. Smith was a fairly good practitioner, judged by our present-day standards. Dr. Smith wrote his essay about 1820; he treated his first case by hydropathy in 1798.

Since we have no remedy which is in any degree specific toward typhoid infection, it is unfortunate that we should ever adopt any measure solely because the patient has typhoid fever. But we all do form habits of this sort. As regards what is fashionable, I believe the pendulum has swung to the extreme point of over-feeding and over-stimulation. I cannot follow Dr. Patterson in his reasoning, nor do I starve my patients for the reasons he assigns. I starve them because I have seen much harm done by over-feeding and none, as yet, from under-feeding. My star case in this regard is a girl who for fifteen days took no single drop of either nourishment or alcohol; who lost flesh and strength less rapidly than I am accustomed to see in cases of similar severity; who never presented any abdominal or nervous symptom. In the handling of excessive tympanites, I find no single measure so effective as the interdiction of all nourishment for twenty-four or forty-eight hours, and a weak patient is stronger at the end of this period than at the beginning. As to the proper limits of therapeutic fasting, I have not yet satisfied myself. But the teaching that, in the acute infections, food must be given at three or four-hour intervals, to prevent the wasting of strength, is a present-day fad productive of much harm.

His preference when he feeds is for milk prepared with hydrochloric acid after the method of Dr. Boyce. He thinks forced feeding in convalescence a great mistake, and regards thorough mastication an essential when solid food is first allowed.

Dr. Silver reviewed the literature of the typhoid spine. He described the symptoms, pathology, diagnosis, prognosis, and treatment. As to treatment he thought the best method is rest in bed, especially the plaster-of-Paris bed.

Dr. Moyer said that while no one symptom was certain evidence of typhoid fever, he had come to rely much on two symptoms which he rarely failed to find: Splenic enlargement and the behavior of the capillary circulation when the skin of the abdomen was touched with the finger. He relied upon careful nursing and occasional symptomatic medication.

Dr. Johnston thought that excessive meteorism was best corrected by stopping the feeding, or using peptonized milk or changing to other goods as albumen water. While not a believer in antiseptic treatment, he had favorable results with acetozone; though in general he thought the less medication the better. In convalescence, he said urotropin was often useful, especially in those rare cases when cystitis developed. He thought that the recent tendency was to overfeed in typhoid fever, just as there is at present a tendency to overmedicate in pneumonia.

Dr. Douthett referred to recent observations in which a positive Widal was found in tropical diarrhœas, and various other diseases.

Dr. Small reported favorable results from the use of salol; since its use he had less meteorism. For diet he favored buttermilk.

Dr. Simonton said that a decrease in mononuclear leucocytes with an increase of polymorphonuclear leucocytes was often observed as a forerunner of a complication.

Dr. Anderson called attention to the statistics of Murchison—$2\frac{3}{10}$ per cent.—perforation. He said there seems to have been an increase since that time, as it occurs now in about 4 per cent. of cases. He thinks doubtless many cases in private practise are not promptly noted, while the earlier recognition in hospitals favored better results. He reported fifteen laparotomies for perforation, a perforation being found in twelve of the cases. He said the sooner the operation is done after the first pain the better.

Dr. J. Boggs mentioned several cases in which impacted fæces had been overlooked in typhoid fever.

Dr. Litchfield said that he favored a junket beaten up, as it cannot curd again. He said the mortality of the city of Pittsburg was 14 per cent. He suggested the subcutaneous use of olive oil when the patient was in extremis to furnish the calories to tide the patient over the critical point.

Dr. Goulding thought a supporting, symptomatic treatment and regimen were to be relied on. He said the condition in typhoid fever is similar to a swimmer being lost overboard from a ship: His only hope is that his strength will hold out until he is able to swim ashore. He thinks alcohol useful, though often used too freely.

Dr. Stuart Patterson said that feeding resolved itself into a question whether the portion of food not digested will do more harm than the digested portion will do good.

Medical Society of the State of California.

The thirty-fourth annual meeting of the Medical Society of the State of California was held at Paso Robles on April 19, 20, and 21, under the supervision of the President, Dr. H. Bert Ellis of Los Angeles. The meeting was largely attended, harmonious throughout and of more than ordinary scientific importance. Probably the most lasting impression left by the meeting was that made by the ad-

dress of the President, entitled "The Physician's Position in the Body Politic." The address was an able plea for greater activity in political affairs. The doctor should get into politics, he said, and go deeper into the affairs of the world, long enough at least to secure needed legislative enactments for the benefit of the profession. One of the measures upon which he laid the greatest stress was the improvement of the standard required of young men before they shall be permitted to enter upon the study of medicine. He showed that while 50 per cent. of the theological students and 20 per cent. of those entering upon the study of law possess academic degrees, only 7 per cent. of medical students are thus qualified. The standard should be raised.

Dr. Robert F. Rooney of Auburn delivered the address on medicine, taking as his subject, "Preventive Medicine." He advocated among other things a more hygienic mode of life, remarking that it would be better for us to go back to the laws of Moses, live in tents and obey the rigid requirements that were placed upon the children of Israel. The importance of regarding malaria as a communicable disease, the pest of the fly, and the necessity of bacteriological institutions in every State supported by the State were other measures advocated by the speaker.

Dr. J. Henry Barbat delivered the address on surgery. His subject was "The Surgical Treatment of Chronic Dysentery." The essayist believed that medical treatment is not sufficient in most cases. He advocated cholostomy, followed, if necessary, by occlusion of the bowel and the establishment of an artificial anus. If the result of these measures is satisfactory, intestinal anastomosis can later be made. The cases reported demonstrated that under the skilful technique of the author, excellent results have been obtained.

"Medical Education and Legislation" was the general topic for consideration at the afternoon session. The report of the Committee was read by Dr. H. S. Orme of Los Angeles. He regarded the present standard of education in california as satisfactory, but advocated more rigid measures of examination of candidates for the study of medicine. The test should be placed in the hands of the State Board of Medical Examiners instead of leaving it with the schools. The subject of reciprocity between State boards was recommended for discussion at the next meeting of the American Medical Association.

Dr. W. S. Thorne of San Francisco read the next paper, "Some Reflections on State Examining Boards." He also presented the report of the State Board of Examiners for the past year. The discussion was opened by Dr. Dudley Tait, president of the board. The discussion that followed his opening remarks was the most energetic display of oratory during the entire session. Adverse criticisms were numerous, and directed for the most part against the president of the board. But the end was peaceful and Dr. Tait remains a member of the Board.

Section on Nervous and Mental Diseases.—Dr. J. W. Robertson read a paper on "The Legal Responsibility of Medical Experts." It was an exceedingly complete review of the duties of medical expert witnesses, the character of the cases they encounter and the crimes which justify the plea of insanity. An appendix of the cases governing medicolegal questions as decided by the Supreme Court of California was presented at the close.

Section on Hygiene, Sanitation, and Climatology.—Under the title of "The Sanitary Needs of the State," Dr. N. K. Foster of Sacramento reviewed the sanitary laws, pointed out their defects, especially flagrant instances of their violation, and urged the importance of complete harmony between physicians, county societies and the State Board.

Chemistry and Physiology.—Two interesting papers constituted the work of this section. The subject of the first was, "Innervation of the Heart with Consideration of Cardiac Stimulants;" the essayist was Dr. O. O. Witherbee of Los Angeles. The other was read by Dr. Martin Fischer of Berkley, on "The Reversible Action of Enzymes."

Pathology and Bacteriology.—The work of this section was embodied in a paper on "A New Chromogenic Air Organism, Bacillus Cyaneus," by Dr. Ethel L. Leonard of Los Angeles.

Section on the Eye, Ear, Nose, and Throat.—Dr. Benj. F. Church of Los Angeles read a paper "Concerning the Varieties and Etiology of Glaucoma." He defined as glaucoma, all conditions of the eye in which there is an increased intraocular tension, and referred to the frequency of primary glaucoma. Inflammatory cases occur almost exclusively in persons between fifty and sixty years of age, but the chronic form is not so limited. The great importance of an early recognition of the disease was made the principal point.

Dr. W. H. Roberts of Pasadena followed with a paper on "The Pathology of Glaucoma." After reviewing the various theories regarding pathogenesis, the essayist reported fully upon his own investigations and pathological findings in eyes after removal.

Dr. A. B. McKee then read on the "Symptoms of Glaucoma," drawing a clear line of distinction between the general symptoms common to all cases and the predominant symptoms peculiar to different types of the disease.

At a subsequent meeting of the same section, several notable papers were read, among them, "The Tonsils as Portals of Infection," by M. W. Fredricks; "The Surgical Treatment of Chronic Tonsillitis," by Jas. A. Black, and the Post-operative Effects of Tonsillotomy," by Wm. B. Stephens, all of San Francisco.

Dr. E. W. Fleming of Los Angeles presented the "Early Clinical Manifestations of Tubercular Laryngitis," and Dr. Wm. E. Hibbard of Pasadena, "A Few Thoughts on Accessory Sinus Work."

Dr. Fred. Baker of San Diego then read a report of "Case Simulating Grave Mastoiditis. In one case of almost impossible diagnosis the blood count and widal test revealed the presence of typhoid fever. Much stress was laid upon the unreliability of severe mastoid symptoms in cases of serous otitis media complicated with grip of neuralgic tendency.

"The Importance of Chronic Otorrhœa as Viewed by Life Insurance Companies and the Medical Recruiting Officer" was presented by Dr. A. Barkan of San Francisco. Much favorable comment was elicited.

Dr. Kaspar Pischel of San Francisco then presented his original method of arresting hemorrhage after nose operations by means of the application of collodium over gauze, and demonstrated the process. The method has not only proved eminently successful, but has the advantage over others that it does away with the painful and unpleasant plugging of the nostrils.

Medicine and Therapeutics.—This section opened with the reading of three papers on the general subject of tuberculosis, the first by Dr. John C. King of Banning, entitled "Observations upon Sanatoria for Pulmonary Tuberculosis"; the second, by F. M. Pottenger of Los Angeles, on "The Rôle of the General Practitioner in the Prevention of Consumption," and the third, by Drs. George Blumer and A. J. Lartigau of San Francisco, on "Healed and Quiescent Pulmonary Tuberculosis with Remarks on Pleural Tuberculosis."

These were followed by a paper on "Malarial Nephritis," by Dr. Geo. F. Reinhardt of Berkley. The author believed that malarial nephritis is far more common than is supposed, owing to failure of recognition. He thought that 3 per cent. of all cases of malaria have nephritis. By the proper administration of quinine the disease is arrested and the chronic form prevented.

"Concretio Pericardii Cum Corde, with Report of a Case," was the title of a paper by Dr. Geo. L. Cole of Los Angeles. After its reading, Dr. Harold P. Hill of San Francisco presented "Chronic Endocarditis, with the Report of a Case."

Dr. Geo. H. Evatis of Los Angeles then made a preliminary

ry report on illustrative cases of myelogenous leukæmia- ree case reports were presented. The first case had d and the findings at autopsy were briefly described. the other two, one had been symptomatically cured d the other has been much improved as a result of treat- nt with the *x*-ray. In addition, the paper presented a mmary of some of the recent work on the histogenesis the leucocytes, with especial references to the disease sented. Caution was urged lest temporary improve- nt be mistaken for cure.

The work of the section closed with the paper of Dr. J. Sanderson of San Francisco on "The Hydrotherapy Rheumatism."

Pediatrics.—This section was opened with a paper on he Complications and Sequelæ of Measles," by Dr. Maher of Oakland, and the discussion that followed s one of the most remarkable features of the meeting. e essayist laid particular stress upon the importance of ating the disease as one of the more serious maladies, n in the mild form which it often assumes on the Pacific st. He reviewed the more common of the grave com- ations and sequelæ and the causes which generally to them, emphasizing the frequency with which measles followed by whooping cough and tuberculosis. The ations of the disease to bronchopneumonia, laryngitis, trointestinal disturbances, conjunctivities, otitis media, locarditis, and syphilis were spoken of and an outline he author's treatment was presented.

Dr. Hubert N. Rowell of Berkley then read on "Neuras- nia in Childhood." He said that it is more frequent an is generally believed. He recited the many causes, editary and acquired, that lead to it, and closed with eview of the treatment by means of rest, electricity, ssage, forced feeding, hydrotherapeutics, and par- ularly through attention to the psychical features of e disease, removing the feelings of fear and creating one elf-sufficiency.

A paper on "Vaccination," by Dr. Edw. von Adelung of kland, owing to the lateness of the hour, had to be read y title, and the session was closed by the paper of Dr. C. H. Pahl of Los Angeles, on "Congenital Dislocation the Hip." The discussion that followed was spirited d remarkable for the fact that the speakers from San ncisco were as emphatic in their denunciation of the renz method as those from Los Angeles were in their pport of it. The opinions in both instances were based on local results of the operation.

Genitourinary Diseases.—The leading papers in this sec- on were those of Dr. Granville MacGowan of Los Angeles "Surgical Interference for the Relief of Tuberculosis the Bladder;" Dr. Dudley Tait of San Francisco, "A ntribution to the Study of Varicocele;" and Drs. M. rotoszyner and W. P. Willard, or San Francisco, on Aseptic Catheterization of the Urinary Passages."

The Section on Cutaneous Diseases embraced four papers interest. They were, "Iodopin in Skin Diseases, with port of Cases," by Dr. Ralph Williams of Los Angeles; Adrenalin in Diseases of the Skin," by Dr. Granville acGowan of Los Angeles; "Syphilis from the Stand- int of the General Practitioner," by Dr. Geo. L. Cole of os Angeles, and "The Report of a Case of Scleroderma iffusa and Sclerodactylia; Its Clinical Aspect, Treat- ent, Post-mortem Findings and Histopathology," by r. Alfred B. Grosse of San Francisco.

Surgery and Anatomy.—Dr. Emmett Rixford of San rancisco read on "Inflammation of the Appendices piploicæ." In reporting two cases, he referred to the obably greater frequency of diverticula than has been cognized, their causes, greater frequency in the pelvic lon than elsewhere, and the evil results that may arise om the occurrence of inflammation in them.

Dr. A. W. Morton of San Francisco read on "The Con- rvative Treatment of Acute Appendicitis." This was llowed by a paper by Dr. Wallace I. Terry of San Fran- sco, on "The Treatment of Cases of Acute Suppurative Appendicitis by the Oschner Method." A third paper on the same general subject was read by Dr. C. Van Zwalenburg of Riverside, the title being "Appendicitis: Some Points in Its Diagnosis and Treatment from the Viewpoint that Its Cause Is a Strangulation Produced by Distention behind a Ball Valve." Each of these essayists spoke favorably of the Oschner method of treatment.

Dr. Charles D. Lockwood of Los Angeles followed with a paper on "Intestinal Obstruction, with Report of Three Unusual Cases." The first case was one of strangulated diaphragmatic hernia induced by vomiting in the course of acute appendicitis; Case 2, adherent Meckel's diverticulum associated with acute appendicitis, and Case 3, obstruction due to a peritoneal band, with unusual features.

Dr. James T. Watkins of San Francisco then read on "Some Mechanical Aspects of Scoliosis and Demonstrated Wullstein's Apparatus for Overcoming These Difficulties.' Two papers were presented by title by Dr. Claire W. Murphy of Los Angeles, one on "Echinococcus of the Liver with Report of a Case," the other on "The Surgical Anatomy of the Inguinal Canal."

"Ureterocystotomy" was the title of a paper, with report of a case by Dr. J. Henry Barbat of San Francisco. The history of the operation from its first trial by Tauffer in 1877 to the present, in all 120 times, was reviewed, with the causes which lead to the necessity of its performance, its technique and explanation of the author's method.

Obstetrics and Gynecology.—The former of these subjects was confined to two papers of interest, the former by Dr. Henry Gibbons, Jr., of San Francisco, on "The Second and Fourth Positions of the Vertex." The subject was fully presented, with tabular exhibits of the frequency of the positions according to various authors from Baudeloque and Naegele down, along with the methods of recognition and management.

Dr. Charlotte J. Baker of San Diego presented the other paper, on "The Diagnosis and Management of Transverse Presentation in the Later Months of Pregnancy." She stated that about one in two hundred presentations is transverse. Textbooks lay too little stress upon the importance of early recognition of the condition, yet it can generally be recognized as early as the seventh month. When early recognized it can be rectified before labor has commenced, in many cases, and all difficulty and danger obviated. The method of diagnosis and treatment were fully discussed.

Two papers were presented in gynecology. The first was entitled "Some Remarks on Hysterectomy, with Appended Report of One Hundred Cases," by Dr. W. W. Beckett of Los Angeles; the second was on "Uterosacral Ligaments and Their Relation to the General Pelvic Conditions, of Which Retroversion Is the Chief Symptom," by Dr. W. Francis B. Wakefield of San Francisco.

The next annual meeting of the society is to be held at Riverside.

The election of officers resulted in the selection of Dr. Frank Adams, president, Philip Mills Jones, secretary.

The society was reorganized and a new constitution was adopted. This was essentially the form proposed by the American Medical Association, and required the making of but very few changes in the old constitution.

Subconjunctival Injections of Alcohol.—Dr. Peschel has injected alcohol in doses of 1 c.cm. 15 per cent. solution since 1896 with very beneficial results. A mild œdema generally follows the injection, but ophthalmological examination shows that there is no intraocular or optic nerve œdema. He states that alcohol has remarkable disinfecting properties when it comes into contact with infectious material in the tissues in the wet state. The cases thus treated successfully include acute ulcerative keratitis, lime burn of cornea, serpiginous ulcer with hypopion, trachomatous keratitis, primary keratitis, and corneal abscess with anterior synechia.—*American Journal of Ophthalmology.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending May 14, 1904:

	Cases.	Deaths.
Measles	1516	45
Diphtheria and croup	389	51
Scarlet fever	363	...
Smallpox	2	...
Varicella	113	...
Tuberculosis	426	172
Typhoid fever	28	10
Cerebrospinal meningitis	...	97

Double Parasitic Monster.—Jagot reports this case. The patient was a young man of nineteen years, the fifth child of a woman who had previously given birth to two still-born monsters. There were in the family two other monsters, besides. This boy had been born at term. His health was good. Near the ziphoid region was a parasite composed of two arms and two legs, united by muscle and skin. The genital organs of the parasite were fairly well developed. The breasts were also present. There was only one nervous system for the two subjects. According to Saint-Hilaire's classification, this monster belongs to the second order, and is a double parasitic monster.—*La Médecine Moderne*, March 16, 1904.

Experiments and Observations on the Question of Intracranial Pressure.—Leonhardt made many observations on trephined pigeons and concludes that the views of Adamkiewicz are more trustworthy than the older theory of v. Bergmann. The latter believed that the amount of cerebrospinal fluid could not undergo fluctuations of volume and that any encroachment on the intracranial space would be followed by a rise in pressure of its contents which would finally exceed that of the blood-vessels, and that through obliteration of the capillaries the typical pressure symptoms would be the result of the anæmia. Adamkiewicz takes the standpoint that such a rise in tension of the cerebrospinal fluid cannot occur and that pressure symptoms are the result of irritation and not of increased intracranial pressure. The author's experiments uphold this theory and show that the cerebrospinal fluid can be taken up by the blood-vessels and lymphatics very rapidly. It is not the bulk of the fluid displaced which is of importance, but the rapidity with which the intracranial space is diminished.—*Deutsche Zeitschrift für Chirurgie*, Vol. 71, Nos. 1-2.

The Albuminous Bodies of Normal and Nephritic Urine.—Calvo has investigated the more complex albumins of the urine, especially with reference to the cold acetic acid reaction. He found that in every albuminous urine the acetic acid reaction could be produced by appropriate dilution. The amount of the body obtained in this way is variable and is often scanty in spite of high albumin content of the urine. In most cases the substance is principally euglobulin (and fibrinoglobulin), as well as serum albumin and pseudoglobulin which in some cases may predominate. That euglobulin as such is to be precipitated from urine by acetic acid is probable but not certain. Euglobulin (and fibrinoglobulin) is found in large amounts in febrile albuminuria and may even exceed the other albumins, while it is frequently present only in traces in interstitial nephritis. Pseudoglobulin shows reverse tendencies while the amount of serum albumin does not appear to be modified by the nature of the albuminuria. In some instances of subsiding nephritis the complete disappearance of pseudo-globulin was observed. The author was also able to corroborate Mörner's statement, which seems to have attracted but little attention, to the effect that after dialyzing the specimen an albumin reaction may be obtained from all normal urines. He differs from Mörner, however, in considering the body present not serum albumin but euglobulin (and fibrinoglobulin).—*Zeitschrift für klinische Medizin*, Vol. 51, No. 6, 1904.

Should It Be a Fixed Rule Always to Use Antiseptics on Our Hands?—E. M. Brown believes that in many cases it is safer to depend upon mechanical cleansing than to use antiseptics. Various investigations have proved that none of the methods of sterilization now in use can be absolutely depended upon. As to mercuric bichloride the writer states that it not only lacks penetrating effect, but it also has the property of forming an inert albuminate on the skin. Potassium permanganate and oxalic acid, chlorinated lime and sodium carbonate all present similar objections. They are very irritating to the skin of most people; they decrease the resistance of the tissues; and the false sense of security after their use makes them distinctly harmful. The most rational way to treat hands, so the writer believes, is by mechanical cleansing: First, with soap and water, changing water, brushes, etc., very often; great care should be paid to the nails, spaces between the fingers, etc. After this washing, submersion for five to ten minutes in water as hot as can be borne is advised. This dilates the capillaries and excites secretion of the skin glands, so lessening subsequent secretion during operation. If anything is used after this, alcohol is advisable for its hardening effect upon the skin. During long operations the hands may be dipped or washed in hot water and again in alcohol.—*Northwest Medicine*.

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended May 14, 1904:

SMALLPOX UNITED STATES.

		Cases.	Deaths.
Florida, Jacksonville	Apr. 30–May 7.	4	..
Illinois, Chicago	Apr. 30–May 7.	2	..
Kentucky, Covington	Apr. 30–May 7.	5	..
Louisiana, New Orleans	Apr. 30–May 7.	5	..
Maryland, Baltimore	Apr. 30–May 7.	5	..
Michigan, Detroit	Apr. 30–May 7.	1	..
Grand Rapids	Apr. 30–May 7.	3	..
Missouri, St. Louis	Apr. 25–May 7.	35	..
New Hampshire, Manchester	Apr. 30–May 7.	2	..
New Jersey, Camden	Apr. 30–May 7.	1	..
New York, Buffalo	Apr. 30–May 7.	3	..
New York	Apr. 30–May 7.	1	..
Ohio, Bucyrus	Apr. 30–May 7.	3	..
Cincinnati	Apr. 29–May 6.	15	1
Cleveland	Apr. 29–May 6.	4	..
Dayton	Apr. 30–May 7.	12	..
Toledo	Apr. 30–May 7.	1	..
Pennsylvania, Philadelphia	Apr. 30–May 7.	1	..
Pittsburg	Apr. 30–May 7.	6	Omitted
South Carolina, Charleston	Apr. 30–May 7.	2	..
Greenville	Apr. 23–30	9	..
Tennessee, Nashville	Apr. 30–May 7.	8	..
Wisconsin, Milwaukee	Apr. 23–May 7.	4	..

SMALLPOX—INSULAR.

Philippine Islands, Manila	Mar. 12–26.	9	1

SMALLPOX—FOREIGN.

Argentina, Buenos Ayres	Feb. 1–29.	..	51
Austria, Prague	Apr. 16–23.	2	..
Belgium, Antwerp	Apr. 16–23.	16	6
Brazil, Rio de Janeiro	Mar. 27–Apr. 10.	95	45
Canada, Syndey	To Apr. 30	55	1
Canada, Sydney	To Apr. 30	55	1
Winnipeg	Apr. 23–30.	1	..
China, Shanghai	Mar. 26–Apr. 2.	..	15
Colombia, Barranquilla	Apr. 18–24.	..	1
Great Britain, Dundee	Apr. 16–23.	2	..
Edinburgh	Apr. 16–23.	2	..
Glasgow	Apr. 22–29.	31	3
Hull	Apr. 16–23.	3	..
Leeds	Apr. 23–30.	5	..
Russia, Odessa	Mar. 26–Apr. 23.	9	1
St. Petersburg	Apr. 8–16.	12	3
Turkey, Alexandretta	Apr. 8–16.	16	1
Constantinople	Apr. 10–24.	..	11
Smyrna	Mar. 26–Apr. 3.	..	1

YELLOW FEVER.

Brazil, Rio de Janeiro	Mar. 26–Apr. 10.	8	4
Ecuador, Guayaquil	Apr. 9–16.	..	8
Mexico, Merida	Apr. 24–30.	2	1

CHOLERA.

India, Calcutta	Apr. 2– 9.	..	104
Madras	Apr. 2– 8.	..	1

PLAGUE—INSULAR.

Hawaii, Honolulu	May 8	..	1
Philippine Islands, Manila	Mar. 12–26.	8	1

PLAGUE—FOREIGN.

Brazil, Rio de Janeiro	Apr. 3–10.	3	..
India, Calcutta	Apr. 2 – 9.	..	530
Bombay	Apr. 5–12.	..	811
Peru, Callao	Apr. 3–10.	1	1

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Original Articles.

THE POST-GRADUATE STUDY OF MEDICINE.

BY D. B. ST. JOHN ROOSA, M.D., LL.D.,
NEW YORK.

THE immense enlargement of the field of medicine and surgery in consequence of the advancements that have been made in the last one hundred years, is that which makes it necessary for a graduate in medicine to continue to study his profession during his whole life. Even a thorough course in a medical college, and for two years afterward a membership of the house staff in a hospital, will not enable him to go on his way in practice, without any further instruction. This is the fundamental reason why post-graduate study of medicine is necessary, and why its importance has been so much increased in the last few years.

In the olden time, after rather a meagre course in a medical college, and, in exceptional cases, in this country, with a limited hospital experience, the practitioner of medicine was content to go through his life and get what further knowledge was necessary, from his own patients, by his own experience, aided here and there by consultations, by reading in his few hours of leisure, and by an occasional visit to the great city. Here he did not find the opportunities for instruction for which he had hoped. The college teaching of the great cities was still adapted for the undergraduate only, just as it was when he left to work his own way, in his own field. When he returned he got very little comfort on the benches of these colleges. He had outgrown the lectures. He made a few visits to hospitals, and saw operations in an amphitheater, which he never undertook to perform. These exhibitions were to be considered purely as intellectural treats. There was no such thing as any systematized courses for instruction in such specialities as the eye, the ear, the surgery of women, or any subject for which the general practitioner had found himself not sufficiently prepared by the ordinary lectures, and the few clinics of his college course. Medicine, from being a simple profession, with very careful observation of symptoms, good and successful treatment of simple fractures, and with sad and unexpected results in operative surgery, by the invention of anæsthesia, and then the Pasteur discovery of fermentation as the origin of disease, with Lister's practical deductions, was transformed into a great science, reaching out toward prevention and cure in every possible direction. Every year after these days of discovery added something new which made the practice of medicine a great occupation.

The dawning of this day may be said to date back to the middle of the nineteenth century when, in 1846, Morton put a sponge, saturated with sulphuric ether, over the face of a patient in the amphitheater of the Massachusetts General Hospital—a patient from whom Dr. Warren removed a tumor, during which the subject of the operation felt absolutely no pain. Warren exclaimed, "This is no humbug, gentlemen." This was really the first public exhibition of the discovery of the principle of anæsthesia. From that beginning, followed by Pasteur's investigations, the development of medicine and surgery has followed. Young men began to go to Vienna and Berlin and Utrecht, as soon as the ophthalmoscope and laryngoscope were invented, and they found there the instruction that they desired. Few in number, they came back to our shores with their minds and hearts illuminated by the light of the new dawn. Here and there in New York, Philadelphia, and Boston, private courses were given in these few departments of medicine by these men. Soon the list of specialties for which expert knowledge was needed, began to be increased. Hardly a part of the human body but that advances were made in the matter of relief and cure. Marion Sims, with his demonstration of the curability of vesicovaginal fistulæ, in 1856, opened the way for a special hospital in New York, and for special instruction in gynecology.

The work of Ephraim McDowell, in the cabins of Tennessee, was followed by that of Spencer Wells, in London, and Homans, in Boston, and thus another field for special knowledge was opened. The ordinary all-round practitioner found himself overwhelmed by the waves of new knowledge that were sweeping over his intellectual coast. It became absolutely necessary that practitioners should prepare themselves for these great advances. The colleges were slow in this. Very reluctantly they increased somewhat the clinical instruction, very reluctantly they added hospitals to their lecture-rooms, and they utterly declined to give courses for graduates in medicine, except as they could be taken in conjunction with instruction to undergraduates. It was quite impossible for a tithe of the young men who wished further instruction than that which the college and hospital gave them, to go abroad. They did not know the language of Germany or France. The faculties were not prepared to receive them in Edinburgh or London. They were obliged to seek in their own neighboring cities for something to fill their eager desire to be able to accomplish in their hamlets, their villages, and their towns, what anæsthesia and the other discoveries had made it possible for them to do. It was not until 1882 that, after an unsuccessful attempt to engage the undergraduate colleges in the work, two post-graduate schools were opened in New York. They were immediately and have been continuously successful.

I think, in spite of the fact that the college term is now increased to four years, and there are many more hospitals in which service can be had, I have shown that post-graduate instruction is necessary—that this was a legitimate demand, made by the young and middle-aged practitioners, who came up from their fields of labor, anxious to secure larger opportunities and greater success by increased knowledge. The means of pursuing this instruction in this country, in New York, in Chicago, in Philadelphia, and in other cities are very well secured. They are simply the establishment of a school sufficiently large to contain a hospital, say of 200 beds, and a dispensary of illimitable capacity.

A man who has passed through a good medical

school and afterward spent a number of months in a hospital as an interne, is certainly fit for general practice, and yet, even in this statement, many qualifications should be made. If general practice is to include a care of the affections of the eye and ear, those of the throat, that can be seen only with the laryngoscope, and also an accurate knowledge of diseases of the nervous system, so as to be able to diagnosticate them, ability to care for the diseases peculiar to women, by surgical operations, this graduate will not even then be an expert in these and some other subjects. He will be strong in his knowledge of fevers, of obstetrics, of fractures and, to some extent, of operative surgery; he will have a considerable knowledge of pathological conditions, so that he can, in most cases, make an accurate post-mortem examination; he will be an all-round, competent practitioner, with a good mind, and will be able to supply his deficiencies by consultation and experience. But he is not fitted for exact and thorough personal care of such special cases as I have just mentioned. That knowledge can only be obtained by courses in post-graduate schools. Hence, their existence. They were well attended in Vienna long before they existed here. The very few isolated courses that could be found here and there, in New York, in widely separated places, given, for the most part, in auscultation, percussion, diseases of the eye, especially the use of the ophthalmoscope, were very unsatisfactory, since so much time was consumed in attending them. They were adapted for leisurely men, for undergraduates, or for that very small but existing class of graduates in medicine, who are always hovering around hospitals, and taking private courses, but being blessed with much money and discontented minds, never feel themselves able to begin. Consequently, before the foundation of post-graduate medical schools, a very few men out of the vast number who would have been glad to enjoy the privilege, went to Berlin and Vienna, and also to Paris. In Vienna, especially, the most ample opportunities were offered for graduates in medicine, who wished to continue their studies in specialties.

Anæsthesia and asepsis, as has been said, had begun to make operative surgery varied and successful, in contrast with its former limited and comparatively unsuccessful results, and Americans were found in goodly numbers at the surgical, dermatological, ophthalmical, and aural clinics, where excellent courses were given in the great general hospital of Vienna. But the obstacles to general attendance upon such courses here, finally induced a number of teachers in New York to establish post-graduate medical schools. They began in rather an humble way, in small situations, with rather scanty material, having no hospital, and a small dispensary. But the men who taught in these schools were enthusiastic and determined, and had had experience in teaching. What they offered to give was eagerly seized upon by the hungry and thirsty practitioners of the United States, and they came over from Canada in equal force, so that the managers of these institutions soon found that they were satisfying a real demand, and that they were justified in making great amplifications of their means and methods.

There was some surprise and little sympathy in the profession on the inauguration of post-graduate medical instruction in New York, and many did not hesitate to express the opinion that the enterprises would be short-lived. But they little knew how the great advances in medical science had stimulated the busy practitioners with aspirations to do good work, and that they were determined, if opportunity offered itself, to increase their knowledge, so that they might not neglect cases which they knew were treated by experts as an everyday matter, with complete success. There was an occasional smile at the great number of professors and instructors whose names appeared as the teachers in these two post-graduate medical schools, but this very smile was an indication of ignorance as to the necessities and nature of the kind of teaching for Doctors of Medicine, who wished to increase their knowledge. The much-used term of "enabling men to do things" explains very clearly just what post-graduate medical instruction is, and how it is conducted. For example, in diseases of the skin, the practitioner is brought up to the patient, he examines him, and in his own way notes the symptoms that he sees, and indicates, perhaps, what he might think to be proper treatment. This is followed by demonstrations by the Professor of any errors that may be made, and illustrations of the pathology of the conditions are passed around. In this way each man for himself has had an opportunity to make a study of one case at least, in the hour or two given to this exercise. And in ophthalmology, to take another instance, the doctor is given an instrument in his hand; he is taught how to hold it, how to cast the light upon the eye, so that he can see the reflection of the interior; he is sent with the patient, to find out for himself, how much this patient sees, to learn his visual power in a manner which is briefly told him. Then, to see if the defective vision depends upon disease, strictly speaking—that is to say, upon cataract, or a lesion of the vitreous humor or of the retina, or upon an optical condition. This he does for himself, and when we remember that when a man has mastered one case of eczema, and one case of compound hypermetropic astigmatism, he has mastered a very large number of cases of these conditions, so that in six weeks—much as has this short space of time been mistakenly held up as an opprobrium in the discussion of post-graduate medical schools by some of those undergraduate teachers who did not understand their aim and end—a man can actually learn how to use the ophthalmoscope, how to make a proper section for cataract, how to differentiate glaucoma, and how to tell at a close glance as to what form of disease of the skin or larynx, he is encountering. It is much better if he can stay twelve weeks, but many an American doctor has gone to Berlin and Vienna, and devoted a few weeks to one or two subjects, and has come back very well able to begin the practice in a specialty, provided he has first had the thorough preparation of graduation from a good college and a course in a general hospital.

The writer of this remembers a very interesting incident in relation with a professor of physiology, a man of renown and who had devoted his life up to middle-age to the active practice of medicine and surgery, for a few years, and then to experimenting and teaching physiology—the writer remembers assisting in teaching this professor to use the ophthalmoscope in an after-dinner séance, and with complete success, so easily does a well-trained mind and a hand used to manipulations continue the further investigations of the subjects cognate to, or rather the developments of what he has thoroughly studied in preceding years.

An affecting incident, as to the value of special instruction in a special department, occurred in one of the schools of New York within the last few months. A practitioner of medicine, witnessing and assisting in the operation for intubation of the larynx, exclaimed, with tears in his eyes, at the close of the hour, "If I had known how to do this, as I do now, my child would not have died."

Our post-graduate medical schools are, therefore, not to be discouraged because the courses are short. Nat-

urally, a physician may take as many courses as he pleases, and stay as long as his finances admit, but if he comes to a post-graduate school, and devotes himself to a small number of studies, say two or three, in six weeks he may achieve a great deal. If he does not wish to become an expert in any particular department—and by expert, I mean all that that term implies, able not only to diagnosticate serious conditions, but also to treat them—but is content to be a general practitioner, with a fair idea of what may be done in cases for which he does not find himself competent, he will even in six weeks, although I would not recommend such a use of time, acquire knowledge that will be of a great deal of importance to him in his lonely practice in the country. It will enable him sooner to recognize serious conditions which demand an expert. To give one more example of what may be done in a short post-graduate course, a practitioner of considerable experience, by spending six weeks in the laboratory, will be able to make very satisfactory analyses of urine. He will be able to examine the blood, and he will become so conversant with the microscope that he can, if time permits, in his own rooms at home, make many an instructive half-hour for himself in the investigation of healthy and morbid tissue.

But I am very happy to say that many of the men who come to the large cities for post-graduate instruction, spend three months instead of six weeks. Some even, stay the most or the whole of the academic year. It is observed that the number of those staying for longer periods, has increased since the schools were established. It cannot be denied that there are men who undertake post-graduate medical courses, who seem to have no higher ideal than to be able to say when they return to their homes and show by a certificate of attendance, that they have been to a post-graduate medical school. But these men are entirely the exception. After a good many years' experience in teaching, I can truly say that the eagerness of men coming to the New York schools, to learn what can be taught in special courses, on special subjects, is not to be surpassed in any country where I have seen doctors endeavoring to acquire more knowledge. Indeed, prominent medical officials of life insurance companies have stated that the knowledge of the medical practitioner in this country, as regards his capacity to determine the nature of a risk, has increased step by step, with the advance of the post-graduate medical schools.

The personality of the teacher, in one of these schools, is of the greatest importance. A superficial, indolent man who, in the dispensary wishes to get rid of his patients with a prescription, and with a scant attempt at a diagnosis, will be an egregious failure as a teacher. The men who come up for instruction soon recognize such a man, and keep a long way from his clinics, and, having been discovered by the students and by the governors of the school, he soon drops out. No uninteresting, humdrum instruction will be of any account in any properly conducted post-graduate school. In undergraduate colleges even the best men are obliged to study somewhat for the examination, and their efforts are either vigorous or indolent according to their knowledge as to what the examination is to be. There is no examination at the post-graduate medical schools, but a practitioner has in his mind what he can do in his practice remote from a large city, and remote, perhaps, from other practitioners, when he encounters a case such as he sees before him, and which he is able to examine for himself under the guidance of an expert. Such knowledge means more money for himself and his family, and it is one of the greatest stimulants to energy and industry. Much more than any diploma, does the case of someone that he knows in his town, whom he may now perhaps successfully treat, after his drilling with a dozen such cases, appear to him as a reward for the drudgery that he is undergoing in bending over the bed or the chair of the patients in the wards and dispensary rooms of the post-graduate school.

It has been sometimes thought that medical instruction would be made so thorough and would be so amplified, that post-graduate schools would become unnecessary. A little reflection will show that this view is entirely incorrect. The better the medical college, the longer the term in the hospitals, the more will certain practitioners wish to go where they can see cases massed in large numbers, of which at home they can see only a few. Post-graduate schools were born in the days when an epoch was made in medical and surgical knowledge, they will keep step with the advance in our professional knowledge, and steadily become more useful and necessary.

It has become simply impossible for any one man to master as an expert the various departments of medical practice. In the cities are found men who spend their lives in practising specialties. Whenever a general practitioner wishes to fit himself for a specialty, he must have recourse to post-graduate courses. And even if he is a tolerably well-fitted specialist, he finds in the greater experience and material of a large city, directed by an enthusiast, more opportunities in a few weeks, of increasing his knowledge, and consequently he will continue to come to attend some of the almost innumerable courses, ranging from auscultation to hydrotherapy, which are given in these schools.

The post-graduate schools in America have by no means diminished the importance of those of Vienna and Berlin. In Paris really no attempts have been made to furnish systematic medical instruction to graduates. While the undergraduate there may receive the most thorough training, and, if he know the French language, may nowhere in world be better fitted for practice, the one who goes there for special instruction in any of the specialties will find himself greatly embarrassed by the want of organization and, indeed, want of facilities, except in anatomy and ophthalmology, for advanced instruction. A professor in Paris not long since, advised a young graduate to return to New York if he wished special instruction in ophthalmology. In Edinburgh, also, excellent courses are given in anatomy and ophthalmology, and perhaps in one or two other departments, but here also, there is a failure of organization which renders it difficult for the graduate to obtain what he wishes, except in anatomy. In London there is absolutely no system of post-graduate medical instruction, worthy of the name. It is true, there is a college there, but no graduate with three or six months at his disposal would find it at all adequate for his purposes in any department of medicine or surgery. It is intended, rather, to be similar to the vacation course of Berlin and Vienna, which English practitioners may attend when they have leisure. Eminent men conduct some of the clinics and lectures, but the system in no way corresponds to that which obtains in New York and Vienna. There are always opportunities to study medicine and surgery in the great hospitals of London, and also to attach one's self to teachers in dermatology and ophthalmology. But here also, the opportunities are rather adapted to the expert who makes a flying visit, and who is anxious to know what his colleagues in the specialty are doing. As has been intimated, across the sea it is only in the German cities, chiefly in Berlin and Vienna, that the well-prepared graduate

of medicine, with a good knowledge of the German language, may find the opportunities for study in the laboratory, in the obstetric clinics, in pathology, in special or general surgery—in fact, in any department. Men thus fitted cannot fail to find themselves very much better equipped from a stay of a few months in either of these cities. Some of the younger teachers in New York are in the habit of going to Vienna and Berlin in the summer to take special courses, which are offered usually by the assistants, and not by the professors themselves. These courses are of great value.

What has been done in America has acted as a stimulant to the older medical centers, to induce even better organization there. Only very lately several articles on post-graduate medical instruction in America have been published in the weekly medical journals in Munich and Berlin, and have been received with the greatest interest by the best men in the profession. In the Kingdom of Prussia, since the foundation of the Friedrich-Wilhelm Haus, in Frankfort-on-the-Main, a systematic way of sending instructors and anatomical material to the various cities of the kingdom has been fairly established so that practitioners are not obliged to leave their homes during vacation time, but may receive advanced instruction under the direction of University teachers, in the hospitals of their own town. The German and Austrian Empires have for a long time maintained post-graduate medical schools for the medical officers of the army and navy, and the United States Government now also does something of the kind, but not in the efficient and thorough way that it is accomplished in New York, Philadelphia, and Chicago, where post-graduate plants are well established.

20 East Thirtieth Street.

THE ARMY MEDICAL SERVICE.

By EDWARD L. MUNSON, A.M., M.D.

CAPTAIN AND ASSISTANT SURGEON U. S. ARMY; ASSISTANT TO THE COMMISSIONER OF HEALTH, PHILIPPINE ISLANDS.

The Medical Department of the United States Army is composed of one surgeon-general with the rank of brigadier-general, eight assistant surgeons-general with the rank of colonel, twelve deputy surgeons-general with the rank of lieutenant-colonel, sixty surgeons with the rank of major, and two hundred and forty assistant surgeons, who have the rank of first lieutenant, mounted, for their first five years of service, and the rank of captain, mounted, thereafter, until promoted to the grade of major.

Each vacancy is filled by appointment by the President to the grade of assistant surgeon, with the rank of first lieutenant, after the applicant has passed a successful examination before an army medical examining board and has been recommended by the surgeon-general. Permission to appear before the board is obtained by letter to the Secretary of War. This letter must be in the handwriting of the applicant, giving the place and date of his birth and the place and State of which he is a permanent resident, and enclosing certificates, based on personal acquaintance, from at least two reputable persons as to his citizenship, character, and habits. To supplement these credentials, a personal investigation of the character, habits, antecedents, morals, and standing in his community is made with respect to the candidate, by medical officers or other officers of the army, acting under instructions from higher authority. No political influence in securing permission to appear as a candidate is necessary or desired, as appointments are made purely upon merit. The candidate must be a citizen of the United States, between twenty-two and twenty-nine years of age. He must be of sound health and good character, and a graduate of some reputable medical college, in evidence of which his diploma must be submitted to the examining board. The scope of the examination includes the moral, mental, and physical qualifications of the candidate and his general aptitude for the military service, and the board is explicitly directed to report unfavorably should it have a reasonable doubt of his efficiency in any of these particulars.

A thorough physical examination is first in order. This is necessary to ensure that the candidate is fully qualified to undergo the fatigue and hardships which are incident to field service, and to which the surgeon is exposed equally with all other officers. Such examination is also necessary to protect the retired list from being over-burdened by those having physical defects, which would render them liable to early breakdown and to become a charge upon the Government. Those who fall below sixty-four inches in height are not accepted. That a candidate should possess a well-developed physique, and a dignified carriage and presence, is, of course, desirable. Each candidate is required to certify that he labors under no mental or physical infirmity which can interfere with the efficient performance of any duty which may be required. Errors of refraction, when not excessive and not accompanied by ocular disease, and when correctable by appropriate glasses, are not causes for rejection.

The moral fitness of the candidate, together with his probable aptitude for the military service, is determined by the papers and other information in the possession of the board relative to the investigations made into his character, and by close personal scrutiny during the time in which he is undergoing examination. Any man whose previous record is not free from blemish, or who would appear not to be suited to the peculiar conditions of army service, is rejected.

The professional examinations are both written and oral, and include the subjects of anatomy, physiology, chemistry, hygiene, pathology and bacteriology, therapeutics and materia medica, surgery, practice of medicine, and obstetrics and the diseases of women and children. Usually one-half day is devoted to each subject, the candidate submitting a paper requiring about two hours to write, and then being carried rapidly over the subject by oral questions for about half an hour. These examinations are very searching, but are intended to be thoroughly fair and free from "catch questions." Especial proficiency in one or more subjects does not compensate for serious shortcomings in others, for the many-sided functions of an army medical officer require a thorough knowledge of all branches of a general medical education. The professional examination is concluded by a day's work at the bedside in clinical medicine and surgery, and operations and demonstrations are required to be performed by the candidate upon the cadaver.

This careful professional examination and freedom from politics lies at the foundation of the efficiency of the Army Medical Department, and has existed since the creation of an army by the second provincial Congress of Massachusetts Bay, in an act dated May 8, 1775, whereby medical officers of regiments could be appointed only "*Provided* they appear to be duly qualified on examination." That the examination thus required was not of a perfunctory nature may be gathered from an extract from a journal of the time. "On the day appointed, the medical candidates, sixteen in number, were summoned before the board for examination. This business occupied about four hours; the subjects were anatomy,

physiology, surgery, and medicine. . . . Six of our number were privately rejected as found disqualified. The examination was in a considerable degree close and severe, which occasioned not a little agitation in our ranks."

At present, examinations are held in Washington, San Francisco, and Manila. Eleven hundred and eighteen young physicians were ordered up for examination in the period 1889–1901, inclusive, and of this number one hundred and eighty-seven were found qualified. This proportion of successful candidates was unusually high because of a large number of young surgeons serving with troops under temporary contract, as a result of hostilities with Spain, in the Philippines and in China, who had already undergone a preliminary examination, and thus represented the better element of the original body of candidates. With such rigorous selection, the Army Medical Department may fairly claim to be a *corps d'élite*.

Hospital training and practical experience in the practice of medicine, surgery, and obstetrics are essential to candidates, who are expected to present evidence that they have had at least one year's hospital experience, or the equivalent of this in practice. Candidates are not now ordinarily examined except in professional subjects; though an examination may be required in history, arithmetic, geography, physics, and literature in the case of candidates showing deficiencies in their general education. As a matter of fact, men presenting such deficiencies will scarcely be able to attain the required average in their professional examination. Candidates claiming a special knowledge of languages, higher mathematics, and natural sciences are examined therein and given extra credits accordingly. An applicant failing in one examination is allowed a second trial, but not a third.

The promotion of an assistant surgeon to the rank of captain is contingent upon a satisfactory examination in the main subjects of a general medical education. and particularly with respect to recent advances in medical science. A part of this examination also relates to the functions of the surgeon as an officer of the military service. A similar examination must also be passed before promotion to the grade of major. These examinations serve as a stimulus to professional advancement, taking the place, in this respect, of the active competition existing in civil practice. That these examinations are severe is shown by the fact that a certain proportion of medical officers are turned back from time to time, losing thereby in respect to pay and promotion. Advancement to the grades of lieutenant-colonel and colonel takes place by seniority and without examination. The surgeon-general is selected by the President from the members of the department, usually those of higher rank and greater experience.

To each rank is attached a fixed annual salary, payable in monthly installments, and this is increased by 10 per cent. for each period of five years' service, until a maximum of 40 per cent. is attained. An assistant surgeon, on entrance, receives $1,600 per annum, or $133.33 monthly. At the end of five years he is promoted to captain and receives $2,000 a year, which, with a 10 per cent. service increase, is $2,200, or $183.33 monthly. After ten years service, this pay becomes $2,400 per annum for office with the rank of captain. The pay attached to the grade of major is $2,500, which, with 10 per cent. added for each five years of service, becomes $3,000 after ten years' service, $3,250 after fifteen years, and $3,500 after twenty years. The annual pay of lieutenant-colonel, colonel, and brigadier-general is $4,000, $4,500, and $5,500 respectively. In addition to the above amounts, all officers on duty outside the United States receive a further increase of 10 per cent. on their pay while so serving.

Medical officers are entitled to the privilege of retirement at any time for disability incurred in the line of duty, or after forty years' service. On attaining the age of sixty-four years, they are placed on the retired list by operation of law. Retired officers receive three-fourths the amount of their pay in effect at the time of their retirement; a sufficient income being thus provided for support in case of disability contracted in the service or for old age. In the case of a medical officer retired as a colonel, his retired pay would thus amount to $3,375 annually—which would be a fair interest on $75,000, or a greater sum than the average physician in civil life could hope to amass in a long life of professional activity. In case of death due to causes incident to the service, a pension is granted to the dependent members of the deceased officer's family. This pension in the case of an officer of the rank of lieutenant-colonel amounts to $360 annually, with $24 for each minor child. This sum, though small, is about the interest on a life insurance policy of $9,000.

In addition to the above pay, officers are furnished either with comfortable quarters or with a liberal money allowance in lieu thereof. No house rent has therefore to be paid by the medical officer. When travelling on duty, an officer receives mileage at seven cents per mile for the distance traveled. He is also entitled to transportation for professional books and papers and for a reasonable amount of baggage at Government expense. All medical officers are provided gratuitously with forage, stabling, and transportation for two horses owned and kept by them. Groceries and other articles may be purchased from the commissary, and fuel from the quartermaster's department, at wholesale cost price and less the usual retail dealers' profits. Books, instruments, and appliances are furnished by the Government for the use of medical officers in the performance of their duties.

Leave of absence on full pay is allowed at the rate of one month per year, and this may accumulate to a maximum of four months as a continuous leave. Beyond this, an officer may still be absent with permission on half pay. Absence from duty on account of sickness involves no loss of pay. From the above, it is seen that financial matters need not become a cause for anxiety to the army medical officer; his pay depending largely upon the grade held, and this in turn having a close relation to length of service.

The social side of army life should not be forgotten, as it forms a most pleasant feature of military service. The army officers of the line and staff are largely graduates of West Point, are men of education and refinement, and, as a whole, are gentlemen in the best sense of the word. The medical officer will find that his social status among them depends upon his own attributes and personality, and he will form many close companionships. In the civil society of the communities in which, or near which, the medical officer may serve, he will find that his commission as an officer gives ready entrance, where the same man, as a civilian, would be first subjected to a long period of probation. Physicians in civil life are more than kind to their confrères in the army, and go out of their way to show them every professional assistance and favor.

A fixed home is out of the question in the army, where all are subject to orders and must move about as the need of the service requires. Strong local affiliations cannot be maintained, and military service necessarily means an abrupt change in life,

associations, and previous surroundings. Wherever he goes, however, the medical officer will find some of his old army friends and will make many new ones. It is rare that domestic arrangements are interfered with; most officers are married and take their families with them nearly everywhere. In a few years' service, the medical officer sees much of the world and meets many people of affairs, all of which is a valuable education and has a strong broadening influence. To many the constant change of scene and surroundings is a great charm of military life.

Every facility is afforded to medical officers to keep in touch with medical progress. The young physician, on entrance, is usually given a course of five months' instruction at the Army Medical School, Washington, D. C. This course includes military medicine, military surgery, military hygiene and sanitary chemistry, clinical and sanitary microscopy, and a special course relating to the functions of the surgeon as a military officer. When medical officers with the rank of captain approach the period of their examination for promotion to a majority, they are usually assigned to duty as attending surgeons in large cities, so that they may become familiar with the practice of the leading physicians and surgeons of the country and may benefit from medical lectures, clinics, meetings of medical societies, etc. With the present policy of concentrating troops near large cities in the United States, medical officers have excellent opportunity to keep fully in touch with the professional progress of civilian physicians and surgeons. Each post hospital has a library of carefully selected medical works, usually one hundred and fifty or more in number. Twenty-five or more books are added yearly, and those which have become obsolete are called in and sold from time to time. In addition, sufficient copies of twenty-two representative medical journals are subscribed for by the surgeon-general's office, and are circulated for perusal and reference among the medical officers. The library of the surgeon-general's office, in Washington, is the largest medical library in the world, and contained on June 30, 1901, no less than 236,728 books, journals, theses, and pamphlets. Any special books desired by medical officers will be loaned from this library on request. The Army Medical Museum, under the same roof with the library, contained on the above date 34,988 specimens relating to medical science.

No better opportunity of winning a name in medical science is afforded anywhere than in the Government medical service. With a class of sound young men as patients, the field of practice in obstetrics, gynecology, chronic diseases, and the diseases of children and old age is necessarily restricted, and in the usual course of service the surgeon will scarcely find sufficient practical experience to develop into an expert along these lines. On the other hand, the opportunities for study in hygiene, bacteriology, pathology, the various branches of chemistry, and certain classes of diseases, especially those peculiar to the tropics, can scarcely be equalled under the best facilities of civil life.

Though work in the practice of medicine is thus somewhat limited in scope, it makes up in quantity what it loses in variety. Thus, in the year 1901 there were 232,080 admissions to sick report, of which number 19,703 were for injuries. While in time of peace there is a relatively small amount of surgery, in time of war the army medical officer does more surgery in a week than the average civil surgeon does in six months. There is a good deal of operating for appendicitis and the radical cure of hernia, both of which disabilities appear to be greatly favored by military conditions.

The field of experimental research is particularly attractive, and is one in which professional reputation is achieved much more readily than in general practice. Besides the opportunity, the medical officer has the time and money to engage in such work. His military duties are so systematized that he can do the maximum of work in the minimum of time, and thus has many hours which he can call his own. The use made of such spare time, in the army as in civil life, depends upon the individual. His work may be broken in upon from time to time, but if persisted in there is nothing more certain than that excellent results will be attained. As the medical officer is scarcely influenced by financial matters, he is not under the disadvantage under which the civilian physician usually labors—that of constantly being diverted from his chosen work by the necessity of bread-winning. Any special apparatus, laboratory equipment, books, or other facilities are gladly furnished by the medico-military authorities to those who give promise of being a credit to their profession and corps.

For the above reasons, army medical officers have long stood in the forefront of medical progress, and have been able to furnish representatives whose names have been famous the world over. Not to mention men still on the active list, it is sufficient to recall the classical work of Surgeon Beaumont on the physiology of digestion, that of Woodward and Otis on the military surgery of the Civil War, that of Billings in hygiene and medical literature, that of Sternberg in bacteriology, and that of Reed, who lately died in the knowledge that his researches into yellow fever have done more for mankind than anything since the days of Jenner.

Since the outbreak of the war with Spain, the Army Medical Department has well shown its capabilities. The report of the Army Commission which investigated typhoid fever in 1898, is classical; army medical officers have discovered the means of transmission of yellow fever and formulated measures which experience shows will stamp out the disease with absolute certainty; they have demonstrated that the fatal anæmia in Porto Rico, which killed thousands annually, is due to ankylostomiasis and can be cured with a dose of thymol; they have identified surra as the fatal horse disease in the Philippines and have shown it to be transmitted by a certain species of biting fly; they have investigated the animal parasites found in the Philippines; they have found that tropical dysentery is largely due to a specific bacillus; they have shown the previously unknown existence of Malta fever in Porto Rico and the Philippines; and they have added much to our knowledge of plague. Applying these results practically, the army medical officers in charge of health matters in Cuba reduced the death rate of Havana from 91.03 to 22.11 in four years, and in Manila from 46.50 to 22.17 in the same period, making the rates for these cities compare favorably with those of the most civilized communities on the globe. In three months' time, the Army Medical Department vaccinated the entire population of Porto Rico, numbering some nine hundred thousand souls, and stamped out smallpox where it had previously been endemo-epidemic. In the Philippines, their efforts largely protected the troops from cholera at a time when the natives of the vicinity, not under their control, were perishing by tens of thousands. In the coming work on the Panama Canal, the Army Medical Department will be in sanitary charge. With an abundance of able and willing men in its personnel, and with magnificent opportunities for experimental research and practical work along professional lines, the Army Medical

Department looks forward to the future, confident of fully maintaining its honorable record in the past.

THE NAVAL MEDICAL SERVICE.

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THE history of the early days of the medical corps of the navy is somewhat obscure, though practically since the establishment of a government in this country and the use of a naval force medical men have found occupation on board our vessels of war. In the records of naval affairs of the Revolution little more than mention is made of the ship surgeon and his mate, but enough is recorded to establish the fact that such grades were carried on the books of most of the ships that fought the fight of the colonies. That these people obtained a rich surgical experience the story of the naval engagements of that period gives ample proof; that they had no definite organization or standing is equally evident from the meager records. Though the surgeons were commissioned officers and their mates held warrants, they were apparently hired for the cruise of their vessel and were discharged upon its completion.

Not until the period just prior to the war of 1812 does it appear that a permanent list of medical officers was established. At that time, and from that time on, the records contain a list showing a varying number of surgeons and their mates in somewhat of a corps organization. This list may be considered as the beginning of the medical corps as an organized part of the navy, though it was not until 1842, at which time the bureau system of the Navy Department was inauguated, that the corps arrived at the dignity of having a medical officer at its head.

From that time to the present it has developed by means of the varying action of succeeding congresses, and in spite of the vicissitudes of the frequently changing naval policy until it has reached its present organization and standing, which, without exaggeration, may be stated as the high-water mark of its existence, and concerning which this paper has to deal.

As organized to-day the corps consists of about two hundred and twenty members, with provision of law enacted to bring the number up to 347. The law authorizing its increase, which went into effect on the 5th of March, 1903, provided that its accomplishment should be distributed over a period of six years, twenty-five appointments being allowed each calendar year.

The following table shows the grades, rank, and number in each grade of the corps as it will be at the end of 1908 under the present legal provisions:

NUMBER	GRADE	RANK	EQUIVALENT ARMY RANK
15	Medical director	Captain	Colonel
15	Medical inspector	Commander	Lieutenant-colonel
85	Surgeon	Lieutenant-com'd'r	Major
230	Passed assistant surgeon and assistant surgeon	Lieutenant	Captain
		Lieutenant, junior grade	First lieutenant

Two additional officers, one in the grade of medical director and one in that of surgeon, are borne on the list by congressional sanction as not in the line of promotion.

In addition to the above, a list of twenty-five numbers under the title of acting assistant surgeon, form part of the medical corps in the Navy Register. The members of this list are employed for temporary service only, and at the expiration of three years from the date of appointment sever their connection with the service. This grade has been revived from the provisions of an old law granting the President authority to appoint twenty-five acting assistant surgeons for temporary service, and has been utilized to meet the emergencies of an enlarged service awaiting the filling of the permanent corps up to its authorized strength.

One member of the corps is selected, usually from one of the two upper grades, for the position of surgeon-general and chief of the bureau of medicine and surgery and holds the rank of rear-admiral while in this office. This appointment is made by the President and holds for a period of four years, and is the highest official distinction to which a medical officer of the navy may aspire. Since the establishment of the office in 1842, there have been but seventeen medical officers who have been fortunate enough to receive this honor.

Appointments to the medical corps are made only in the lowest grade—that of assistant surgeon—and permission to appear before the boards for examination is obtained for the asking. Political or other influence has no weight in bringing about the issue of this permit, and the young medical graduate with no influence is given just as free an opportunity to show his fitness for a commission as one presenting the most powerful recommendations. It requires simply an application to the Secretary of the Navy for permission to appear before the Board of Examiners, accompanied by one or more letters from persons of standing, certifying to the moral character of the applicant and to his citizenship. The law requires, besides citizenship, that the applicant shall be not less than twenty-one and not more than thirty years of age, and shall demonstrate before the Board of Examiners his mental, moral, and professional fitness for appointment.

At the close of 1903 there was only one vacancy in the medical corps of the navy, but on the 1st of January, 1904, twenty-five new appointments became available by provision of the law of March 5, 1903, mentioned above, with twenty-five each succeeding year for four years. The vacancies from retirements, resignations, and deaths average about ten a year. There are assured, therefore, for the next five years about thirty-five appointments yearly.

The examinations required to demonstrate the fitness of applicants consist of a physical and professional and a collateral examination. The physical examination is thorough, and the candidate is required to certify on oath that, to the best of his knowledge, he is free from mental, physical, and constitutional defects. A standard of vision has been established, and candidates are required to have a visual range of $\frac{1}{20}$, Snellen, unaided by glasses and capable of correction to $\frac{20}{20}$ by lenses.

The professional examination, while covering the whole field of medical science, does not demand more of a candidate than he should have acquired from his collegiate training.

The following table shows the scope and value of the professional examination:

	WRITTEN QUESTIONS	PERCENTAGES REQUIRED
Anatomy (2) and physiology (1)	3	80
Surgery	3	80
Medicine	3	80
Pathology (1) and microscopy (1)	2	70
Obstetrics (1) and medical jurisprudence (1)	2	60
Materia medica and physiological action of drugs	2	80
Chemistry (2) and physics (1)	3	60
Hygiene (1) and quarantine (1)	2	80
General aptitude	..	80
Literary and scientific branches		80
Required aggregate		750

This is supplemented by a series of practical demonstrations of the candidate's acquirements in

bandaging, application of splints, operative work on the cadaver, clinical cases, uranalysis, practical microscopy, histology, pathology, bacteriology, and the recognition of surgical instruments. An oral examination in each branch covered by the written follows it. The questions asked in both the written and oral examinations are similar to those required by the best medical colleges in their examination for graduation. In the collateral examination the candidate is required to show what he has acquired from his general educational advantages, and not more is expected in this department than any well-equipped physician should possess. A knowledge of the grammatical use of the English language is essential, and arithmetic, geography (descriptive and physical), history, languages, general literature, physics, elementary botany, geology, and zoology comprise the subjects taken up in this division of the examination. Credit is given for a knowledge of languages and the sciences, but they are not essential. Deficiency in the common-school branches is, however, a cause for rejection, even though the candidate should meet the professional requirements of the examination.

There are two boards of examiners before which candidates may appear—one on the Pacific Coast, holding its sessions at the U. S. Naval Hospital, Mare Island, California, and the other on the Atlantic seaboard, with its examining rooms at the U. S. Naval Museum of Hygiene and Medical School, Washington, D. C. These boards are practically in continuous session throughout the year.

The young medical graduate, therefore, desiring to enter the medical service of the navy, being not over thirty years of age, has but to write a letter to the Secretary of the Navy asking for permission to be examined, accompanying his letter with testimonials as to moral character and citizenship, to be accorded that privilege. With the granting of this permission he will be told to communicate with the president of the Examining Board holding its session nearest his home to arrange for a date for the examination mutually agreeable. The examinations usually occupy about ten days and are of the character stated above.

This much the Government demands of aspirants for service in its naval medical corps. What does it offer in return? A candidate upon being accepted by the board is given the commission of an assistant surgeon in the navy with the rank of lieutenant, junior grade, by the President of the United States, and his appointment as such is confirmed by the Senate. This, in itself, may be considered in the light of an honor. A more practical emolument, however, is represented in the following:

PAY TABLE.

	AT SEA	ON SHORE	ALLOWANCES PER ANNUM*
Assistant surgeons, rank of lieutenant (junior grade)	$1,760.00	$1,496.00	$288.00
Passed assistant surgeons, rank of lieutenant	2,200.00	1,870.00	432.00
After five years in the service	2,400.00	2,040.00	432.00
After ten years in the service	2,600.00	2,210.00	432.00
Surgeons, rank of lieut.-commander	3,250.00	2,762.50	576.00
After ten years in the service	3,500.00	2,975.00	576.00
After fifteen years in the service	4,000.00	3,400.00	576.00
Medical inspectors, rank of comm'nd'r—			
After fifteen years in the service	4,500.00	3,825.00	720.00
Medical directors, rank of captain—			
After fifteen years in the service	5,500.00	5,500.00	720.00
Surgeon-general, rank of rear-admiral			

*Only when quarters are not furnished by the Government.
Eight cents per mile is the allowance when traveling under orders.

While on shore duty and when quarters are not furnished by the Government officers are allowed commutation therefor, which is represented in the column of allowances in the above table. On shore duty in foreign countries the shore pay of officers is augmented by an addition of 10 per cent.

By provision of law, assistant surgeons, at the end of three years' service, are entitled to promotion to the next higher grade—that of passed assistant surgeon—after qualifying by examination. The number in the upper grades being fixed, promotion into them depends upon the occurrence of vacancies by retirements, resignations, or deaths, and these vacancies are filled in the order of seniority. With each promotion a physical and professional examination is required by law. The total number of vacancies occurring in a year, with the number of the corps at 200, averages about ten. Promotion with an increase of a little over $400 a year in salary is assured at the end of three years' service, and every five years of service brings a slight increase of pay without promotion. Promotion thereafter is an uncertain quantity, depending somewhat upon retirements and casualties and somewhat upon the evolution of the navy as a whole. The junior surgeon of the list at the present time reached this grade in less than five years from the date of his entrance into the service. The senior surgeon was seventeen years in obtaining his full surgeoncy. The prospects for promotion, however, in the near future as indicated by the growth of the naval establishment already authorized, and that contemplated, seem to be very good.

The tenure of office in the medical corps is for life, unless sooner terminated by resignation, by disability not incurred in the line of duty, or by dismissal for misdemeanor.

At the age of sixty-two all officers of the navy are retired from active service with three-quarters of the full sea pay of the grade held by them at that time. Incapacitating disabilities contracted in the line of duty also entitle an officer to be placed on the roll of the retired list on three-quarters' pay.

What are the professional opportunities placed before young medical graduates looking for a settlement in life in the naval service? Pay and other emoluments count for something, but to most ambitious young men the chances of putting their professional education to the best advantages are of fully as much importance in the choice of a field of labor. It is the prevailing idea among members of the medical profession in civil life that the naval career offers little scope for the exercise of one's professional ability, and this, perhaps, in the main, has been true in times of peace in the past. In the future, however, with the rapidly growing naval establishment, the accession of territory by our Government outlying its continental limits, and the many new problems arising from new methods of warfare, the naval medical officer will find a larger field for the exercise of his professional knowledge. His duties to-day cover a wide range. The selection of the personnel in recruiting, its training in health, its care in sickness on shipboard and in hospital, and its protection against the inception of disease are the main responsibilities of the medical officer. Work in the administration of his department on ships, stations, and in hospitals, on boards of examiners for both mental and physical examinations, as instructors to the enlisted force in first-aid and emergency work, to the members of the hospital corps in their duties and drills, and to the younger members of the medical corps are other fields of occupation. The medical officer is at all times sanitary adviser of his commanding officer, whether on shipboard on shore stations, at home or abroad, in camp, or on expeditionary service.

To follow out the probable professional service of a medical officer after his acceptance of a commission, a casual sketch of his possible assignments may be of interest. Shortly after notifying

e department that he has taken the oath of office id accepted his commission he will receive orders some one of the fourteen naval hospitals. These spitals are situated at all the larger naval centers, z., Portsmouth, N. H.; Chelsea, Mass.; Newport, . I.; Brooklyn, N. Y.; Philadelphia, Pa.; Washgton, D. C.; Norfolk, Va.; Port Royal, S. C.; ensacola, Fla.; Mare Island, Cal., and Puget ound, Washington. There is also a naval hosital at Yokohama, Japan, and one each at Cavite, hilippine Islands, and Sitka, Alaska. These hositals vary in size and importance. The largest of iem—those at New York and Norfolk, having a apacity of 150 to 200 patients—are equipped nd maintained to meet the requirements of the ost advanced medical and surgical procedure. t these hospitals the medical novice is initiated nto the methods of naval customs and becomes acuainted with the requirements of hospital corps ffairs and training. He is required to remain on uty at one of these institutions until the beginning f the session of the Naval Medical School in Washgton, D. C.; about the 1st of October in each year. t this school, to which all newly-appointed medical fficers are ordered for instruction, he is trained in he application of his profession to the requirenents of naval life, in certain specialties of imortance to the intelligent performance of his future luties, and in the military features demanded by is career as a naval officer. This medical school is ssentially a post-graduate institution, and its course f instruction comprises the following subjects: nilitary medicine, military surgery, tropical medine, naval hygiene, its chemistry and biology, uarantine, manual of the sword, extracts from actics, hospital corps drill, instructions in signals, nd the duties of medical officers in administrative work in general. Bacteriology, blood examination, nd the study of parasites form very important branches of the laboratory courses, and are given n one of the most modern and fully equipped laboratories in this country. Five months are devoted to this school work, and after its completion the young medical officer is usually assigned to sea duty. Here his work again follows the line of advanced medical and surgical procedure. He is provided with the latest and best instruments of precision and operation, and is given every encouragement to make research and extend his knowledge of his profession. The most recently constructed battleships and large cruisers are equipped with hospital facilities equal to those found in our best organized smaller cities. Vessels of this type carry a crew of from 600 to 700 men, and for the care of the sick of this number the medical officer is furnished with a small hospital of from twelve to twenty-five beds, a small isolation compartment, a dispensary, and a modern operating room. These are equipped with every modern appliance for the prevention of disease, the care of the sick and wounded, for operative interference, and the prosecution of scientific investigation as far as practicable aboard ship.

Frequently in place of being assigned to a seagoing vessel, the young medical officer is detailed for duty in some one of the stations abroad. The navy has an important hospital at Yokohama, Japan, and one at Cavite, Philippine Islands, with another in process of construction at Canacao, Philippine Islands, this latter, when completed, to take the place of the one at Cavite. The Islands of Porto Rico and Guam give employment to a small number of medical officers, the different shore stations in the Philippines, with their force of marines, require the services of others, and the lately acquired stations in Cuba will soon call for others. The tour of sea duty usually occupies three years, at the expiration of which the officer is returned to his home and, when conditions permit, is given a leave of absence before being again assigned to duty. His next field of work is at some one of the many shore stations on either the Atlantic or the Pacific seaboard. At these stations he is called upon to perform the duties of physician and surgeon to the station, or those required in the examination of recruits, or the sanitary and emergency work in connection with the large manufacturing establishments at navy yards, or the manifold problems arising at the receiving and training stations. He may be fortunate enough to receive again an assignment to some one of the hospitals; this time in the more important duties of executive officer or senior assistant. The large supply depot at Brooklyn, N. Y., called the Naval Laboratory, requires the services of a small number of officers; the Bureau of Medicine and Surgery, the administration office of the Medical Department of the Navy, at Washington, gives employment to others; the examining boards for candidates for admission to the service, and the medical school offer most interesting occupation for still another number. Opportunities are frequently given for the attendance of medical officers upon the meetings of medical and other scientific societies, both at home and abroad, as the accredited representatives of the Navy Department and the Government, and it is the policy of the Bureau of Medicine and Surgery to encourage the attendance of officers on such gatherings whenever practicable. It was formerly the custom to give a certain amount of leave of absence to ambitious medical officers for the purpose of carrying on a line of study either at home or abroad, and when the number of the corps is increased sufficiently to warrant it, this custom will probably be renewed. The accession of new and outlying territory by our Government has opened up new fields of research in tropical medicine, and opportunities are given to medical officers to take every advantage of them. Occasionally an officer who finds ship life congenial can continue it while on shore service by obtaining an assignment to a receiving-ship. Here he has to care for a large number of recruits coming and going, and is employed in the selection of recruits from the raw material of civil life. Recruiting is also carried on in traveling parties which cover the whole territory of the United States. Occasionally opportunity occurs for medical officers to join scientific exploring parties as the medical officers of the expeditions. A medical officer of the navy is detailed for duty on the Fish Commission Ship *Albatross*, and one is at the head of the Department of Materia Medica at the Smithsonian Institute.

As his rank increases, the duties of a medical officer become more responsible and in keeping with his age and rank. From assistant on board a large vessel, or in charge of the department of a small vessel, he graduates by successive steps to the charge of the department of vessels of large size and shore stations of more importance, until he reaches the grade of medical inspector, when his service at sea consists usually of one cruise as surgeon of the fleet, and on shore in charge of the medical department of one of the large navy yards and important stations. As medical director his duties are confined to shore service, and he is required to fill one of the responsible positions of director of the large hospitals, member of some important board, or instructor in the Naval Medical

School. There is probably no field of occupation in which a medical man may cast his lot that will bring to him a more varied experience, professionally, socially, and educationally, or a wider range of usefulness than that offered by the naval medical service.

The foregoing brings out as much in detail as the space allowed to this paper will permit the advantages of a naval life, and it is perhaps essential, in the consideration of the subject of the naval medical service, that its disadvantages should also be dwelt upon. Formerly much was written and discussed regarding the difficulties placed in the way of a medical officer of the navy in performing his duties by the prejudices against staff officers held by those of the line in authority. These prejudices were, perhaps, the inheritance from old-time conditions and obtain very little, if at all, to-day. The medical officer of this era probably finds no more stumbling-blocks placed in his way than does the health officer of a large community or the medical attendants on large institutions having lay boards of control. The social position of the medical officer is as assured as that of any other officer in the service with whom he holds rank. Prior to 1898, the newly-commissioned officer of the medical corps found himself when ordered to sea in quarters that were neither commensurate with his age or the dignity of his profession. The word steerage, the name of the part of the ship to which he was assigned for quarters at this time, has probably influenced many young medical men from taking service in the navy. To-day this objection no longer obtains. The rank of the assistant surgeon insures him quarters in the wardroom in any ship to which he may be detailed, and his associates there are men of age and stability. All military service, however, demands subordination, and independence is a thing to be placed out of the calculations of a naval officer. Men of strong domestic tastes and inclinations should not take up the profession of a naval officer as their life work. The home is practically lost, and its enjoyment in the short intervals that come from time to time hardly compensates for the pain of its loss when it is taken away again. The choice of a naval career must largely depend upon the personal tastes of the individual. To most young men the mess life, the excitements of ship's duties, the constant change of scene and environment are attractive. The discomforts of living in a contracted space, in unwholesome parts of the world, in an undesirable habitation, mean little to him in his early days. As age creeps on and the discomforts of life are more easily felt, the disagreeable features of naval life are apt to more than balance the pleasures.

A naval officer, though assured of a comfortable income and provision for old age, cannot aspire to an accumulation of riches. The requirements of his official and social position exact, generally speaking, the expenditure of his salary, and savings are not the rule.

A comparison of the opportunities and returns of a professional career in the naval service with those of the same in civil life demonstrates, it is believed without question, that the naval medical service represents professional success and above the average enjoyed by one's contemporaries in civil life.

To one endeavoring to decide the choice of a professional field of labor, the advice is here offered to study well his personal tastes and inclinations. While success in the naval service, as in all walks of life, depends upon the individual, contentment and satisfaction with one's work in the navy more largely depend upon one' stastes and susceptibility to the influence of environment, for, perhaps, in no other career are tastes played upon to so great extremes, nor do surroundings undergo so frequent and marked changes.

THE PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.

By M. J. ROSENAU, M.D.,
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It is the ambition of thoughtful men to be occupied with the work they love, to have an opportunity of spending their leisure hours with the pastimes they prefer, and to have the privilege of enjoying the repose of peace and quiet in the evenings of their days. Those whose philosophy of life tends in these directions and who are satisfied with a modest competence, free from the worries and cares of commercialism, cannot do better than select a position in one of the medical departments of the Government service.

The question is sometimes asked us why we remain the servants of the Government when we might be independent in private practice. The answer is plain: The private practitioner is very many more times bound to the beck and call of his clientèle with less freedom and chance of relaxation than the "Government servant." The trite saying that "few die and none resign" has become an axiom in the Government service and well illustrates the contentment and calm which prevails in official circles. It means that many men of different temperaments from all sections of the country are satisfied with the emoluments and work of a medical officer of our Government. While such a position offers many advantages over the cares and strife of the active practitioner, it is not without its responsibilities and disadvantages.

Having been requested to give a short exposition of the opportunities for making a living in the Public Health and Marine-Hospital Service that are open to the recent graduate in medicine, I will briefly state the requirements and kind of examination for admission to the service, the nature of the routine work required of its officers, their pay and their opportunities for preferment; also, what offers in the way of travel, of pleasant companionship, and the winning of a name in science.

First, let me tell what the service is:

This service receives the first part of its long name from the fact that it has many public health duties to discharge, particularly the conduct of maritime quarantine, the management and suppression of epidemics, the medical inspection of immigrants, the maintenance of a hygienic laboratory in Washington, the investigation of sanitary problems, and many other matters affecting the national health. It was formerly called the "Marine-Hospital Service," from the fact that it has charge of the marine hospitals which are located at our principal ports for the treatment of sick and disabled seamen of the merchant marine.

The Public Health and Marine-Hospital Service is a bureau under the Treasury Department in charge at present of Surgeon-General Walter Wyman with a staff of assistant surgeons-general who are entrusted with the management of its various division details. Marine hospitals existed in the early days of our country under charters granted by King George III, but the service properly dates from July 16, 1798, when Congress passed an act for sick and disabled seamen, creating a fund for this purpose designated as the "Marine Hospital Fund." The benefits of these hospitals were extended to sailors in the United

States Navy until 1811, when Congress authorized separate naval hospitals.

In 1871 the service was reorganized and the position of supervising surgeon-general created, after which the Marine-Hospital Service rapidly outgrew its name; for, in addition to conducting marine hospitals, Congress from time to time imposed upon it additional duties and responsibilities, and its activities were so extended and its functions so multiplied that its work soon resembled that of a national board of health.

Therefore, in 1902, Congress gave the service its present name, the "Public Health and Marine-Hospital Service of the United States," at the same time further adding to its duties and responsibilities.

Advantages of the Service.—A service such as this, consisting of 108 commissioned medical officers, is like a large official family. The prolonged and intimate relationship between the officers of the service engenders the strongest ties of friendship, while the pleasant companionship and many social advantages which a life in the service offers add much to the pleasure of life. The discipline in the Public Health and Marine-Hospital Service is military in character, but while weekly inspections are had at each station, there are no tedious drills, and no time is wasted with routine exercises of a non-professional character.

Officers while on duty are required to wear the uniform prescribed by the President.

The particular advantage offered by this corps to graduates in medicine is that it is strictly a medical service. More than 50,000 sick and disabled seamen of the merchant marine are treated annually. Of this number over 12,000 are cared for in the twenty-two hospitals of the service. The service reports show that over 1,500 important surgical operations requiring the use of an anæsthetic are performed annually. Not only is great opportunity offered by this large clinic to study all branches of the art and science of medicine and surgery, but the class of cases treated offers an almost unparalleled opportunity for the study of rare and exotic diseases. Deep-water mariners bring strange and unusual parasites from all corners of the globe. Tropical diseases unknown in our climate may be found in all the seacoast hospitals of the service, affording abundant material for original scientific research. The hospital at Ellis Island, where thousands of immigrants arrive each year, is in charge of officers of the Public Health and Marine-Hospital Service. The service in this hospital is probably the most unique of any in the world. Here are collected strange diseases of strange people from strange lands.

In addition to the medical and surgical opportunities offered by the service, an officer has abundant occasion to exercise his administrative and executive abilities. Each station, whether hospital or quarantine station, is in command of a medical officer, which is a privilege few appreciate excepting those who have been hampered in their professional work by being subordinate to laymen.

Opportunities.—The various divisions of the service are in charge of older officers detailed as assistant surgeons-general, who have executive responsibilities of a high and difficult character, being responsible for the proper and economical conduct of the divisions entrusted to them. The service, as indicated by the first part of its name, performs public health work of a most varied and important character. It has waged many contests against yellow fever, and is constantly at warfare at the various quarantine stations along the gulf and South Atlantic coasts to prevent this dread scourge entering the country. This kind of work has given officers of the service the opportunity of winning enviable reputations as sanitarians.

The Public Health and Marine-Hospital Service also conducts a sanatorium for consumptives at Fort Stanton, in the high and dry climate of New Mexico. In compliance with the Interstate Quarantine Regulations it has taken an active part in preventing the spread of plague and cholera whenever these diseases have become a menace.

Opportunities are afforded to the corps to promote sanitary science either at the Hygienic Laboratory in Washington or by original investigation at the various quarantine stations and hospitals of the service, all of which are equipped with facilities for laboratory work of this character.

In order to prepare officers for the peculiar duties which confront them in the service, the younger officers of the corps are detailed to the Hygienic Laboratory at Washington in order to take a systematic post-graduate course in pathology, bacteriology, and various branches of the sanitary sciences that are not usually included in the medical curriculum.

From time to time officers of the service who show special aptitude for such work are detailed as special commissioners to study the cause and mode of transmission of diseases which menace the public health. In recent years there has been a leprosy commission, several yellow fever commissions (one at Havana and one at Vera Cruz), while officers of the service have been on numerous occasions detailed to study plague, cholera, malaria, smallpox, "spotted fever," and outbreaks of other strange and unusual diseases which appear from time to time.

Requirements and Entrance Examinations.—To enter the service a candidate must be an American citizen; if of foreign birth, he must furnish proof of citizenship. The age of the applicant must not be less than twenty-two nor more than thirty years. He must be a graduate in medicine of some reputable college, and must pass a satisfactory physical, academic, and professional examination before a board of three commissioned medical officers. The board of officers detailed for the purpose of examining applicants for appointment is convened from time to time as vacancies of the exigencies of the service require. The board usually meets in Washington in the spring of the year.

Examinations are both written and oral and are always preceded by a very thorough physical examination. This is followed by an oral quiz on academic subjects, particularly to ascertain the proficiency of the candidate in general literature, the languages, history, geography, and the natural sciences, such as chemistry, biology, and physics. The written examination of applicants for appointment begins with a short autobiography, in which the candidate states his age and place of birth, schools or college at which he received his general and medical education, the general branches studied, including his knowledge of general literature and the ancient and modern languages, the opportunities he has had of engaging in the practice of medicine, surgery, or obstetrics, or of receiving special instruction, and whether he has been a resident physician or interne in a civil or military hospital, and the number of cadavers or parts of cadavers he has dissected while at college or elsewhere. The remainder of the written examination consists of questions in each of the following medical subjects: (1) Anatomy, (2) physiology, (3) chemistry, (4) materia medica, (5) practice of medicine, (6) practice of

surgery, (7) obstetrics and diseases of women, (8) hygiene, (9) pathology and bacteriology, and (10) reports on special cases at the hospital.

Whenever it is possible applicants for appointment are required to perform operations on a cadaver, to show their skill in bandaging, and to demonstrate their proficiency in the technique of laboratory work. An average grade of 80 per cent. is required. An applicant for appointment failing at one examination may be allowed a second examination after one year, provided he has not passed the limit of age above mentioned; but he is not allowed a third examination.

Pay and Emoluments.—After entering the service the candidate is commissioned by the President, by and with the advice and consent of the Senate, as an assistant surgeon with compensation of $1,600 per annum. After five years of satisfactory service he is examined for promotion to the grade of passed assistant surgeon with compensation of $2,000 per annum. Passed assistant surgeons must wait for a vacancy in the list of surgeons, to which grade they are admitted only after examination. Surgeons receive $2,500 per year. Six of the older officers of the service are detailed to the Bureau at Washington with the rank of assistant surgeon-general and pay of $2,900 per annum. The surgeon-general receives $5,000 a year.

In addition to the pay above stated, officers of the service above the rank of assistant surgeon receive 10 per cent. increase of their annual salary after each five years of service. This increase is called a "fogy," or longevity pay, and officers are entitled to four such fogies after twenty years of continuous service. Commissioned officers of the service are also entitled to quarters, fuel, and lighting. Comfortably furnished quarters are provided at almost all of the hospital and quarantine stations; where no quarters are provided officers receive commutation at the following monthly rates: Surgeons, $50 at home and $90 abroad; passed assistant surgeons, $40 at home and $85 abroad; assistant surgeons, $30 at home and $80 abroad. Foreign commutation applies to any station situated beyond the geographical limits of the country as they existed January 1, 1898. This increased sum allowed for foreign commutation is in lieu of the increased compensation granted officers in the other arms of the Government service while serving in the Philippines and on other foreign details. Officers of the service and their families are also entitled to medical supplies. Thirty days leave of absence are allowed each year; leave of absence which is not taken accumulates until four months may be had with full pay.

Private practice is not regarded as inconsistent with the requirements of the regulations governing the service so long as such practice does not interfere with the proper performance of official duties. Officers stationed in remote places where skilled medical assistance is difficult to obtain are not infrequently consulted by citizens residing in the neighborhood. No fees are allowed for any professional, sanitary, or executive duties required by the regulations. Every inducement is offered to the officers of the service to publish the results of their investigations, whether of a clinical or a laboratory character, in the various bulletins and reports of the service or in medical journals, according to the circumstance of the case.

Seeing the World.—One of the most pleasant experiences which comes to a medical officer is when he receives his first detail to represent the Government at a medical meeting. The Public Health and Marine-Hospital Service is always represented at important medical and sanitary gatherings, whether at home or abroad. These duties offer exceptional opportunities for keeping in the van of medical thought and of presenting in written papers the results of original observations and research.

Those who like to travel obtain a full meed of such enjoyment during the whole course of their official life. All members of the service are subject to change of station. The regulations do not permit an officer to remain longer than four years at one place without being redetailed by the Secretary of the Treasury. The exigencies of the service constantly call for the services of experts familiar with epidemic diseases and sanitary problems, which involve much traveling back and forth. The hospitals and quarantine stations, as well as all contract and inspection stations, are regularly inspected in accordance with a definite plan. The service is also required by law to inspect, once each year, all establishments manufacturing viruses, serums, toxins, and analogous products. Boards of officers are convened in various parts of the country from time to time to examine candidates for promotion, to inspect sites for new camps or hospitals, to investigate the conduct of the service, and to perform miscellaneous duties and solve the many new problems that are constantly arising.

Actual traveling expenses and hotel bills, not to exceed $5 per day, are allowed medical officers while traveling under orders. This travel is frequently under the most pleasant circumstances and gives one an opportunity to see the world under advantages that can be scarcely appreciated by one not in the Government service.

The service now conducts both hospital and quarantine stations in Porto Rico, Hawaii, and the Philippine Islands, giving some of its officers the opportunity to take long sea voyages. At many foreign ports commissioned medical officers of the service are detailed for duty in the office of the United States consul in order to sign bills of health and supervise the sanitation of vessels leaving for our shores. At present there are three officers in Japan stationed at Yokohama, Kobe, and Nagasaki; two in China stationed at Shanghai and Hongkong; one in Naples, Italy; ten in Cuba; four in Mexico, of which two are stationed at Vera Cruz, one at Progreso, and one at Tampico; and six in the fruit ports of Central America, viz., Bocas del Toro, Columbia, Puerto Limon, Costa Rica, Bluefields, Nicaragua, Ceiba and Cortes, Honduras, Livingston, Guatemala, and Belize, British Honduras.

The medical officers of the Public Health and Marine-Hospital Service are given both time and opportunity for solving the great problems connected with the cause and prevention of disease. They enjoy exceptional opportunities to apply the sanitary sciences in the practical and useful work of keeping out exotic plagues, preventing the spread of epidemics, and scouring our fair land of its preventable scourges.

Pay of Medical Officers of the Russian Army.—Under the revised scale recently approved by the Tsar, medical officers of the Russian army on entrance to the service draw pay at the rate of 800 rubles ($400) a year. After five years this is increased by annual increments so that after nine years' service the officer draws $480 a year. After a further period of four years he gets $650 a year, and four years later—that is, after seventeen years' service—he reaches the amount of $750 a year. The highest pay which he can ever hope to get is $2,750.

THE INSURANCE EXAMINER.

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THE preparation of students for life insurance examining was not regarded as worthy of attention by our medical colleges until a few years ago when a short and, in some instances, elementary course was included in the curriculum of a few of those institutions. The subject should be looked upon as a branch of medicine, and it is strange that its importance has not been more fully recognized, since the duties of the examiner are quite different from those which one is trained to perform in the capacity of family medical adviser. The position is also a very responsible one, even though it does not bring actual sickness or impending death into immediate consideration, for the life insurance companies depend largely upon the faithful and intelligent services of their examiners in protecting the interests of millions of beneficiaries—the wives and children of the policy-holders. The time has come when it should be made clear to those seeking the position that there is something more worthy of their reflection than the mere question of increased incomes, and that it would be better to refuse appointments when through self-analysis they find that they are not up to the standard morally as well as mentally. The object of this brief article is to give a general idea of the advantages and disadvantages which the position carries with it, and also the duties and qualifications expected.

Number of examiners required.—The field for the medical examiner extends everywhere, from the country cross-roads to the largest cities, as every village is supposed to have at least one examiner and large places more in proportion to their size. Each of the large companies has over 27,000 examiners in the United States alone, and the smaller concerns are represented by almost as large a number, as their agents solicit everywhere, though the total amount of business secured by them is not so great. Examiners often work for several companies, and in small places this is unavoidable as there are not enough physicians available to give each company its own special representative. This practice is not confined to villages or small towns, as physicians are frequently met in larger places serving half a dozen different companies. It is, therefore, impossible to give even an approximate number of medical examiners in the United States, but it cannot be other than very large. There are companies that transact business in foreign countries where they usually select native physicians on account of their knowledge of the language and the people. It occasionally becomes necessary, however, to send some one abroad after he has received a special training at the home office; this is found advisable more especially in those countries where the principles of life insurance are not well understood either by the medical fraternity or by the public at large.

Applications.—If the company has a medical referee for the district in which the applicant lives, a request for appointment should be made to this official, whose duty it is to keep himself informed as to the standing and acquirements of physicians in his territory, or, at least, to have some means for accurately ascertaining those particulars. If there is no referee, and the local manager of any company will gladly enlighten an applicant as to whether there is or not, correspondence should be directed to the home office.

The great majority of applications received by the companies are mere requests for appointments, and are not accompanied by endorsements of reliable and well-known persons or by satisfactory credentials. Such communications are filed, but, as they are of no value, they are usually ignored when occasions arise for the selection of examiners in those sections, and the choice falls upon others, perhaps, who have been found competent through information obtained by methods which the companies have at their command.

It is a general rule to refuse applications for appointments unless vacancies have occurred through suspension on account of incapacity or inefficiency, removal of examiners to other fields, or death. Any other policy would cheapen the position and give the present incumbents some degree of uneasiness as to the future demand for their services. There are times, however, when it becomes absolutely necessary to enlarge the existing staff on account of an increase of business or the discovery of some locality in which there is no examiner.

Medical men have sometimes been tempted to take out insurance, the agents promising to secure their appointment as examiner as a reward, and leading them to believe that they will earn more than enough in the way of fees to pay the premiums. It must be admitted that a few companies stamp this questionable procedure with their approval by making needless appointments in such instances, and that they are equally ready to repeat the performance as often as the agent can induce the neighboring physicians to play into their hands. *Verbum sat sapienti.*

Fees and Salaries.—Nearly $5,000,000 is distributed annually among the life-insurance examiners of this country. The individual's share of this vast sum varies, of course, according to the locality and size of the place that he has selected as a field for his practice. In villages it may not exceed $100, or even $50, a year. If, however, an energetic agent arrives in the neighborhood he may write insurance enough in a short time to bring in more than this to the local examiner as compensation for his services. In towns and small cities the examiner may expect to realize from several hundred to one thousand dollars. Here, again, the efforts of the agents must be taken into account, for it is only in the large cities that we are sure to find active and able solicitors at all times. In the large cities the earnings of examiners vary widely according to the company they represent, their rank, and the size and importance of the district to which they are assigned, and range from about $600 to about $2,500 a year. There are those who receive more by giving their time exclusively to this work, but it is questionable whether this is advisable or not, as they must depend upon several companies, none of which assure them permanent positions.

The largest companies have adopted the custom of paying their examiners by salary in most of the great cities, especially in New York City. In New York an examiner is started, as a rule, with a salary of $1,200, for which he is expected to devote at least two hours in the Home Office and to make several outside examinations, so that the amount of time given up by him is from four to six hours a day. During dull periods he is able to finish his work in less time, but he is always supposed to complete the work of the day, even in the occasional busy seasons when it may take much longer. Examiners are always needed in the outlying districts of these large cities and, when on salary, receive about $600 a year. For this they make all the examinations within certain limits, but are not ex-

pected to go outside of their territory or to appear at the Home Office. The examiners at the Home Office, working directly under the supervision of the Medical Board, do not have as great a responsibility as those stationed in distant large cities where applications are also made daily for large amounts of insurance. It therefore becomes imperative to select men with long and wide experience at these points with remunerations in keeping with the high order of skill and care expected, the salaries in a few instances running as high as $3,000.

The fee system is retained by the small companies, as even in large cities the number of applications received by them for insurance does not warrant the payment of salaries; so there is an understanding by which the examiners receive the usual fee of $5 for each case and, in a few instances, report at the Home Office daily for a short time. As the corps of examiners consist of only a few men, an examinership in one of these companies is found to be satisfactorily remunerative.

It is possible to treat this subject of fees and salaries only in a general way, and these remarks must not be considered as referring to any one company. Each concern has its own rules and customs, which often differ radically from those of its competitors.

Advantages.—Some will probably conclude that the remuneration is not large enough to make it worth while, especially in small places. We can only say that during the intervals between examinations, one will have the consoling thought that he is really losing nothing, as no capital or expense has been demanded from him other than is actually indispensable to a general practitioner. Then again, the sum of $100 in a village where the cost of living is comparatively slight, is equivalent to several times that amount in towns or cities. There is also some benefit to be derived from the prestige and reputation that come to a physician in whom a great corporation has shown its confidence and faith; this is especially true in small communities where everyone is more or less conversant with his neighbor's affairs. Still another advantage is the examination of a healthy body occasionally; we all are aware of the importance of this practice for the purpose of keeping the faculties keen and well-balanced, but very few follow it up unless it comes in line with their regular work. The examiner also receives some mental training, too often needed, through requests from the Home Office to complete or revise unsatisfactory physical examinations and unfinished reports.

Whatever the income amounts to, it is sure to be paid promptly each month whether he recommends or rejects the risks, and there are none of the irritating delays in collecting that are unfortunately experienced in private practice. Salaries are paid semi-monthly as a rule.

It has been our experience to find that a doctor is seldom too busy to accept an examinership, for he can make many examinations without consuming the whole or even a large part of his time. His private practice, which is naturally of most importance to him, will not be interfered with; it merely requires some method in the arrangement of his hours to do both kinds of work to the satisfaction of all concerned. It frequently happens that through making a more careful and painstaking examination than the applicant has been accustomed to, a closer intimacy is begun and a new patient added to the list.

Disadvantages.—There are no disadvantages to a conscientious and efficient examiner worthy of consideration, for the worst that can happen to him is the incurrence of the displeasure of the applicant or the agent when it becomes his unpleasant duty to advise rejection of the risk. No one is more vulnerable to the attacks of an enemy than the physician, especially in small communities, so it becomes a matter of self-preservation with him to avoid all controversies and unkind criticisms as far as he is able. A disgruntled agent or, worse, an angry applicant who thinks he has been treated unjustly can undeniably do considerable to injure the reputation of an honorable and well-meaning doctor. The liability of this undesirable complication must be borne in mind when an application for an examinership is contemplated, for it has been of too frequent occurrence, and led to bitter animosities lasting for years and even for life. Tactful management and good judgment will do much to prevent such strained relations. Then, again, the companies realizing the possibility of such a poor reward for services rendered in their favor, provide forms for confidential letters in which the examiner may freely give an expression of his opinion, though his regular medical report contains no unfavorable comment; these letters are sent directly to the Home Office and are looked upon as confidential. With this resource at his command we feel free to state that when an unpleasantness arises, it begins with poor management on the part of the examiner.

Requirements.—Men who possess skill, education, and training are naturally selected whenever possible. The physician who has graduated from a first rate school of medicine, has seen several years of practice, has been an interne in some regular hospital, and is in good standing, will receive the preference. The country practitioner is not always able to meet all these requirements, and the selection must be made from the best obtainable. We wish to say, however, that with the few exceptions that occur to every rule, the insurance companies have no more conscientious, painstaking, or faithful workers than the country examiners. In the larger places there is no difficulty in obtaining men who have all the qualifications desired.

During the past few years the large companies have adopted the admirable custom of training a necessarily limited number of men who have had a hospital experience. They remain at the Home Office for a period of from one to three months working under the supervision of the regular medical staff, and receive while there about $100 a month as compensation for their services. When the period of probation has ended they are given important posts at distant points. Only those are chosen for these positions who can furnish the very best credentials.

Generally speaking, those who possess the ability and temperament necessary to the making of a good family practitioner, will prove satisfactory as examiners. There are certain qualities that are so invariably found in the *ideal* examiner, however, that it will be well to specify them with the hope that they will be studied by the prospective applicant. In addition to a good professional education and standing, he must be a man of strict integrity and sobriety. The possession of a common-sense shrewdness in judging men's characters and lives and the ability to estimate the value of past and present conditions from a practical standpoint, places him on a higher plane of usefulness than one who is a pure theorist. He is expected to be obliging in disposition and willing to make further investigation or examination on request from the Home Office, even though the fee does not compensate him for the extra services given in this individual case; in such instances he ought to find

consolation in knowing that he usually receives very liberal payment for his work. He must feel that he has sound discretion and firmness in maintaining his position without giving offence or irritation. Courtesy and power to maintain a calm state of mind on all occasions are most desirable qualities in an examiner, for there will be times, happily not often, when he will be subjected to annoyances and criticisms without just cause that will make it seem beyond his endurance to hold himself in; if, however, he loses control of his temper on such occasions, no matter how great the provocation, he also loses ground and sympathy; but if he maintains a courteous bearing and unruffled dignity, he has the best of the situation and keeps himself above the level of his opponents. While on this subject, we would once more call attention to the value of that great asset, tact; for we know of no position in which this quality conduces more to a good mutual understanding and peace of mind to all concerned than in the one under discussion. Examiners, most efficient in every other way, have brought down the wrath of the parties immediately interested and incurred the displeasure of their superior officers, all of which could have been easily avoided by the exercise of just a little bit of tact. The examiner should always bear in mind that he is serving others, the company and the agent, whose interests are much greater than his own, and for this reason should keep his own feelings in the background and ignore slights and injustice. It should be his endeavor always, on parting from the applicant and the agent, to leave them good friends to himself and the company, even when it has been his unpleasant duty to give an opinion adverse to their interests.

Each applicant should feel confident that he will be able to fulfil these duties and requirements, as well as be ambitious to become an ideal examiner. His greatest reward will be his own consciousness of work well done, and the appreciation of those who are competent to estimate the worth of his achievement, compared with which fees and salaries sink into insignificance.

SALARIED POSITIONS OPEN TO MEDICAL MEN IN THE LARGER CITIES.

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It is only during the past twenty-five years that the medical man as a salary drawer has come into prominence in the large cities of this country. Previous to that time the salaried positions held by the physician were few and in the greater part limited to official governmental or municipal situations which consumed the holder's entire time and which he entered with the intention of devoting his life's work thereto. Within the period above mentioned the official municipal positions open to medical men have been markedly increased in number and coincidently similar opportunities have been opened in connection with various commercial enterprises and so-called "benevolent" organizations. It is well known that in such positions in the vast majority of instances the physician receives much less compensation than he would obtain for a like expenditure of time in what may properly be called the "legitimate" practice of medicine, and that the remuneration received is in no way a fair valuation for the professional services rendered. Nevertheless observation will show that to-day in our large cities many physicians are either holders of such positions or seekers after the same. It is a curious fact that simultaneously with the development of this condition of things the requirements for admission to and graduation from our various medical institutions have been enormously increased, so that to-day far more is demanded of him who would enter the medical profession with respect both to financial outlay and time expended than has ever been previously required; thus with a maximum of preparation we find the medical man to-day, in many instances, offering his services for a minimum of compensation. There are doubtless many reasons why this is so, but in the last analysis the fundamental cause is to be found in the universal law of supply and demand. In other words, the supply of medical men offering their services in the time-honored practice of medicine exceeds the demand for the same, and we find those who are unable in a short time to gain a foot-hold along such lines willing and ready to market their knowledge at lower rates. The most important accessory cause is to be found in the development of the principal of consolidation which during the last quarter of a century has reached enormous proportions in the large business centers of this country so that individuals have bound themselves together in many lines in order to obtain various commodities at reduced rates. In the wide extension of this principle the endeavor to obtain medical services at "cut rate" figures has not been lost to view. Although, from the standpoint of the medical man, the situation thus forced upon him is to be regarded as a retrogression rather than an advancement, it is nevertheless certain that it arises from conditions which cannot be controlled in a large and rapidly developing community, and must be faced and dealt with wisely and courageously, so that debasement of the profession may be avoided and the high ideals which should inspire every true physician maintained. In order that this may be the case any man who possesses the ultimate desire to become a practitioner of medicine, but who on account of financial considerations is obliged to accept a salaried position, must constantly hold in mind the precept that such a position is only a stepping-stone to be temporarily utilized and as soon as possible thrown aside and not allowed in any way to interfere with the main object in view. This is far from being an easy task, but in the past it has been successfully accomplished by many medical men, and it is not too much to say that it is capable of accomplishment by almost any one who is worthy the name of physician. To this end he who is obliged to enter the salaried ranks ought to endeavor to obtain that position which is best suited to his individuality, and the duties of which, conforming to his intended line of work, he can satisfactorily perform with the least amount of abstraction from the ultimate aims in view. This is a personal question with every man and should be given careful thought and consideration. A review of the various salaried positions open to medical men in our larger municipalities is, therefore, not out of order, since thus a survey of the field may be obtained and the probabilities of an advantageous choice increased.

Health Department.—In any municipality the larger number of salaried positions open to medical men are the official ones, and of these those offered in the health departments, on account of their number and importance, lay the first claim to our attention. The municipal health departments in our larger cities are organized substantially upon the same lines. There is, of course, a slight difference in the designation of the various positions, but for all practical purposes a detailed consideration of one of them is sufficient for a satisfactory understanding of the others. For our consideration, therefore, we will chose the Health Department of New York City,

since it is the largest and in many respects the most completely organized in the country. In this department there are constantly employed upon salary upward of 240 physicians. In addition numerous temporary appointments are made as occasion and emergency require. The positions offering constant employment to physicians with the yearly salaries attached are as follows: A general medical officer, $5,000; a sanitary superintendent, $5,000; five assistant sanitary superintendents, $3,500; two chief inspectors of contagious diseases, $3,000 and $2,500; one assistant chief inspector of contagious diseases, $2,550; fourteen diagnosticians, $1,200 to $1,800; 170 medical inspectors, $1,200 to $1,800; fifty-two sanitary inspectors (one-half of these may be physicians), $750 to $1,800; one superintendent of hospitals, $2,500; three hospital physicians, $1,800; three assistant hospital physicians, $1,200; one registrar of records, $4,000; four assistant registrars of records, $3,000; one assistant director of the bacteriological laboratories, $2,110; one assistant director of the vaccine laboratory, $1,800; one assistant director of the diagnosis laboratory, $1,800; twelve assistant bacteriologists, $1,200. As stated, temporary appointments may be made in any of the divisions, physicians thus appointed drawing salary for the term of employment at the same ratio that the permanent employees in similar positions receive. All of the positions, except the general medical officer, the sanitary superintendent, the assistant sanitary superintendents, and the registrar of records come within the civil-service law, and competitive examinations for the same are held by the Municipal Service Commission as occasion may require.

Since the majority of the official positions open to medical men in other municipal departments come within the same regulations, it may not be out of place to review the salient features of the same in this place. In order to pass these examinations and be placed upon the lists from which appointments are made the applicant must make at least 75 per cent. on the technical paper. Such lists are made up in the order of percentages obtained—the applicant with the highest percentage heading the list and so on. When appointments are to be made three names for each appointment are taken from the top of the list and submitted by the civil service commission to the appointing power. Any one of the persons so certified may receive the appointment. In the case of those not appointed their names are placed back on the lists from which they were taken in the same relative positions which they originally held—that is at the top of the list. When any one name has been thus certified to the appointing power three times without appointment being given, such name is permanently dropped from the list. In the cases of temporary appointments the names of the holders, when their services are dispensed with, are placed back on the lists from which they were taken in their original relative positions. Civil-service appointees cannot be discharged except for dereliction in duty, abolishment of the position which they hold, or necessary curtailment of the service. The appointments to the positions above noted which do not come within the civil-service law are made at pleasure by the appointing power, and the holders of the same may likewise be dismissed at will except in the case of veterans, when either the position must be abolished or due cause for dismissal must be assigned. The first essential qualification for appointment to any of the medical positions is that the applicant shall be duly qualified to practise medicine in the State and city of New York. An essential qualification for appointment to the non-civil service positions above noted, the chief and assistant chief inspector of contagious diseases and the diagnosticians, is that the applicants shall have had sufficient *practical* experience in their respective fields to enable them to perform the duties of the office to which they aspire. The examinations for medical inspector and medical sanitary inspector include general medical knowledge with especial reference to contagious diseases, diseases of the eye, and skin diseases, and also a fundamental knowledge of sanitary science. That for assistant bacteriologist presupposes a knowledge of bacteriological technique supplemented by laboratory experience. For superintendent of hospitals, hospital physician, and assistant hospital physician the examination comprises general medical knowledge with especial reference to the diagnosis and treatment of contagious diseases and also hospital sanitary regulations. For assistant registrar of records the applicant must be proficient in the compiling of mortuary statistics and must show a fundamental knowledge in the principles of the same.

The duties of the various positions are as follows: The general medical officer has a general supervision of all branches of work which come within the sanitary and contagious-disease divisions, and is the chief advisor of the board with respect to the policy of the department relative thereto. He is not concerned with the technical performance of the work. This comes within the domain of the sanitary superintendent who supervises the routine work of the sanitary and contagious disease divisions, and is responsible for the satisfactory execution of the same. The duties of the assistant sanitary superintendents are the same as those of the sanitary superintendent, except that they are limited to the districts over which they preside. The chief inspector of contagious diseases and his assistant superintend the routine work of the contagious-disease division and are responsible for the work of the medical inspector in all its details. The duties of the medical inspector, which comprises the largest class of physicians in the employ of the department, are varied and may be considered under three subdivisions, to any one of which the medical inspector may be assigned at the discretion of the chief inspector of contagious diseases:

1. *Routine Medical Inspection Work.*—Here the inspector is given a district. He receives daily notification from the chief inspector concerning the location of the cases of contagious diseases reported in the same. He visits these patients within twenty-four hours of receiving such notification, and puts into execution the rules and regulations of the department relative thereto. He is responsible for the satisfactory carrying out of the same, and must revisit the patient at sufficiently frequent intervals in order to see that this is being done. If the use of antitoxin is requested by the attending physician, he administers the same. At the conclusion of the case he arranges for the disinfection of the premises and the return to school of the children who have been excluded therefrom.

2. *Medical School Inspection.*—Inspectors who are assigned to this division of the service are given a certain number of schools, which they visit daily, examining the pupils for evidences of contagious diseases, including various affections of the eyes and skin. They immediately exclude from school attendance all pupils who give evidences of the same.

3. *Vaccination.*—The inspector is given a district, which he canvasses daily with a view to obtaining vaccinations. Of these he is supposed to return at least 100 per week. In cases of epidemics of smallpox he does special vaccination work in the parts of the city affected or wherever his services may be required.

In addition to the above, medical inspectors may

be assigned by the chief inspector at any time to do special work which the needs of the contagious-disease division require. Also one of the medical inspectors is assigned at the pleasure of the chief inspector to night duty at the office of the department. During the summer months a corps of physicians is appointed from the medical inspector's list, who do duty under the name of the "summer corps." They are given districts in the tenement-house sections of the city, which they visit daily with the object of treating the sick children of the poor. They are supposed to devote eight hours per day to this work. The medical sanitary inspectors attend to the investigation of citizens' complaints regarding the violation of sanitary ordinances. Each one is allotted a district similarly as medical inspectors.

Diagnosticians make the official diagnoses for the department. They have their districts and are sent to every case reported therein in which removal to the contagious disease hospital is requested or necessary. They also discharge the patients from the department hospitals at the expiration of their sickness. The superintendent of hospitals has charge of the business end of the department hospitals and is the immediate superior of the hospital physician and his assistant, whose duties are similar to those of the ordinary resident physicians in any general hospital. The registrar of records and his assistants have entire charge of the vital statistics of the department and the reception and granting of death certificates, burial permits, etc. The three assistant directors of the bacteriological laboratories superintend the work of the research, vaccine, and diagnosis laboratories respectively, and the assistant bacteriologists are assigned to work in either of these three divisions. The work in the research laboratory comprises the manufacture of the various antitoxins prepared by the department and also research along such lines as may be suggested by the assistant director in charge. The work in the vaccine laboratory is limited to the production of vaccine. The diagnosis laboratory deals with the examination of diphtheria cultures, Widal tests, examinations for the malarial organism, and such other bacteriological diagnostic work as may be required by the assistant director in charge. With respect to the time required for the satisfactory performance of the duties of any of these positions, it may be said that the sanitary superintendent, the chief and assistant chief inspector of contagious diseases, the registrar and his assistants, the superintendent of hospitals, together with the hospital physician and his assistant, the assistant directors of the bacteriological laboratories and the assistant bacteriologists, with the exception of those employed in the diagnosis laboratory, are forced to give their entire time to the service of the department, at least to the extent of eight hours per day. The time required in the other positions is extremely variable, and depends largely upon the time of year and many contingent circumstances. In general it may be said that it varies from three to eight hours per day. The work of diagnostician, medical inspector, and medical sanitary inspector does not prevent the holders of such positions from practising medicine, nor does it materially interfere with a limited carrying out of the same. The positions most suitable for new appointees in the service of the department are those of medical inspector, medical sanitary inspector, assistant bacteriologist, and hospital or assistant hospital physician. Indeed, for all practical purposes, previous experience in the work of the department is a necessary requisite for appointment to any of the other positions.

The question is often asked by young physicians —Does Health Department work pay? It is impossible to answer this question without an accurate understanding of all the conditions which surround each individual case. In general it is certain that it does not, for in most cases he who enlists in the service gradually becomes more or less dependent upon the same and fails to progress in the ordinary lines of the profession. Such is by no means, however, necessarily the case, and there can be no question but that for the young physician many of the positions offer a permanent salary, which is an important aid in the first years of practice. Those who are wise, however, relinquish the position as soon as financial conditions permit.

Police and Fire Departments.—The official municipal positions open to physicians in the Police and Fire Departments are very much more limited in number than those offered in the Health Department. They are, however, more desirable in every way. The holders of these positions are known as police and fire surgeons respectively. In the Police Department of New York City the total number of such surgeons may not exceed forty, while in the Fire Department only six are allowed —three to the Boroughs of Manhattan and the Bronx and a like number to Brooklyn and Queens. The police surgeons receive $3,000 per year and the fire surgeons $2,000. In both instances the appointment continues for life and the holder cannot be discharged except for dereliction of duty. As might be expected, the competition for these positions is exceedingly keen and appointment is largely a matter of political influence. All of the positions come within the civil-service regulations, the fundamental requirements of which are the same as those for appointment to positions in the Health Department. The technical examinations, however, are very much more severe, demanding an advanced knowledge of both general medicine and surgery. The number of physicians who take these examinations from time to time is very large and the lists as a consequence are bulky. As is the case with all civil-service lists each list remains in force for but two years, a new examination being held at the end of this period. The duties of these positions are essentially the same, the physicians holding the appointments giving medical attendance to the uniformed members of the Police and Fire Departments whenever such is required. To this end each surgeon is allotted a certain portion of the force and is supposed to be upon constant call for attendance to the members therein. The amount of time required for the satisfactory performance of this duty is, as might be supposed, extremely variable, but it may be safely said that it does not average over two or three hours per day. These positions open the way to a considerable amount of additional practice, for such surgeons in their official capacity are not required to give attendance to the families of the members of the uniformed force, their work being exclusively limited to attendance on the members themselves. As a matter of fact, however, they are constantly called upon to treat such families for which they are allowed to charge and receive whatsoever reasonable fee they see fit. The practice thus obtained forms no inconsiderable addition to the income of the police and fire surgeons. While these positions are very desirable, it must be understood that they are practically not obtainable by recent graduates in medicine, as the vacancies created are extremely few and the requirements such that successful applicants are almost universally men who have had considerable experience in the practice of medicine.

In the **Street Cleaning Department** there are three salaried positions open to medical men. The hold-

ers of these positions are called medical examiners and they receive a salary of $1,200 per year. These are civil-service positions and the examinations therefor comprise general medical knowledge. The duties of the office consist in the examination of the uniformed force of the department with respect to their ability to perform various duties. They also visit such employees who are on sick leave and certify to the character and probable duration of the illness. The time required of the physician in this capacity does not exceed two to three hours per day.

In the **Department of Public Charities,** as also in the **Department of Correction,** there are numerous salaried positions for physicians. In the majority of instances they are hospital positions and require the holder's entire time. They come within the civil-service law and pay a salary of from $500 to $1,500 per year. In addition to these there are the positions of visiting physician to the city jails and penitentiaries. These offer a salary of from $1,000 to $2,000 yearly and require but a small daily portion of the holder's time.

The Tenement House Commission offers two or three positions to physicians. They come within the civil-service law and command a salary of $1,200 per year. The examination is principally composed of questions relative to sanitary science, and the duties of the office consist essentially in a supervision of the execution of the sanitary code relating to tenement houses. From four to eight hours per day is required in this class of positions.

Quarantine and Immigration Services.—In al cities which are seaports there are certain official positions open to medical men in connection with the quarantine and immigration services. In the quarantine service the positions do not come within the civil-service law, but are the personal appointments of the Health Officer of the Port. The holders of such positions are called "deputies," and their duties are varied. At least one does duty as hospital physician at the quarantine hospital. The others are called "boarding deputies." These board the incoming vessels and examine the passengers for evidence of contagious disease, taking counsel with the ship's physician relative thereto. All physicians employed in the quarantine service devote their entire time to the work, and are not allowed to engage in the practice of medicine. The salaries attached to these positions vary with the size and importance of the port. The deputies of the port of New York receive $3,000 per year. The position of health officer of the port is essentially a political one, the appointment being made by the Governor of the State.

In the Immigration Bureau the deputies belong to what is known as the marine or coastwise service. Here a competitive examination, which comes within the governmental civil-service regulations, is held for appointment to the position. Appointment is made by the surgeon-general of the Public Health and Marine Hospital Service. The deputies are stationed at the various immigration stations and attend to the medical examination of all immigrants arriving at the port. They are required to devote all of their time to the service and receive from $1,200 to $2,500 per year. At the present time all cases of contagious disease which have broken out among emigrants, while under detention at the immigration stations, are transferred to the care of the municipal health department of the city and removed to the contagious disease hospital of the same. A movement has recently been inaugurated by the Government to establish contagious disease hospitals at the different immigration stations, so that in the near future additional salaried positions in connection with this service will doubtless be open to medical men.

Corporations and Business Houses.—As previously stated, in addition to the official municipal positions, various opportunities are open, in large cities, to medical men for salaried employment in connection with numerous corporations and business enterprises. Among the most important of such opportunities are to be mentioned those offered by the various *street railway corporations*. By these, physicians are employed chiefly for two distinct purposes, viz., (1) To examine and give medical service to such persons as are injured in any way by the vehicles of the corporation; (2) To examine such persons as the company may desire, with a view to ascertaining the extent of the injury, so that the corporation may have, at the time of the suit for damages, expert medical testimony with which to protect itself. Those who obtain the first class of positions usually do so by means of personal influence, which they exert with members of the corporations in which they seek employment. The salaries which they receive vary from $1,200 to $2,000 per year. The time required does not exceed three or four hours per day. Those who belong to the second class and who are chiefly employed to give expert testimony upon trial are usually surgeons of more or less repute in the municipalities in which they reside. They receive a much better compensation than the first-class, usually from $1,500 to $3,000 yearly. They are employed by the corporations only in the more important cases, and are not required to devote more than a small fraction of their time to the duties of the position.

In recent years all of the larger *manufacturing concerns* have been accustomed to employ upon salary one or more physicians to give medical attendance to such of their employees as may from time to time be injured during the performance of their duties. Such positions are obtained through personal influence and the holders draw a salary of from $500 to $1,200 per year. The latter figure is scarcely if ever exceeded. Although in these positions the salary is small, it is also true that in the average the time required of the physicians so employed is inconsiderable. Outside of certain official municipal positions these places are the most to be desired, especially by young physicians, of any salaried positions which are open to medical men in large cities, since they afford excellent opportunities to extend one's practice, particularly if the holder is located in that region of the city where such employees mostly reside.

Very recently there has been a movement started by several of the large *department stores*, which are now numerous in all big cities, to employ physicians for attendance at the shops in order to give medical aid to such of their patrons as may be taken ill while making their purchases. The salary offered in such positions is small, scarcely ever over $1,200 per year, and the time required is great, almost always eight hours per day, so that these positions are among the least desirable, since they materially interfere with endeavors to establish one's self in the practice of medicine.

The Race-track.—During the racing season physicians are employed by the different jockey clubs to be present during the races and attend such jockeys or other employees as may be injured. These positions are obtained through personal influence and pay $100 per month. They are, of

ourse, available only during a limited portion of he year.

Not least to be mentioned are those salaried ositions for medical men which are offered by *edical publishing houses*. These positions are nostly of a literary character, and as such require pecial ability along the lines in which such workers re employed. By these houses various sorts of iterary work are demanded, and the positions range ll the way from that of a simple translator of nedical articles and books, or reader of manuscripts, to the editorship of a medical periodical. Work of this kind is paid for by the "piece," or by stated salary. The salaries given show wide imits—from $300 or less to several thousand dollars er year. Most of these positions possess the double dvantage that they require no specified time for ervice, and that the necessary duties involved ompel a man to keep thoroughly in touch with the nost recent advances in medicine and the allied ciences.

Lodge Practice.—Finally there come for consideration those salaried positions which are open to medical men in the employ of the so-called "benevolent" organizations. Physicians thus employed are known under the general appellation of "lodge doctors." In the last fifteen or twenty years these organizations have enormously increased in this country, so that, at the present time, they include, in addition to many so-called "fraternal" orders, associations of employees of almost all manufacturing concerns or corporations in which upward of 200 or 300 individuals are employed. As is well known, these persons form an association, the yearly dues of which are $1 or $2. The sum thus collected, which, of course, varies according to the number of enlisted members, is paid to some physician who contracts to give medical attendance therefor to all of the members throughout the year whenever such is required. He is also usually supposed to treat the family of the members at one-half his usual rates. The disadvantage and injustice of this system to the medical man have been amply discussed in many publications, and are evident to any one who gives the subject any careful consideration. Nevertheless, it is a fact that not only do such associations have no difficulty in obtaining physicians to fill these positions, but that they are more or less constantly besieged by applicants therefor. It seems certain that this condition of things is not temporary but that it has come to abide. It cannot be ignored by the profession at large, and must be carefully dealt with, although in what manner does not as yet seem entirely clear. There can be no question but that the vast majority of physicians who seek employment in such organizations are in sore need of the compensation received therefrom. They are not to be unduly or harshly criticised by their brother practitioners. These ought not to be considered as dishonorable positions, but they are certainly the last to be considered by the physician who seeks salaried employment, with the exception of those which are offered by the advertising patent medicine concerns.

The "Green Plague" in Manchuria.—The St. Petersburg correspondent of *The Sun* reports what is believed to be a new disease, called the "green plague," has broken out among the Russians quartered in Chinese houses in Mukden. "The eyesight is first affected, after which green spots appear on the body. The disease is highly contagious. A majority of the cases are fatal. The Chinese seem to be immune."

THE RAILWAY SURGEON.

By WILLIAM W. SANFORD, M.D.,
NEW YORK.

FEW physicians have passed through the very early period of their life-work who have not experienced a longing for something to do, that would fill up the hours of leisure, increase their experience, and perhaps add to their slender income. This is probably more true of those living in the larger cities than of those in small towns. Not all will desire to devote time to the professional service of railways, but for those who do so desire a word may be useful.

The method of introduction to the governmental bodies of railroads is a matter for the individual to learn for himself. It may be by chance of a friend, or of one's presence in time of need, whereby one's existence is made known, and the acquaintance thus formed should be carefully continued. Young physicians, like other ambitious young men, must learn how to make and hold friends; they must be alert to seize every opportunity to make the personal acquaintance of railroad managers, and yet without the slightest appearance of intrusion. In many instances the formal application by letter to the chief surgeon, president, or general manager of a road will be formally and often favorably considered, the necessary qualifications outlined, and appointments made. In the possibly more fortunate occasions, an aspirant may hold the key of influence which, in railroad as in other cases, opens the door of position with no difficulty.

The organization of the medical service of a railroad varies somewhat on the different roads. Generally speaking, the medical department of the railway is presided over by the surgeon-in-chief. The responsibilities of such positions are often far-reaching. The duties are made more effective, however, when the surgeon-in-chief possesses the power to appoint assistants, whose duty it may be to assume the responsibility of their divisions, the work in which, however, is carried on by their assistants, better known as the company surgeons. When such a system is in vogue, it is the custom for the local surgeon to make his report of work done to the assistant chief of his division, and the assistant chief in turn to report to the surgeon-in-chief of the railway. This is not, however, the general rule with all railroads, for it is often customary for the local surgeon to report to the surgeon-in-chief directly.

On some railroads the office of a chief surgeon is entirely wanting, as is the case on one of the leading trunk lines of this State. There is no surgeon-in-chief, but between the terminal points are a few surgeons who are paid a nominal salary, these being, as far as possible, men of large experience. The company surgeons along the general divisions attend to the accident cases, and make a monthly report to the division claim agent.

The formal medical examination of applicants for employment, as to the nature of the organs of sight and hearing and the physical condition, is usually carried on by an especially appointed physician, or a specialist in diseases of the eye and ear. This examination may, of course, differ widely as to form, and the salary differs in different cases.

Should an accident occur which demands surgical attendance, the local surgeon living nearest to the place where the accident has taken place is notified, and if he can devote his time to the case at at once, he does so; if not, he may secure the services of a fellow surgeon. Having completed the work, he may at once forward to the surgeon-in-chief a report, outlining the nature of injury and

treatment, or may do so at the termination of his service upon the case.

Some railroads have a special agreement with hospitals in the large cities along their line, where special and needy cases are treated by a surgeon who is paid for his services in each individual case. On some roads there are special hospitals erected at convenient points for the care and treatment of the wounded.

Except in case of accident, the railway surgeon is not expected to attend the employees of the company when ill, those being supposed to employ and pay for the services of their own physician. The man who is known to be the company's surgeon, however, stands a good chance of being consulted privately by the emp oyees. This slight help toward an increased clientele, and the experience in acute surgery, are the chief advantages of the position of railway surgeon, for the emoluments of the office are small. The local surgeon is usually given an annual pass over the road for himself and his immediate family, and he also receives a not too liberal fee for work done after rendering immediate aid to the wounded, this fee varying according to the nature of the injury and the length of attendance.

The chief surgeon receives a salary, which in some instances is liberal enough, and in others rather meagre. The division surgeons may also receive a stated sum, or they may be paid according to the work done.

It is rarely the case that the local surgeon has much time to devote to original investigation, but it remains a fact that there is much to be done and much to be learned. It is strange that, in view of the advancements made in other departments of our great systems of travel, little or nothing has been done to insure better and more prompt attention to the multitudes who are injured daily upon these great accident centers.

The phenomenal increase in passenger and freight transportation upon our railroads in recent years and the constant desire for greater speed, must increase the liability of danger, not only to passengers, but also to the employees of the roads.

There probably never existed a more united opinion among the profession than at the present time, in favor of better equipment of the medical and surgical departments of our great systems of transportation.

The governing powers of those corporations are beginning to demonstrate by their actions, that they have a desire to improve the present conditions. This was clearly shown recently by President Underwood of the Erie Railroad when he directed that a special hospital car be supplied with the necessary equipment for all emergencies in case of accidents. Some of the principal Western roads have followed this example. It is in such cases that the railway surgeons may demonstrate their usefulness to the community, for it is by their efforts, principally, that this important work is to be carried to ultimate success. There is no scarcity of railway surgeons, nor is there a less demand for their services, but on the contrary, the steady advance of civilization requires more than ever before their assistance.

The collection of humanity in the sleeping cars and day coaches is a matter of great importance. When one considers the danger of infectious and contagious diseases, which in itself is a subject demanding careful consideration, bettering the sanitary condition of a railway coach is a serious problem to be solved. The time seems not far distant when the medical and surgical departments of railroads will be as important to the public as the equipment and the motive power of a train. The results of such departments, however, depend largely upon the energy displayed by the medical advisors of the companies.

The writer would urge the great responsibility which in a large measure, rests upon the medical profession to secure adequate means for the proper transportation of tuberculous subjects. Large numbers of tuberculous patients are continually being carried in ordinary cars to northern New York. What protection against infection is offered to the public when it is often necessary to share a seat with the unfortunate tuberculous patient who may deposit infection upon every occasion? When we consider these vast numbers carried yearly to the Adirondack region in the usual sleeping car with its plushes and draperies, the question arises, Is this the proper manner to convey persons thus affected? The State should compel a railroad to furnish a car prepared and used solely for this class of patrons. If such car had the constant attendance of a physician and a trained nurse, the patients would be better cared for and the result would be most effective in reducing the constant exposure to this dread malady, thus practically removing ordinary passengers from the danger of contracting the disease.

On one of the western railways a hospital-car service for the tuberculous has been inaugurated, and doubtless in time all roads over which large numbers of invalids travel will be similarly equipped.

These and other reforms can come only through the initiative or the influence of the railway surgeon, and in working to secure better hygienic conditions on the railway which he serves, the local surgeon will find a field as yet almost untilled, but one in which cultivation will bring an abundant harvest of good to humanity.

40 West Forty-fifth Street.

Congenital Hypertrophic Stenosis of the Pylorus.—C. T. Dent reports a case of this nature in which ten or twelve days after birth the symptoms began. The child was soon satisfied. The characteristic vomiting then commenced. Three or four feedings might be kept down, but then the stomach contents would be ejected. Various kinds of foods and medicines had no effect. When the writer saw the child, the symptoms were so pronounced that he decided on immediate operation. The child then weighed just over five pounds, and was fifty-one days old. The pylorus presented a very characteristic and strongly marked instance of congenital hypertrophic stenosis. The thickening was nearly an inch in length, and the tumor had the usual white appearance. Pyloroplasty was performed. The entire operation occupied twenty-five minutes. Rectal feeding was employed for the first twenty-four hours, small quantities of hot water being given by the mouth. The condition was not very encouraging, as the child suffered from constant diarrhœa due to enteritis. The stools were green and much of the milk was found undigested. After removal from the hospital, reports of the child's progress were unfavorable and it was finally readmitted. There seemed to be little or no intestinal digestion. The diet was changed and humanized milk was given, also raw meat juice (cold extract) and cream. The child began to improve, but it was not till the age of nineteen weeks that its weight was equal to that at the time of birth. The improvement was then more rapid and at the present writing it weights ten pounds. This case illustrates the necessity for early operation in this affection, and the writer believes that pyloroplasty is the operation of choice.—*The British Journal of Children's Diseases.*

MEDICAL SERVICE IN THE MERCHANT MARINE.

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It has been well said that there is work enough for everybody on a ship, and the recent medical graduate or the landsman practitioner of riper years who turns to a sea life must quickly prove the truth of the statement. It is the purpose of this article to set down as clearly as possible the life of the medical man in the merchant and passenger steamship services, presenting its advantages and disadvantages. With pardonable pride in our national character, it may be stated that the American doctor has become known to the maritime world as being of the first rank. There are certain of the large steamship companies trading in all parts of the world whose home offices are abroad—addresses being given in detail further along in the article—who, with unfailing promptness, place American doctors applying for positions as surgeons aboard their ships. In the passenger service to and from American ports, the native born and educated physician again has the advantage in the race for place over the foreign medical man for the reason that the various steamship companies, whether of foreign or native ownership, are now coming to recognize the fact that the greatest number by far of travellers back and forth from America to Europe who use their ships are Americans. A large source of revenue to passenger steamship companies is derived from shipping emigrants, and our government is becoming more and more exacting as to the qualifications in determining who shall and who shall not be permitted to take up residence on our shores. The American doctor again is by nature better fitted to appreciate the proper construction of the laws upon this subject and likewise to secure every advantage for the company which employs him to look after the medical interests of these would-be citizens.

Inducements.—The attractions drawing a young medical graduate, or the older practitioner, to the sea may be manifold. Besides an innate love for the ocean, personal health may be an attracting force. Sea life is probably more generally healthful than any other existence. More particularly in its sedative effects is it valuable to one who has undergone the lengthened strain of four or seven years—as when academic and professional courses are combined—in college. The older practitioner, after years of uphill effort, securing only moderate success, as well as the one who works an unrelaxing round, may, too, be attracted seaward. Educationally, a method of broadening one's scope—so essential to the physician—by travel and study of the many phases of human nature which are thus continuously presented to the ship surgeon, is offered.

Application.—Having decided to seek the position of doctor upon a vessel with the object either of working his way about the world or to secure the coveted berth of surgeon on a liner, the proper method of procedure for the candidate would be to secure an introduction to the general agent of the company upon whose ship he desires to serve. While personal influence has weight, a well-written letter stating the qualifications of the aspirant and the announcement that the doctor will call around himself within a few days to present his case in person, will prove of equal value. Persistence in the matter is a most important quality, and a weekly call upon the agent subsequently soon attracts that official's attention and gives notice that the doctor is still alive and awaiting his opportunity to serve the company in an official capacity. While awaiting the chance to secure a regular appointment the candidate should visit the various ships in port of the class in which he intends to sail, and become acquainted with ship doctors, who will be found a most approachable set of men. By this means he is not only learning his way about a vessel, as it were, but will often chance to meet a doctor desiring a substitute. These changes are quickly arranged, and the candidate, to take advantage of such opportunities, must be prepared to embark upon shortest notice.

In the passenger service the American, Red Star, and Holland America lines employ American doctors almost exclusively upon their vessels. Other lines entering New York, particularly the German, are seriously considering the advisability of placing one or more American physicians upon their steamers. Freight steamers on call to a single port, or perhaps wending their way through many waters and visiting many countries before returning to the home port, which are known as "tramps," are sometimes more desirable as means of seeing the world. Probably the largest owners of steam vessels of this latter type are the "Elder Dempster S. S. Co.," sailing the Royal African Mail line of steamers, with general offices at No. 21 Water Street, Liverpool, England, and the "Elder Dempster S. S. Co.," Luisenhof, Hamburg, Germany, to whom applications may be sent.

Qualifications.—The personal qualifications of the individual who would be successful in his profession at sea are that, besides having a diploma from a reputable medical school of our country, he must be possessed of the manly quality of self-reliance, coupled with prudence in action. For he must remember that every doctor who enters a ship's company does so at a disadvantage. The popular idea afloat of the "ship doctor" is that being a failure ashore, he turns to the sea and would minister to jack-tar's ills. Government restriction in steamers of English registry running from England and between her colonies requires that the surgeon aboard must possess an English license if the combined number of crew and passengers is over one hundred persons. Dutch steamers have also government restrictions, but their enforcement is usually left to the steamship officials themselves.

Salary.—Payment for his services may be divided into two portions: first, the money received from the company as he stands listed upon the pay-roll, which includes his percentage from the sale of emigrant passage tickets. Second, the compensation derived from his patients, which may be truly termed the honorarium, as it may be in cash or a variety of articles. In the passenger service, the American, Red Star, and Holland America lines pay the highest cash salary, which is fifty dollars a month; from thirty to fifty dollars being the limits in regular passenger service. In addition to this, the doctor may count upon receiving from twenty-five to two hundred dollars extra from various patients upon a good trip—financially considered—during the "season," which lasts from about the end of May until July in the trips across from this side, and from the last of August up to October in the return passages. Besides money, the doctor is liable to receive anything which the recovered patient, returning home, believes might please the doctor. Or a monkey, a parrot, or a carved ship set sailing in a porter bottle by some old quartermaster, grateful but rheumatic, who does duty on the bridge, after having passed from a forty years'

service before the mast of sailing vessels, may be received. In freight steamers the compensation is less; twenty to thirty-five dollars per month being the limits of cash payments by the companies. Of course, aboard this class of steamers passengers are few and far between, and extra money derived from outside sources is likewise scarce. Sometimes, however, the doctor may have a chance to secure extra fees by being called ashore to see a case in a port far removed from civilization; as in the case of wealthy native planters along the West coast of Africa, who pay for treatment in ivory, skins, or nugget gold, which may readily be converted into cash upon reaching home. Work upon the African trading steamers is hard but pleasant. The doctor is the captain's "chum" and is given greater opportunities to gain a knowledge of the language, life, and character of the natives than can be afforded in any other vessels. A few companies allow a wine credit of a certain amount per month for the use of the doctor when entertaining friends or passengers. The doctor's room and office is usually combined, but is of ample size in most instances. The living is the best obtainable in the large ships styled "ladies of the ocean," and in all there is a plentiful supply.

Disbursements.—The necessary expenditures at sea include the personal laundry account, although some companies allow the doctor's washing to be done at their shore laundry. The doctor is usually expected to pay for his table and bedroom steward service. As the one may be a grateful patient and the other be satisfied by a gift from time to time of the doctor's cast-off uniforms, the money expense need not be large. Extra wine and cigars are charged to the doctor's monthly account, which is kept at the company's general offices.

Outfit.—The doctor's personal outfit should include a dress uniform and a working uniform with caps, with two or three sets of white duck uniforms for summer wear if the line of travel carries the steamer into torrid climates; a uniform overcoat; three sets of heavy underwear; six sets of light underwear; a dozen pairs of socks, heavy and light; two dozen collars; half a dozen shirts; a dozen handkerchiefs; cravats; three pairs of shoes; rubber overshoes; a pair of gum boots; storm coat (oilskin suit and sou'wester); toilet and shaving set; sewing bag (containing needles, scissors, buttons, thread). For professional work the doctor will require, besides a pocket surgical instrument case, the following instruments: hæmostatic forceps (4); scissors (curved); dissecting forceps; splinter forceps; grooved director (eyed); probe; spoon curette; scalpel; curved (sharp-pointed) bistoury; hernia knife; soft rubber catheter (No. 10 French scale); needles (curved and straight); catgut and silk (sterile packages). He will need a good practical work on medicine to which he may turn in emergency and secure a rapid recollection of his knowledge of the diagnosis, pathology, treatment, and prognosis of the disease he has encountered; also a similarly adapted work upon surgery, for when he is most in need of the knowledge he requires he will have least time at his disposal to spend in reading up a chapter upon the subject. Books upon the specialties may be added to his working library for secondary reading, but the chief reliance will be found to be placed upon the emergency textbooks of the character which has been described.

Rank.—The official standing of the ship surgeon which is accorded by the company's standard is that of second in command to the captain, and of equal rank with the first officer. The standing which he obtains in verity is that which he makes for himself after coming on board. While the crew and officers generally will receive him with but illy concealed feelings of disfavor, he may ere long make them all his friends and devoted admirers, if when starting out, and ever afterward, he conducts himself with the grace and dignity which our calling demands in dealing with laymen. While in ordinary times the doctor aboard ship is expected to attend strictly to his own business, in times of crisis his judgment in many matters outside of his regular calling will be tested, and well will it be if he is able to stand the trials, as after a collision, or in time of fire.

Social Life.—As in society in general, social circles on steamships are made up of rather well-defined cliques. The captain is supreme in the little circle drawn from the passengers which he gathers about him. It has been said that the social atmosphere of a ship depends entirely upon the temperament of the captain, and this is true to the extent that his character affects those of his officers and crew directly and through them cannot but react to a degree upon the passengers.

The chief engineer and the first navigating officer form a set by themselves. The other officers make up still a third, while the doctor either "cliques by himself," or may gain an equal footing in all the rest. While the purser is the recognized police official of a steamship, it is to the doctor everyone goes in time of difficulty, whether arising amongst crew, passengers, or officers. Ship doctors may be called upon at times to decide with the captain the advisability, and to share in the responsibility of placing a passenger, one of the crew, or an officer in confinement for misbehavior. Subsequent suits for damages are generally likely to follow such proceedings, and careful decision is required in these matters. The captain himself may, at times, be required to be subdued, as in a sudden attack of mania. The doctor in such cases must shoulder the entire responsibility for this restraining action. A carefully written statement corroborated by that of the crew, officers, and passengers would be required in such an event to protect the surgeon at the subsequent investigation by the company and the government.

Professional Relationship with the Crew.—The crew of a vessel are aboard of her for the object of working, and while the company provides medical attendance for those who are rendered incapable by accident or otherwise when pursuing the legitimate round of their duties, it expects the doctor not only to protect the interests of the crew against themselves, but to secure the best welfare and conduct of the ship by preventing individuals from taking advantage of this provision. The detection and prevention of malingering aboard ship is one of the surgeon's important duties. Alcoholic and venereal excesses are a common cause for disability amongst the men, and while the ordinary sailor has a childlike character in many respects, the doctor must not show too great a weakness in condoning these offenses, which clearly destroy a man's power to work two or three days out from every trip. Such a man, for a time, may be able to make up his deficiencies to the company for his days of idleness, but soon he is being employed at a loss, and it becomes the doctor's duty in the matter to make this fact known to his superiors. A doctor allowing himself to become too sympathetic may easily cause disorganization of the entire crew upon his vessel.

Passengers.—In his dealings with the passengers the doctor naturally stands as the mediator between them and the company as represented by the ship's crew and officers. Avoiding discussions in all matters,

fair judgment is required from him. While, after a few days out, the doctor may share the part with the captain of becoming a social lion, he must carefully avoid the appearance of becoming too popular. While he is the host for the nonce, he is still but the servant; his quickly-made friends will soon become forgetful of him, and if he would avoid discord he must prevent jealousy from arising in the breasts of his fellow-officers. A doctor who becomes a little abrupt during the extra bustle of changeable weather need not be surprised to find that the officials in the general office of the company have been notified by various tourists of his slights to the passengers. Ever mindful of the delicate position which he occupies, he will be required to exercise constantly all of his resources to cope with the arising situations. The surgeon may often serve his company and win their commendation by his power to prevent damage suits arising from accidents to passengers aboard his ship. With the exercise of a little tact a statement, which he may have in printed form, expressing satisfaction of the injured one or his friends with the treatment received will, after it has been signed, act as a deterrent when thoughts of securing legal redress arise in the minds of the patient or his family.

Steerage Passengers.—As the captain, chief officers, and doctor all receive a percentage of the ticket receipts for carrying emigrants, the interests of these people are generally well protected. From time to time, however, a magazine writer of more or less repute will travel "steerage" and upon his return, set himself the task of recounting his experiences, finding little to praise and much to blame in the manner of handling the immigrants. As a matter of fact, emigrants to-day travel to our country in far greater safety and in much more comfortable quarters than did the country's forefathers. Disputes must be adjusted and all disorder carefully repressed amongst the immigrants, for, in time of panic, their actions are the chief disturbing element aboard the ship. Sanitary measures must be instituted and carried out for the general good of the ship, and it is the doctor who is the chief organizer and executive officer in charge of these matters. His duties require that he make a careful examination of every emigrant passenger before he boards the ship for the purpose of detecting the unfit. The importance of this may be imagined, for if a single individual suffering from an incipient epidemic disease, such as scarlet fever, smallpox, measles, or yellow fever, were allowed to embark, the subsequent epidemic arising when at sea would cost the company many thousands of dollars' loss in quarantine expenses and fines, aside from the number of lives which might be sacrificed. Eye diseases are likewise of importance, as quarantine officers in the American ports are particularly charged to reject immigrants presenting chronic eye diseases, especially when of a trachomatous nature. As precautionary measures, candles and garlic are confiscated from the immigrants whenever found. A law of our government requires that all third-class passengers be vaccinated. This duty devolving upon the doctor, he finds it to his advantage to perform the work early in the voyage, else its performance becomes an almost utter impossibility, owing to seasickness if the weather becomes at all rough. It is therefore not uncommon for a ship doctor upon one of the large transatlantic liners to vaccinate from seven hundred to one thousand five hundred steerage passengers during the first day out from the foreign port. The implement by which this is accomplished consists commonly of a handle fitted with an attachment similar to the lead-holding device in the ordinary indelible pencil. By this means sharp, pen-like stylets are held in position while being used upon the patient's arm. Several stewards are engaged in loading the handles. The point after being dipped in the virus, provided in a receptacle at the surgeon's side, and applied, is discarded. Infection from one person to another is thus avoided. Daily inspection of the scars is a part of the ordinance, but this is impossible owing to the press of other work. Stewards are therefore required to check off the necessary inspections at the final sea inspection of the surgeon, which takes place a day or so before sighting land. But little trouble is experienced in carrying out the government health regulations save with that class of returning immigrants who, having spent some time in America declaring for citizenship, are returning after a visit to the fatherland. These persons, who are known as "one paper men," often resist and stand upon their rights as citizens to claim exemption. Notice to them, however, that they will be denied a landing if they do not submit to the laws of the country of their adoption quickly brings acquiescence. In general, these people have to be treated in strictest discipline. Knowing no law but that of the military force of their country, emigrants are quick to take advantage of apparent weakness upon the part of the doctor in the pursuit of his duties among them.

All classes of passengers will seek information as to the daily health report of the ship during a voyage. The uniform reply to such questions, whether from a steerage or first-class passenger of "All well aboard," will turn the questioner aside and quell the fears of the timid. Some steamship companies, when a death occurs from ordinary causes among the steerage passengers and which has been followed by burial at sea, tacitly expect the doctor to protect the corporation's interest by either making out a lax report or by omitting to mention the occurrence altogether in the papers to the quarantine officials. This saves time and money sometimes, but is perilous, for if the offense be detected, the company is not only heavily fined, but the doctor's character becomes henceforth suspicious.

Accounts.—The clerical work which the company and government regulations require from the doctor is such as relates naturally to his professional duties. His name must be attached to all official papers relating to the health of crew or passengers. His signature attached places him upon his honor as to the truth of the contents of such indentures.

Rejections of immigrant passengers at the port of embarkation with a statement of the cause must be officially noted by him. Sickness or death occurring amongst either crew or passengers must be also entered, accompanied by the doctor's descriptive statement.

Hospital Facilities.—The space accorded to the doctor in the treatment of the bedridden is limited to the patient's own berth in some steamers. Others have a special cabin or sick bay, far removed from the living quarters, where the sick may be isolated. Cabin passengers in time of epidemic are quarantined within their own staterooms. Steerage passengers, from whom most is to be feared, on such occasions are segregated so far as is possible in the necessarily limited space at command. Help from passing steamers may be secured in time of need according to the universal law of nations, whereby a transfer of patients may be effected or additional medical aid be obtained.

Supplies.—Modern steamers will be found equipped in most instances with an adequate supply of drugs, splints, dressings, and instruments suita-

ble for emergency or routine use. Many companies give the doctor free scope in his ordering, and are willing to purchase the best in the market. Besides the usual salves, ointments, and plasters, many of the most important drugs of the pharmacopœia, put up in tablet or compact form, are provided. Instruments include a set of sounds, tourniquet, general operating, anæsthetizing, obstetric forceps. The best medical journals published in our country are either subscribed for or sent gratuitously by the publishers to all of the ships upon the important lines.

Work.—An idea of the amount of work which may be crowded into the ship doctor's day of twenty-four hours may be obtained from the statement of a doctor aboard one of the crowded home-coming liners in the late summer of last year. This gentleman kept a partial account of one day's work during rough weather. He made a total of two hundred and eighteen visits to cabin passengers' staterooms in visiting patients, each one of which had to be seen to and treated with the same careful handling that the shore doctor employs. Office visits were not included in this computation. Besides the daily and nightly round of burns, scalds, and "cramp cases" occurring in the fire-room gangs, there are usually one or more individuals in the great company which a ship's crew musters who will require the doctor's continual attention. The populous steerage with its numerous progeny of children and mothers will demand a good share of the doctor's time, besides childbirth cases, averaging one or two in number every voyage during the season.

Seasickness, brought on most often by the over-indulgence in eating and drinking of the last days before sailing, with its usual concomitant condition of constipated bowels, takes up an additional share of the surgeon's hours and calls for a goodly supply of patience, castor-oil, epsom salts, calomel, and compound cathartic pills in the treatment, the general specific ordered being "champagne for the first passengers, and beer for the steerage." Local treatment which, though homely, yet finds the greatest favor in the ship doctor's eyes is the application of the so-called "sea-belt," which consists of a beer bottle wrapped up in a towel and bound in position tightly over the region of the stomach.

Besides his rounds of day and night "calls" the doctor attends, with the captain and chief officers, the daily inspection of the ship when at sea. Landing of the immigrants must be overseered by the surgeon, and their transfer to the government landing station, and subsequent inspection and distribution are all a part of his regular duty.

Moral Aspect.—Looseness of morals is proverbial among the seafaring, and it would not be a fair exposition to the young medical man desirous of taking up the career of the ship surgeon not to make some mention of the moral temptations to which his calling will naturally expose him. To understand the situation one must recall the factors at work. A great and various body of people are thrown in close proximity. Many of the travelling class are true "idlers," to whom the temptations for free and overeating and drinking with little or no exercise are manifest. The female population of a large steamer commonly contains one or more individuals whose morals will weaken under the strain and propinquity. As the doctor has the most intimate relations with the passengers, he of all the officers is most likely to be tempted. A man of weak character readily succumbs, is continually allured by the fascinations, and while perhaps never awakening to the fact becomes one of the class of doctors which the sailorman describes as "being all alike."

Summary.—*Advantages.*—By securing a position of surgeon aboard a steamship the young doctor will gain valuable experience in the study of human nature. He will be enabled to visit foreign countries and the different races of men. A week in each port, which is the usual stay of the great liners, will, however, prevent the surgeon from making extended trips from these ships. Probably six months or one year will suffice to enable the young medical graduate to gain a knowledge of sea-life as the doctor sees it. To the physician in search of health, if he be not too great an invalid, which would certainly handicap him for the activity of ship life, a valuable and inexpensive way is opened to enable one to secure a change of scene.

While the chance for social advancement may be easily overrated, the ship doctor is thrown in close contact and most pleasing intimacy with the most cultivated and highest types of our people, and the impressions which he makes will depend in great measure upon his demeanor and character.

Disadvantages.—The doctor aboard ship is considered an "idler," for while he may be oftentimes continuously engaged for hours or days he has periods of inactivity. The irregular life which is sometimes demanded is detrimental. There is a constant danger of contracting habits of intemperance in eating and drinking with a tendency to avoid active exercise beyond that required by professional duties.

Unless upon his guard, the doctor will become weakened in moral stamina by the life at sea, and lose ambition to advance to the heights in his profession.

PROFESSIONAL BY-WAYS OPEN TO MEDICAL WOMEN.

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MUCH has been written in the last half century on the history of the development of the medical woman. We are carried back by hieroglyphics to ancient Egyptian times, when it was said that women were among the physicians and embalmers. Æsculapius was said to have had both men and women among his disciples. It is interesting to know that in ancient times the divinities who were especially devoted to the preservation of health were women. The Greeks worshipped Hygeia and built a temple to her. Mythology tells us that she was the daughter of the god of Medicine, Æsculapius. Another daughter of this old divinty was Panacea. The old Hippocratic oath was sworn by Apollo, by Æsculapius, the god of Medicine, and by Health and Allheal—Hygeia and Panacea.

It is said that the oldest prescription, which has been preserved, is in the Papyrus of Ebers. This prescription is one for dyeing hair. It is supposed to have been written by the mother of the first King of Egypt. The date of its origin is given as 4,000 B. C. It is merely one instance of many, showing the knowledge of drugs that women have had throughout the ages. In the Iliad we are told that when Patrocles, the friend of Achilles, was killed. Thetis made a post-mortem injection. She was one of the early women physicians in ancient Greece and she used antiseptic methods. So here and there down through the centuries we see brilliant examples of women who loved medicine and all that pertains to it, and made use of their knowledge for the benefit of mankind. This science appeals to women especially on account of their tender sympathy for

the sick and afflicted and of their instinctive desire to relieve pain whenever they see it.

In the Middle Ages there were on the walls of the University of Bologna five portraits of women who held chairs as professors there. In Germany the name of Frau von Siebold is distinguished. She held an honorary degree of medicine from the University of Giessen, given on account of her skill in obstetrics. For twenty-four years Mme. La Chapelle was at the head of La Maternité of Paris. One of our most famous obstetricians of the last century said that he had learned more from this brilliant woman than from any of the great teachers in Europe. She contributed a scientific work of great value on this subject which she so loved. Many other names of women who have become famous in this their chosen work are met with in literature. From the eleventh to the thirteenth century A.D., there were several renowned women lecturers in the famous school of Salerno. This school was known as the bridge between ancient and modern medicine. The medical profession has, indeed, a good proportion of women who have "added the incident of learning to the accident of brains."

The autobiography of Elizabeth Blackwell, the famous woman pioneer in medicine, is as fascinating as a novel. I have never read anything that gives a more vivid picture of the experiences which women pass through from the time when they determine to study medicine until they find themselves out in the world in its active practice. Dr. Blackwell speaks of her physical repugnance as a girl to dissection. On one occasion she says "a fellow teacher laughingly came to me with a dead cockchafer which had been smothered between her pocket handkerchiefs and offered it to me as a first subject for dissection. I accepted the offer, placed the insect in a shell, held it with a hairpin and then tried with my mother-of-pearl-handled pen-knife to cut it open. But the effort to do this was so repugnant that it was some time before I could compel myself to make the necessary incision which revealed only a little yellowish dust inside. The battle then fought, however, was a useful one. In my later anatomical studies I never had so serious a repugnance to contend with." Dr. Blackwell also met with the resistance of women to their own sex in the study of medicine. She had written in her girlhood days to Dr. Warrenton of Philadelphia, an old Quaker physician, for his advice as to her study of medicine. In his reply he says: "I have personally appealed to some of the most intelligent and liberal-minded ladies of my acquaintance, how far the services of a well-educated female physician would be appreciated by them. The response uniformly is 'Mrs. Gove and Mrs. Wright were unfit to teach, nor could any female become acceptable to us either as a teacher or practitioner of medicine.'"

The attitude of some of the men's minds to this brave girl who was seeking encouragement, is well shown in the following reply of Dr. Darrich: "The subject is a novel one, Madam. I have nothing to say either for or against it; you have awakened trains of thought upon which my mind is taking action, but I cannot express my opinion to you either one way or another. I beg you, Madam, distinctly to understand that I express no opinion one way or another; the way in which my mind acts in this matter I do not feel at liberty to unfold."

Dr. Blackwell relates an interesting incident of Fanny Kemble who was giving a series of Shakespearian readings in New York at that time, frequently offering her services for charity. Dr. Blackwell thought this a good opportunity for enlisting the noted reader's interest in her Infirmary, and with a view of getting her to give a public reading for its benefit she called upon her with a friend. The gifted woman was most courteous and listened to these physicians with much interest, until the statement was made that this Dispensary was conducted entirely by women. But when she heard this astonishing fact her eyes flashed, her expression changed, and she exclaimed—"Trust a woman as a doctor!—Never!"

Although literature teems with historic accounts of women in medicine very little has been written about the ways in which a woman may find employment in the line of her profession before her practice is lucrative enough for her self-support. We all, to a certain extent, are bound to judge of a subject according to our own personal experience. Though the professional life of the writer has been limited to New York City, it is probable that about the same factors exist in any large center in our country. For some time I have been interested in collecting facts concerning this line of work.

One of the first suggestions made to a woman who is seeking to support herself while waiting for patients is the work of abstracting and translation. Translation also offers the opportunity of making a few dollars, women receiving the regular rates for such employment. A few women whom I know have done indexing, research work for original papers, editorial work, and have even written papers for other physicians, but this requires special training and concentration; and sacrifice of many other things is necessary in order to achieve successful results, while the remuneration is very ordinary. There are several women's medical journals in this country conducted by women. This offers another field of work for the woman physician which she can carry along at the same time with her private practice.

I have before me a letter written by a well-known physician who has charge of a monthly magazine the plan of which is to have a quarterly review of the principal articles appearing in foreign languages on the subject with which this journal deals. He wished, as he said, to get some one who was well versed in German and French especially, to collect the material. The plan was as follows: The abstractor was to be supplied with the *Index Medicus* in which the most important articles to be abstracted were to be marked. In each quarter there were to be abstracted about one hundred articles; each article was to be summed up in a few lines, enough to make merely from about five to ten lines of print on a card in the regular library catalogue style. The letter continues that a rapid scanning of the article, gaining the conclusions, results, or leading ideas, is *all* that he desires. Certain articles were to be selected by the editor, while the other selections to make up the one hundred were to be left to the discretion of the abstractor. The interesting part of this letter is that which deals with the remuneration. The writer states that he is authorized to offer $15 for this work—that is, fifteen cents per card. He assumes that about ten cards can be written in an hour. In other words, this allows six minutes for looking over these journals, selecting the certain articles "left to the discretion of the abstractor," reading and translating this article, and gaining the "conclusions, results, or leading ideas." After this has been accomplished the whole is to be condensed and written out on the library catalogue card—six minutes being allowed for this whole process. Any one who has any knowledge of abstracting can imagine what this would mean to a young woman

physician who has had little or no experience in this work.

Not long since I was asked by a physician if I would write a lecture to be delivered before a well-known school of pedagogy. He believed that the remuneration would be about $25. He then proposed that I should write the lecture, while he would deliver it, taking $5 for the hour, and handing me the rest. In other words, I was to spend a suitable amount of time on the preparation of the lecture—probably from thirty to forty hours—have it typewritten, and receive $20 for the work, while he would have the distinction of having lectured before this school and would remunerate himself with $5 for his time.

These are just samples of the many experiences which women meet, although this inequality of compensation for women's work is by no means confined to women in medicine.

Miss M. Carey Thomas, President of Bryn Mawr College, in her address recently at the fiftieth anniversary celebration of the New York Infirmary for Women and Children, spoke of woman's position in the medical world. She believed that the ungenerous manner in which medical men have treated women in medicine, was due in a great degree to the fact that medicine is one of the most lucrative of all professions. The speaker said that men as a sex, although there have been notable exceptions, have disputed every step of the way with women, using as weapons ridicule, intimidation, and all the vested privileges at their command. The speaker continued that "such is women's aptitude and liking for medicine, and so great is the desire on the part of other women for their medical services for themselves and their children, that although this bitter opposition to women physicians has undoubtedly somewhat limited their numbers it has not been able to stop the practice of medicine by many women."

I was attracted by the speaker's idea that other women so greatly desire the services of women physicians. This is undoubtedly in many instances quite true, but the sentiment reminded me of a little interview that I had a year or two ago with the medical head of one of the largest insurance companies in New York City. This company makes the acceptance of women applicants for policies a prominent feature of their business. But in discussing the position of medical examiner the director told me, to my surprise, that it was these very women applicants who refused to be examined by one of their own sex. They demanded one of the men examiners. It is the old social problem of women not supporting each other. In all that vast company, with its numerous applications daily, there was not employment enough for more than one woman, and the amount that fell to her varied greatly. To obtain a position of medical examiner with one of the insurance companies, especially in large cities, is, I understand, one of the chief ambitions of a young man starting in medicine without an independent income. Opportunities of this kind are almost entirely denied the young woman who is starting out in her medical career. I cannot state with authority just how many insurance companies employ women, but their number is small. When applying for a position, the physician makes out an application blank or experience blank and makes an affidavit before a notary that she will be conscientious in her duty.

As to hospital positions, there are very few open to women. Indeed, as far as I have been able to ascertain by careful inquiry, there are only three hospitals at present in New York which offer any pecuniary compensation to women on their staff. One position is that of clinical assistant in the dispensary of a hospital. It includes the out-patient work for two hours a day, and has been held by the same woman for nearly six years. I have understood that there is one other clinic in town in which there is a small compensation given to a woman. In one other New York hospital there is a salaried position for a woman in which the duties consist in watching special cases while they are in the hospital, and in following them up after they have gone to their own homes. The work, as I have heard it explained, is not specially desirable.

Miss Thomas in her address related how in 1835 Dr. Elizabeth Blackwell was obliged to found the New York Infirmary for Women and Children in order to provide clinical work and hospital practice for women. She also emphasized the fact that now, fifty years later, this same infirmary and a small Women's Homœopathic Hospital are still practically the only hospitals where women may practise as internes or as visiting or regularly appointed dispensary physicians in New York City. It seems strange that in Great Britain so many more opportunities are given to women physicians. In London there are twenty hospitals open to them; in Glasgow 10; in Manchester 9; in Edinburgh 7; and in Dublin 5.

On first coming to New York I heard of a dispensary position in connection with a mission of a church in which the physician in charge received twenty dollars a month and was obliged to be there three times each day in order to attend to the patients. I know of one woman who was fortunate enough to have a friend who presented her with a fund to be used in private clinical work. There may be others doing the same, but this is the only one of which I know. This young woman was in charge of one department of one of the important clinics in a New York hospital and was thus qualified by experience to undertake this special work.

Another woman in New York City has charge of a training school for male nurses. This is also a salaried position, but it is one requiring the entire time and attention of the incumbent.

The Board of Health offers several positions for medical women, many of which, however, absorb the entire working time of the physicians. Applicants for these positions must first pass civil-service examinations. The routine has been explained to me as follows: The physician goes first to the commissioner's office to procure an application blank. This has to be signed by two citizens and a notary and forwarded to the commissioner. The applicant is then notified of the date of the examination, which lasts a full day. The percentage attained cannot be learned for a month. It takes several more months of waiting before an appointment can be obtained. The physician who told me of her experience waited a year. Here, however, is one position in which the duties and salary are the same for both men and women. Nevertheless, the department prefers men.

On the Health Board there are altogether eight medical inspectors who are women. These physicians receive one hundred dollars a month each for their services, and their hours average from nine to three o'clock. In the schools their work is laid out for them systematically, and account is kept of their hours and of the character of their work. They are furnished with case cards which they fill out, in order that the condition of the children may be followed up from time to time. The returns of the work soon show whether it has been conscientiously done. When the employment is taken by the year, two weeks is the alloted vacation. The work

f the inspector is to go from school to school examing children. Whenever any case is found in which moval from the school is necessary, the report ust be made by the physician. The children who ave gone through the routine examination two or ree times learn to present themselves in rotation ery quickly. Each child opens his mouth and icks out his tongue in order to give a good view f the pharynx; at the same time he takes hold of e lower lid and depresses it as he looks up to the hysician for inspecton. A well-known principal f one of the Manhattan schools told me the folwing incident: The superintendent entered the oom with a visitor who was interested in the schools. he minute the two appeared, the children dropped heir work and began to file by the visitor, head ack, mouth open, tongue out, eyelids dragged down. he visitor inquired what the proceeding might ean. "They think you are a new inspector," aid the superintendent. "The medical inspectors re frequently changed, so that when a stranger ntered the room, the children take it for granted hat a new examiner has appeared."

After the schools are closed there is the summer orps work. This consists chiefly in examining the enement-house children, in taking their histories, pecially those of infants under a year old, giving he mothers explicit directions as to the care of hese babies in summer, and in reporting those suitble for the fresh-air trips. Again these inspectors re assigned for vaccination work. One physician s appointed as division leader. He looks over he ground, and assigns the work to the other hysicians. The hours vary according to the ork, but in general are supposed to be from ine until four, with an hour for dinner. This ork on the Health Board does not necessarily exend consecutively over twelve months. As a natter of fact it continues generally for about ight months out of the year.

There is a new department just opened by the Health Board devoted especially to tuberculous atients. Tuberculosis in New York City is now ut on the plane of a contagious disease, and every hysician who is called to attend a tuberculous case s under the same obligation to report this patient o the Board of Health as he would be in the case f any other contagious disease. This work has grown o much that to the original corps of nurses several thers have been added. Two of these are women hysicians, but their work is purely that of nursing. Besides looking up these cases and reporting hem, they instruct the patients and their families n the modern methods of prophylaxis. For hose patients who are incapacitated for work they recommend hospital treatment. They look up all cases which have been reported in the last five years, in order to see what has become f them. The patients as a rule are visited once in about two weeks. These physicians receive seventy-five dollars a month, and seven hours of daily work is required of them, with the exception of Sunday and Saturday and legal holidays. On Saturday they are expected to spend three hours only. There are some medical inspectors in this work, and they receive one hundred dollars a month just like the inspectors of schools, and their duties are those of disinfection, fumigation, and renovation in houses where contagious diseases have existed. A woman physician told me that she had climbed sixty flights of stairs in one day doing health-board work. From careful study and investigation of this work it seems unquestionable that the compensation is not adequate to the amount of work done.

There are three women physicians employed in the research laboratories of the Health Board as bacteriologists and pathologists. Two of these women receive twelve hundred dollars yearly, while the third receives fifteen hundred. Their hours in general are from ten to five. As in other employment, there are many times when work is not completed within these limits, and in such cases of course the hours are longer than those just stated. They, too, must pass successfully the civil-service examination before being appointed to these places. I am told that physicians doing this work are unfitted for private practice. The strenuous duties incident to private practice absolutely unfit any physician for laboratory work. There is a chair of bacteriology and pathology in both the Lying-in and the Babies' Hospitals, held by a woman physician. These are salaried positions. This same physician also holds a scholarship in Bacteriology and Pathology in the Rockefeller Institute, I believe at seven hundred dollars a year. Last summer there were six women physicians employed by this institute to make a careful study of milk, especially as to its effects on babies. They each received sixty dollars a month for the time spent in the work. They then made reports of the effects of modified and unmodified milk, and of dirty and of clean milk. They watched the babies who were fed and reported their growth and the effects of their feeding and the condition of the mothers. They visited the homes from one to three times a week, as the condition of the baby required. This work continued for a few months. There is also a salaried position held by a woman physician in Bellevue in Bacteriology at a thousand dollars a year.

From an unprejudiced point of view it would seem that in all of this work anything that has a sufficient remuneration for support absorbs nearly the whole of one's time and strength, and there is almost nothing left either of time or strength to devote to the building up of the practice of medicine.

Laboratory work is also done here and there by physicians who have influence with those of standing. The results of this work mean a few dollars now and then. This income is of course irregular and spasmodic, as most phycisians prefer to send to an expert who devotes himself to this specialty alone.

There are a number of positions open to women on the staff of insane hospitals in this country.

Certain woman physicians have acted as book agents for medical books. I have never come in contact with a woman physician acting as an agent for drugs, but as many men physicians fill such positions, I do not know why they should not be open also to women. I have heard that there are a few women physicians who visit doctors in order to explain and exploit the virtues of new surgical instruments. I have, however, been unable to find any firm which admits employing women physicians in this way.

In the City History Club women who act as teachers receive one dollar an hour. When they act in the capacity of lecturer they receive five dollars an hour. Again there is a position in this club of "Graduate Guide" for which $3 is paid for conducting a two-hour party. Twenty-five per cent. of this sum, however, goes to the club.

Fresh-air work may also be obtained now and then by a woman physician. In this the physician examines children before they are sent to the country on the expeditions which are planned and paid for by various institutions. Some of the city papers have a fund for this purpose, some of the churches also do this work, and besides private funds are amassed to carry it on. In the Charity Organization

Society, examination of children for fresh-air excursions is paid at the rate of $2 for any number under twenty-five. I have been told that the St. Vincent de Paul Society pays $5 a hundred for examination of children in their Fresh-Air-Fund work. Another fresh-air fund is that of the St. John's Guild. Here women physicians are also employed.

I know of one woman physician who is director of one of the settlements, but this is not in the capacity of a physician, and neither has this young woman time for any outside work.

Some physicians have taken up the specialty of massage, believing in its great efficacy in many cases which come under their care. Others make use of their knowledge merely to train nurses for this work. I know of one physician who, in the midst of her work in physical culture, took up the study of medicine in order to make her chosen work more valuable.

Another way in which women earn money is to appear as expert witnesses in court cases for or against a railroad or a trolly company. The physician examines the plaintiff, and gives evidence in court, or makes a statement on which a compromise is based. If the woman has experience and standing, the compensation is very fair.

Various colleges for women in this country have a regular resident woman physician. There is so much work connected with some of these positions that no time is left for independent private practice. In others, however, the physician carries on both lines of work.

In certain cases women are called upon for professional work in private schools.

Another line of work is found in the lectures given under the direction of the Board of Education. Ten dollars is the fee for each lecture, and the same lecture may be repeated in different parts of the city. If the physician has influence she may also be appointed for a lecture now and then before working girls' clubs.

I know one woman physician who is doing tenement-house work. This is not professional work. It consists in the sanitary inspection of tenement houses. Abroad, this work has rather developed into a woman's profession. It is sometimes apportioned out by districts, and the inspector goes from house to house in her own district, making her examinations. The civil-service examination is necessary before one can be on the qualified list. One woman whom I know waited nine months for an appointment after she had waited several months for a notice that she had passed her examinations. The working hours average from nine to four o'clock, but there is a great deal of writing to be done at night. These examiners must be familiar with the Sanitary Code, the Tenement House Act, Plumbing, etc. After their examinations they report the necessity for repairs to the department. Sometimes they are assigned especially to houses where there has been contagion, in order to report upon their condition.

I have run across an interesting item in an article written in 1896 by a woman physician in which she states that the report from seventy-six women graduates of the Woman's College of Pennsylvania, gives the total income as $300,000 a year. Ten of the women receive between three and four thousand; five, between four and five thousand; three, between five and fifteen thousand; four, between fifteen and twenty thousand. Out of a hundred and thirty-eight, eleven had practised ten years and had failed to become self-supporting.

A recent writer on the subject of the "Successful Women of America," in reviewing the professions which seem to offer the greatest opportunity for success, gives the following list: authors, including novelists, essay writers, poets, historians, 487; artists, including painters, sculptors, engravers, etchers, illustrators, and architects, 103; educators, including lecturers, 91; journalists, including editors, critics, and correspondents, 65; actresses, 59; musicians, 43; social reformers, including club women and settlement workers, 27; physicians, 21; scientists, including naturalists, 17; ministers, including Salvation Army and missionary workers, 13; philanthropists, 12; librarians, 9; lawyers, 9; miscellaneous, 3. These figures amount to five more than the whole number of persons classified, because that number of women is represented as actively engaged in more than one vocation.

The treatment of women in the profession by their brothers, depends to a great extent, as far as I am able to judge, upon the woman herself. No one cares for a "manly woman," and it is, I am sure, from the fact that so many women in medicine have been lacking in feminine qualities and have aped the mannish attitude, that they have been disliked by others in the profession, and by the public in general. I have yet to see a womanly woman in the profession who is not admired by all with whom she comes in contact. This may not mean that she will become self-supporting in a year or two, for unless circumstances are peculiarly favorable, a young woman will have a very difficult time of it before she reaps sufficient income from her profession alone for her support. It is a long and hard road to travel from the beginning to the end at the best. It requires good courage, a cheerful outlook, and sound health.

It is easier to attain success in one of the small towns than in a large city, from a purely professional point of view, although what salaried opportunities there are, are to be found in the city. Difficulties for the woman physician have not all yet disappeared by any means. Medical women will always labor under the disadvantage of doing a man's work with interruptions that naturally fall in the daily life of a woman. Many a woman does not hesitate to take up part of a busy morning calling on her friend, the woman physician—who would not dream of interrupting her own husband in his office.

As to whether women are fitted to attain success in medicine depends to a great extent upon their preparation; it depends also upon what we mean by success. Success is by no means to be estimated by an annual income, although this is a necessary condition of good work. The woman who enters the profession of medicine for the pure love of it will feel that the truest success consists in being able through her work to give a helping hand to the women with whom she comes in contact. The woman physician is constantly appealed to by other women who are in trouble, it may be from one cause, it may be from another. These troubles are by no means always of a medical nature.

And if day by day, and at the end of her professional life, the woman physician can feel that she has been a help and comfort to those with whom she has come in contact, and if she feels that the world is really better for her having lived in it, she may be satisfied that she has attained the best kind of success in her calling.

29 East Twenty-ninth Street.

Englishmen Growing Taller.—There has been an outcry recently over the alleged physical degeneracy of the British, but statistics as to height do not appear to lend support to this gloomy view, for the average British man is said to be one inch taller to-day than his forbears were half a century ago.

LEGAL RIGHTS AND OBLIGATIONS OF THE MEDICAL PRACTITIONER.

By ARTHUR N. TAYLOR, LL.B.,
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THE physician, newly equipped with the medical knowledge and experience which in the light of the present is deemed adequate to enable him to enter upon the important work of caring for the health of his fellow-beings, and imbued with the importance of his trust, and the great diligence and care with which he must apply his skill and science, is apt to overlook the legal relations into which his work brings him with his patients and the State. This oversight is not so serious, however, as it might at first thought seem, for in the vast majority of cases the physician's professional and legal obligations run parallel, so that when he carefully and conscientiously gives his patients the best of his knowledge and skill, he is fulfilling the obligations imposed upon him by the law. It is desirable, however, that the physician should have at least a general knowledge of these legal obligations, and, in the course of his practice, it will be of much value to him to understand the rights which accrue to him through his professional intercourse with his patients. It is, therefore, the purpose of this article to encompass, so far as its limits will permit, the subject of the legal rights and obligations growing out of the relations existing between physician and patient.

The physician, because of the right granted to him by the State to practise medicine and surgery, is, in the absence of an express statute to that effect, under no obligation to exercise his professional skill upon whomsoever may apply for treatment, but may arbitrarily withhold his services, even though an adequate fee is tendered when the request for medical attendance is made. But the physician having accepted or agreed to attend a patient, it becomes his duty to continue the treatment and call as frequently and long as the nature of the case may require, and in determining when he may discontinue his visits he is required to use ordinary skill and care. This obligation may, however, be avoided by giving to the patient a reasonable notice that the services will not be continued, so as to enable the patient to procure the attendance of another physician. Should the physician discontinue his visits without first giving reasonable notice of his intention so to do, and at a time when by the exercise of reasonable care and skill he should know that further attendance was necessary, he would thereby become liable to the patient for all resulting damages.

The physician, or in fact any person acting as a physician, having undertaken to attend a patient professionally, the law immediately creates by implication a contract on his part that he is possessed of a "reasonable," "ordinary" or "proper" degree of skill and knowledge, that in the exercise of this skill and knowledge he will use reasonable and ordinary care and diligence, and in all cases of doubt he will use his best judgment.

These fundamental requisites are well recognized, but in their application nice questions frequently arise. There are certain well-recognized rules for determining what is proper skill and learning. Probably the first in order of these is that the physician's proficiency must be tested by the general principles of the school of medicine which he professes to practise. The meaning and justice of this rule is too manifest to require elaboration or illustration. The benefit of this rule has, however, been denied to a clairvoyant by the supreme court of Wisconsin, which, in a well-considered opinion, held that clairvoyants do not constitute a school of medicine, that there can be no school of medicine unless there are recognized rules and principles of practice for the guidance of the members whereby different members of the same school would prescribe substantially the same remedy for the same condition; that clairvoyants had no such recognized rules and principles but each practised after his own method, the only feature of their method of practice recognized by them in common being the manner of ascertaining the patient's condition. The second rule is that the physician's skill and knowledge must be judged in the light of the advanced state of medical science, so that it would not do for a surgeon of thirty years' standing to fail to operate in a suitable case of knee-joint disease because he was taught in college never to open the knee-joint, antiseptic surgery being then unknown; nor could a physician justify the administration of general anæsthetics in case of an operation on the eye, the use of general anæsthetics in the particular case being dangerous, by showing that authorities twenty years ago laid down the inflexible rule that an operation on the eye should never be undertaken without complete anæsthesia. And third, the skill and knowledge required of the physician shall be those ordinarily possessed by physicians practising in similar localities; thus the limitations or opportunities of environment are taken into consideration, and so a different standard would be imposed in case of a country physician with little or no opportunity to practise surgery being suddenly called upon to perform a difficult and complicated surgical operation, from that by which the skill of a physician practising in a large city and frequently taking part in such operations would be judged. This rule, it will be observed, is that the standard required is the skill ordinarily possessed by physicians practising *in similar* localities, not in his particular locality, otherwise it might be urged that when all in a given locality are ignorant quacks one could not be held wanting in skill because he possessed as much skill and knowledge as any of the others.

The physician bringing the requisite knowledge and skill to the treatment of a case, the next obligation imposed by the law is that he will use reasonable and ordinary care and diligence in its application, and the question of what is reasonable care and diligence must always be answered in the light of the circumstances and conditions of the particular case. Thus it frequently happens that the physician is called to attend a patient when the most casual examination is sufficient to inform him beyond question of the patient's condition and to enable him to prescribe with a moral certainty as to results, while on the other hand it not infrequently happens that a patient's condition is such as to require the most searching and continued examination to discover the malady or combination of maladies from which he is suffering, and after the physician has satisfied himself as to the diagnosis, the method of treatment may require equal thought and care. It is manifest that care which would have been adequate in the former case, would in the latter case be negligence, for which the physician would be liable for injury directly resulting.

The physician is not, however, necessarily required to use care and skill proportionate to the severity of the injury or disease treated, as such requirement would fall little short of guaranteeing results.

The requirement that the physician use proper and ordinary care in the exercise of his professional intercourse with his patients applies equally in determining when he may safely discontinue his

visits, to which reference has been heretofore made. It is also the physician's duty to use proper care upon discharging his patients to instruct them or their nurses as to the treatment or conduct to be observed during convalescence. A failure to exercise such care, resulting in injury to the patient, may render the physician liable in damages to the extent of such injury. And so must the physician use due care, in going from patients affected with contagious or infectious diseases to other patients, not to communicate such diseases; and again the question of what is due care is one to be answered in the light of the attendant circumstances—the character of the disease which is subject to communication, the susceptibility or condition of the patient to whom the physician goes after attending upon such case of contagion or infection—these are things which must be taken into consideration in determining what degree of care and precaution is requisite; in short, what degree of care and precaution would be exercised by an ordinarily careful and competent physician under the same or similar circumstances; such care is that which the law requires.

The physician also impliedly contracts with his patients that in all cases of doubt he will use his best judgment. This requirement is one which inures to the benefit of both the physician and patient. The physician is confronted by a complicated and serious case, perhaps one in which the recognized remedies cannot be used because of conflicting tendencies, or because of the peculiar condition of the patient, or perhaps because of an idiosyncrasy. At such a time, when the physician cannot act by precedent, but must do the thing, and perhaps without time for reflection, which his judgment tells him is best under the circumstances, it can but be of great comfort to him to know that if he uses his best judgment he is doing all that the law requires, and this knowledge will in turn leave the physician's mind as free as possible from worry and dread lest the results be deleterious, and so secure to the patient the very best services the physician is capable of rendering.

The physician must not, however, presume too much upon the "exercise of his best judgment," for its exercise is always based upon the possession of professional knowledge and skill without which there can be no "best judgment." In a case in which the diagnosis would leave no question in the mind of a capable and competent physician as to the patient's condition, and in which the method of treatment for that condition is well recognized and generally accepted by the profession, a departure from the established practice would be at the physician's peril.

The foregoing obligations of the physician are unaltered by the fact that his patient may be a charity patient, or that he may intend to make no charge; the only thing necessary to bring all these implied obligations into full force and effect is that the relation of physician and patient exists.

It will be seen that the physician does not impliedly contract that he will cure or even benefit his patients, but merely that he has reasonable and proper skill and knowledge, that he will exercise ordinary and proper care in the treatment of his patients, and that in all cases of doubt he will use his best judgment. These are the fundamental professional requisites prescribed by the law, and the physician who possesses and exercises them in all cases calling for their exercise will probably escape legal accountability for failure to obtain favorable results from the treatment of his patients.

Possessing and exercising all of these qualities, a physician may, however, through inadvertence or indiscretion, transgress the law, or may, without an actual infraction, come so near to the line as to be subjected to the annoyance and burden of defending a suit. Thus the question has frequently arisen whether the physician was authorized to perform a certain operation, the testimony of the patient being that he was to operate only if a specified condition were found and then the extent of such operation to be limited, while the defendant's testimony is that he consented to operate only with full discretion in the matter. In such cases it is a question of fact to be determined by the jury whether the physician has exceeded his authority and is liable. The question of whether a physician was authorized to operate upon a wife has several times been the subject of litigation, the husband testifying that the operation was contrary to his express instructions, but the evidence showing that the operation was understood and approved by the wife. In such cases it has been held that the instructions of the husband were immaterial, the wife having full authority to assent to and authorize an operation upon herself in the face of her husband's protests. And so a physician has been subjected to suit when he was called by one of his regular patients to examine a domestic for the purpose of ascertaining whether the domestic was pregnant, the domestic at first objecting to the examination, but finally submitting, though unwillingly.

The performance of an autopsy without consent from the party having authority to consent, has also been the subject of suits prosecuted successfully against physicians. The law is very strict in prohibiting such operations except when the decedent's condition was such as to render an autopsy necessary to determine the cause of death; and even in such cases the cautious practitioner will either procure consent to open the body, or, if practicable, turn the case over to the coroner. The parties from whom such a consent is properly obtainable are: first, the husband or wife of deceased; second, if no husband or wife survives, then the children; third, if there is no husband or wife and no child, then, first, the father, second, the mother; fourth, after them the brothers and sisters of the deceased; fifth, after them the next of kin according to the common law, to the remotest degree, according to the law of descent of personal property.

A peculiar case of liability arose some years ago in which a physician took a young unmarried man to a house where he was called to attend a confinement case, the circumstances being such that it would have been difficult if not impossible for the physician to have reached the house of the patient without the help and company of the young man. There being but one room in the house, the young man remained in that room with the patient and was present when she was delivered, the patient and her husband believing, as they testified, that the young man was a medical student. For this act the court severely censured the physician and affirmed a substantial verdict rendered by the jury.

The civil liability is not the only penalty which may flow from acts of mere inadvertence and indiscretion; such acts are frequently the foundation upon which criminal prosecutions and sometimes convictions are based. The space allotted to this article will not, however, permit the consideration of this phase of the physician's liability.

The physician having been called to attend a patient, and having responded, it becomes pertinent to inquire what rights inure to him by virtue of such professional relations and how he may, in case of necessity, enforce them.

Upon responding to a call to attend a patient the physician thereby becomes entitled to the regular fees for making a call, even though the patient may

have so far recovered from his illness as to render the visit unnecessary or even though another doctor may have been subsequently called and rendered the desired services, there being no question of negligence or delay precluding the right to such fee. He also becomes entitled to a like fee for each subsequent visit which, by reason of the character of the case, he deems it necessary to make.

The amount of fee to which a physician becomes entitled by reason of such attendance is a matter governed by custom and practice, the custom of the particular locality governing. If the customary price for a visit is one dollar, then a physician who, in response to a request for services, calls upon a patient with no understanding as to the amount to be paid or received, becomes entitled to one dollar. If any physician should be dissatisfied with such rate he could, of course, by express understanding or agreement with his patients, fix a rate to suit his ideas.

The rate of fees for performing operations is also subject, to a certain extent, to the custom of the locality, though the character of this class of work is such that the price cannot be thus regulated to such a degree as the fees for ordinary medical attendance. An exception to the rule that local rates for fees, in the absence of express agreements fixing other rates or amounts, binds the physician, is found in cases in which physicians or surgeons from a distance are called because of their peculiar fitness to attend or operate upon a patient. In such case the fee chargeable is properly based upon the rate usually charged by such physician or surgeon.

In case of consultation, the patient without express agreement becomes liable to pay the consultant's fee; and this rule is so firmly established that an agreement between the patient and the attending physician that the attending physician will pay such fee will not release the patient from paying the consultant unless the consultant is informed of such arrangement.

The physician having earned a fee and having had his request for payment refused, it becomes necessary to determine whether to resort to suit to enforce the payment. To determine this question it is necessary to consider the several steps of making proof and the several questions which may be raised.

First, is the physician a legally qualified practitioner? In all States where the question has been passed upon except the State of Missouri, it is held that one not a legally qualified practitioner may not sue; therefore a negative answer to this question, except as to one practising in Missouri, is equivalent to the determination that there is no cause of action, and such disability to recover applies not only as to professional services but as well to claims for medicines furnished to the patient.

The foregoing question having been answered in the affirmative, it then becomes necessary to determine whether the claim is barred by the statute of limitations. As these statutes differ more or less in the several States, this question can be answered only by recurring to the statute of the particular State in which the cause of action accrued.

The next step is the matter of proof of the physician's license. This is a technical matter which may best be left entirely to the counsel.

The next step is the proof of employment: if the physician is employed by the party to whom the services are rendered or by a party who is under obligations to provide medical services for the patient, then proof of such employment is not necessary. Under such circumstances proof that the services were rendered and accepted will be sufficient; but if the employment is by some third person who is not primarily liable for the services rendered, this step in the case is very important and the character and sufficiency of the proof are matters to be submitted to counsel.

The next step in proving the claim is to show the services rendered; this is a step which is frequently if not usually fraught with difficulty.

Laws have been enacted in many States to the effect that a physician shall not be permitted to testify to information which he shall have acquired in attending a patient in a professional capacity and which shall have been necessary to enable him to act in that capacity. Among these States are: Arizona, Arkansas, California, Idaho, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, Nevada, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Utah, Washington, Wisconsin, and Wyoming. This inhibition, it is held, is not waived by a plea of general denial on the part of the defendant, the effect of which is to render it necessary for the physician to prove all of the facts upon which he is to recover. This places the plaintiff in a trying situation, where he cannot testify with any degree of detail regarding the services rendered, and yet he must prove the rendering of the services or fail in his suit. Under such circumstances he will, to use the words of Mr. Justice Hait of the Court of Appeals of New York, be permitted to "testify to his employment, the number of visits made, to the examinations, prescriptions and operations, and if the defendant objects to his describing them, he may testify as to their value."

In giving testimony in proof of the services rendered it will be difficult, if not impossible, when considerable time has elapsed since the rendering of such services, for the physician to testify with sufficient certainty and accuracy as to the items of service, without having recourse to his books of account. At such times, if he made or saw the entries made in his books of account when the facts were fresh in his mind, and remembers that it then stated the facts correctly, he may refer to the books to refresh his memory. Subject to certain limitations, the books in most of the States are themselves admissible as evidence of the facts stated in them. This is, however, a matter which is subject to limitations and rules differing more or less in the several States; for instance, in New York the books of account of a physician will be admitted as evidence, there being no objection to them upon the ground that they disclose privileged communications, upon his showing them to have been his regular books of account, that he kept no clerk who was familiar with his business and competent to testify regarding the facts stated in the books, that some of the work or services charged was performed, and that he kept correct accounts. In many of the States it is necessary that the books shall be books of original entry. The question of admissibility of evidence in support of the physician's claim is a technical one upon which counsel must pass, therefore it is not thought advisable to go into the question in great detail. A few words may, however, well be devoted to the manner of keeping books of account. It may upon the trial be necessary to state more or less particularly the nature of each service rendered, therefore the book of original entry should be so kept that by referring to it years after the services charged were rendered, the physician may be able to testify particularly as to each item, and if permitted, describe the character of the services rendered. It must be remembered, however, that in most States information gained while attending the patient professionally is

not permitted to be disclosed in court, therefore in such jurisdictions a book of accounts, which plainly and explicitly states the character of ailment for which the patient is treated, will manifestly be inadmissible. It has been suggested by the writer of this article* that this difficulty may be overcome if the physician will adopt a code of arbitrary signs and characters whereby he may be able to describe the ailments of his patients and the character of the services rendered to them in such a way that this portion of the information contained in the book will be wholly unintelligible to all others than himself, and therefore not subject to the objection that it discloses confidential communications. If the accounts be kept in this way, each item being charged separately under the date upon which the service was rendered with a specific sum charged after such item, then the book will be admissible to show dates and amounts, and may also be used on trial by the physician for the purpose of refreshing his memory, and enabling him to testify in detail so far as the law of the particular State will permit.

The foregoing anticipates that the party against whom the suit is brought is still living. Should he be dead and a suit against his estate become necessary, the situation becomes further complicated by the fact that the physician will not be permitted to testify as to any transaction with deceased, relative to the subject matter of suit. In such a case, there will be nothing for him to do but submit his books and corroborate them by the testimony of some one else, and indeed, whether the books will be admitted in such a case is not clear, there being conflicting decisions upon the question. When the books are held admissible, and are not so kept as to show the nature and date of each service rendered and amount payable therefor, or when such information is partly recorded in characters unintelligible to others than the physician, then they are subject to the objection that they are too indefinite to prove the account, and are of no value except when supported by strong corroborating evidence. If, on the other hand, the books contained all of these necessary facts in characters intelligible to the court, they would, in States recognizing professional communications as privileged, be wholly excluded upon objection by the opposing party. In cases of this sort the person most frequently capable of corroborating the physician's books and testimony is his wife; but is her evidence competent? At common law the wife was not permitted to testify for or against her husband in a suit to which he was a party. This rule is now altered by statute in most States but still remains the law in a few. In those States in which the wife is competent as a witness under ordinary circumstances, the courts are divided upon the question whether she will be permitted to testify when the other party to the suit is dead or insane, the courts of Maryland, Mississippi, New Hampshire, and New York holding that she will; the court of Nebraska indicating that such ruling will be accepted; the courts of Illinois, Indiana, Iowa, Maine, Pennsylvania, and West Virginia holding that she will not be permitted to testify.

Fortunately it is infrequent that suit must be resorted to for the collection of claims from the estates of decedents, but to collect a claim from such estate it is usually necessary to comply with the practice and forms of the particular jurisdiction in which the estate is being administered.

The limits of this article will permit of but a brief outline of the method of presenting a claim for payment and a hasty examination of the considerations to be entertained in determining whether to resort to suit.

Ordinarily the first step in the administration of an estate is the application for letters of administration, or, where there is a will, the application for probate and for letters testamentary. Upon the issuance of letters of administration or letters testamentary it is proper for the claimant to present his claim to the administrator or executor as the case may be. Shortly after issuance of letters to the administrator or executor he may, and usually does, under direction of the court, advertise for the presentation of claims against the estate, fixing a date within which all claims shall be filed. In some jurisdictions all claims which are not filed within the time limit are forever barred, while in other jurisdictions such claims merely forfeit the right to share in the first distribution of assets, but may follow any remaining assets.

The manner of preparing the claim for presentation should next be considered. The required form is not the same in all States, yet if the physician will prepare his claim after the following directions it is believed that he will have complied with the strictest requirements of any State. The claim should be reduced to writing and should describe the general nature and amount and value of the services with as much particularity as possible. If a note or other instrument has been given, then a copy of it should be attached. Claims for services should be verified on oath, the oath containing substantially the following:—that claimant is a physician and surgeon, and has been duly licensed under the laws of the particular State to practise medicine and surgery; that the annexed account was for professional services rendered to decedent or to some one for whose medical attendance he may have been responsible, as the case may be; that the amount owing for such services is————dollars, which is a true and just indebtedness after allowing all true and just credits, deductions and set-offs, and it is now due and unpaid.

The claim having been presented it will then be acted upon by the executor or administrator, who will allow it in whole or in part, as he is convinced of its validity and justness, or will reject it as a whole. If rejected, it is in most States, provided by statute that the claim will be barred in a short period of time, ranging from three months to one year, within which time claimant may commence suit on the claim.

Among the questions to be considered in determining upon the advisability of suing such a claim are: First, whether the claim is a valid claim against the estate. This is a question involving the consideration of the many defences which may be raised by a living defendant, and a few others which peculiarly appertain to claims against estates of decedents. For instance, the physician's bill for services rendered a deceased wife should be paid by the husband and cannot be enforced against the wife's estate unless it be shown that the husband has no property with which to pay the claim; or when services were rendered without intention of charging therefore, the physician expecting that he would receive a legacy sufficient to compensate him for all such services, the failure to receive such legacy will not enable him to maintain a claim against the estate. If, however, when such services are rendered there is a mutual understanding that the physician is to be compensated by legacy, then the failure to make such bequest will enable the claimant to maintain a claim for such services. Also in case of services rendered to members of one's family, there is a presumption that they

*The Law in Its Relations to Physicians, p. 204.

were gratuitious, but this presumption may be overcome by proof that the services were rendered under an understanding that they were to be paid for, or under such circumstances as to show that when they were rendered the parties contemplated a pecuniary compensation therefor. This presumption becomes weaker as the relationship of the parties becomes more distant.

Second, whether the claim is susceptible of proof. The law relating to this question has been heretofore examined.

Third, the solvency of the estate. At common law claims presented against an estate and allowed were payable in the following order: (1) The necessary funeral expenses. (2) The necessary expenses of administration. (3) Debts of record due the crown. (4) Debts of record due the subjects, which include judgments, decrees, statutes, and recognizances. (5) Debts by specialty founded upon a valuable consideration, that is those debts arising out of contract under seal. (6) Simple contract debts based upon valuable consideration. (7) Voluntary bonds or covenants. (8) Other voluntary debts. According to this scheme it will be observed that the physician's bill would belong to the sixth class unless he had secured a bond in liquidation of the account, in which case it would be advanced to the fifth class, or unless he had reduced it to judgment, when it would become a claim of the fourth class.

This order has, however, been altered in every State, the most common order now existing being the following: (1) Funeral expenses. (2) Expenses of administration. (3) Expenses of last illness. (4) Judgments (abolished in a number of States). (5) Public debts (this in many States has a prior rank in the scheme). (6) Simple contract liabilities.

If an estate is solvent it will, of course, pay all of the claims of all of the classes, but in case it is insolvent, then it will pay the classes in their order to the full extent of the available assets, the class last reached receiving whatever there may be left and all of the creditors of that class getting a *pro rata* share of such amount. Therefore in determining the question of solvency, so far as the particular claim is concerned, it is necessary to determine, first, the class to which it belongs, and, second, whether there are assets enough to pay all of the claims of that and the preceding classes.

It will be observed that the scheme adopted by most of the States recognizes a class not recognized by the common law scheme, that is, the "Expenses of the last illness." The question of what constitutes the expenses of the last illness is often a very nice one and one which has given rise to many bitter contests. The general tendency of the courts is, however, to recognize all services rendered to the patient in attendance upon him for the disease of which he died as "expenses of the last illness," even though such attendance may have extended through a long period of time. In some cases, courts and juries have gone so far as to hold that services rendered through the year preceding death were "expenses of the last illness."

All of these questions being answered in the affirmative, the physician is then justified in determining to enforce his claim by suit, but as the consideration of some of these questions requires the exercise of judgment, fortified by an understanding of the technicalities of the law, the conclusion should be reached only after a conference by the physician with his counsel, in which all of the facts and circumstances are fully and frankly laid before the counsel.

12 Nassau Street.

STATE MEDICAL PRACTICE LAWS.

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GYNECOLOGIST TO THE DEMILT DISPENSARY.

The medical student, after four years of hard work, and passing his examinations, receives his diploma and becomes a Doctor of Medicine. It is somewhat humiliating to him to find that this diploma and title give him absolutely no right to practise medicine. He has now to satisfy the requirements of the Board of Examiners of the State in which he desires to locate. These State boards are very necessary, and, serve a threefold function: (1) To protect the public from quacks; (2) To conserve the interests of the practitioners already settled in the State; (3) to keep out incompetent practitioners.

The requirements of these State boards may be classified under four heads: (1) General and Preliminary, dealing with age, moral character, residence, and possibly citizenship in the United States; (2) Preliminary or Academic Education; (3) Medical Education; and (4) The Medical Examination that has to be passed.

The requirements under (1) generally give no trouble. (2) *General Education;* This differs very materially in the various States and Territories. Some States require either an academic degree, or at any rate a full four-years' course in a high school or substantial equivalent; while other States are content with legible handwriting and fair spelling. (3) *Medical Education:* The requirements here are nearly as varied as those for the preliminary education. Most of the States now require a full four-years' course in a first-class medical school; some States still require only three years; one of two States seem content with even less; and it would be hard to say with how little real medical education a license could be obtained, if only due care were observed in the selection of the State in which to practise. (4) *The Examination:* Every State has its own idea of what is right and proper here. In most of them a good, fair, practical examination is put up; and a properly qualified student will have no difficulty in passing it. The number of papers may vary anywhere from half a dozen to a score, but it is not to be inferred that the examination in the State with twenty papers is more difficult than that in the State with only six. Some State boards manage to compress all the main subjects of a medical education within the compass of from seven to ten papers; while others delight to spread themselves out, and set a separate paper on every specialty, as if they were making a bid for universal specialists.

If at any time the practitioner wishes to move from one State to another, he has again to satisfy the medical examiners of the State he desires to enter. Though at first sight this seems an intolerable hardship, it will, on a careful investigation of the facts mentioned above and a perusal of the various requirements given below, appear no more than right. Naturally, the States whose requirements are the most slender, are eager to "exchange" or "reciprocate" with those that require more. Reciprocity will come, sooner or later, but the problem is a large and complex one, and this is not the occasion on which to discuss it.

The object of this paper is to place before practitioners a résumé of what the different States require. The information given will be on the four topics stated above, with further mention of any reciprocity that may exist between the different States. All points bearing on the laws governing the constitution of the Board of Examiners, whether the members are appointed by the governor of the State or by the medical societies, prosecution for

illegal practice, etc., will be omitted, as not of general interest.

As a general rule, the student who has taken an academic course for four years in a high school and then spent four years of medical study in a recognized medical college, will have no difficulty in gaining admission in any State. Those who have not this standard of qualification will see what States they had better avoid.

The information given is, as far as possible, up to date, but, in every case, would-be applicants should apply to the secretary for the latest requirements and at the same time try to obtain samples of the questions that have been used on former occasions. These questions will show the scope of the examination better than anything else.

Passing examinations is a kind of gymnastics that belongs to youth, and to youth only. These examinations should be taken at the earliest possible date. The day a man leaves college he has, probably, more of that class of "knowledge" which delights examiners and is of little use to anyone else, than he is ever likely to be possessed of again.

A word about preparation for these examinations. The recent graduate has modern books, and in all probability he will experience no difficulty in reviewing the various subjects required of him. If he has neglected some subjects (say anatomy and chemistry) for a couple of years, he will certainly have to go over them carefully. So, too, if the State board that he has to face is one that peddles out all the specialties over quite a series of papers, he will need some reliable guide to steer him past that portion of the track.

The practitioner who has exchanged vast quantities of theoretical knowledge carefully acquired at college, for the more useful but (to examining boards) less satisfactory practical knowledge, will need all the help he can get; and to some or all of these classes, the following list of books will probably be of service. In compiling this list, we are mindful of the fact that many men have as good and perhaps even better books with which they are already familiar; such men would be unwise to exchange the tried and trusted for the new. But those who are rusty, or who have but little time, will find here books which the writer has proved, from a five-years' experience in preparing men for these examinations, to be admirably adapted for the purpose. In every case the smallest book compatible with safety has been mentioned. It is well to remember that many books, very serviceable to the practitioner, are almost useless for examination purposes. For the benefit of students and practitioners preparing for examination, the present writer has compiled a series of volumes of questions and answers covering nearly all the subjects required; this is referred to as the State Board Examination Series,

Anatomy,	Nancrede's Compend, or Potter's Compend.
Surgical Anatomy,	Treves.
Physiology,	Kirkes.
Chemistry,	Bartley, or Simon.
Surgery,	DaCosta, or Rose and Carless.
Obstetrics,	King, or Warren.
Practice,	French, or Hughes, or Stevens.
Pathology,	Green or Thayer.
Hygiene,	Egbert.
Medical Jurisprudence,	Chapman or Reese.
Toxicology,	See Chemistry and Medical Jurisprudence.
Gynecology,	Penrose.
Bacteriology,	Archinard.
Eye,	May, or Gould and Pyle's Compend.
Ear,	Buck's First Principles.
Nose and Throat,	Coakley.
Skin,	See Practice (Hughes or Stevens); or Schamberg's Compend.
Diagnosis,	Gibson and Russell, or Hare.
Materia Medica and Therapeutics,	Hare, or Stevens, or Potter.
Histology,	See Physiology.
Nervous,	See Practice.
Mental,	Hughes' Practice.
Physics,	Brockway.
General,	The State Board Examination Series, referred to above or Gould and Pyle's Pocket Cyclopedia.

Résumé of the Requirements in the Different States and Territories.

Alabama.—All persons proposing to practise medicine in this State must undergo examination, irrespective of any diploma they may hold or certificate obtained elsewhere. Applicants can be examined either by the State Board of Examiners or by a county board of examiners. Non-graduates can be examined only by the State board, but graduates of medicine can be examined by either State or county board.

In order to appear before a county board of examiners an applicant must hold and present a diploma from a reputable medical college, the State Medical Association determining the question of reputability. Non-graduates can be examined, but they must apply to the State board. An applicant rejected by a county board cannot obtain a second examination by the same or any other county board until after the lapse of twelve months, but he may forthwith appeal to the State board and obtain a new examination.

The examination is in writing, and comprises the following subjects: Chemistry, Anatomy, Physiology, Etiology, Pathology, Symptomatology and Diagnosis of Diseases, Obstetrics and Obstetrical Operations, Gynecology, Minor and Major Surgery, Physical Diagnosis, Hygiene, and Medical Jurisprudence. In order to pass the examination, the candidate must obtain a general average of 75 per cent.

An examination by a county board can be obtained at any time; examination by the State board can be obtained by applying at the office of the State Board of Health, Montgomery, between the first and sixth of any month.

The fee for the examination is ten dollars, and for registration, one dollar.

There is no reciprocity.

Chairman of the State Board of Medical Examiners is W. H. Sanders, M.D., Montgomery, Ala.

Alaska.—There is no medical-practice law in this territory, the only restriction being that itinerant physicians must pay a license fee of $50 a year.

Arizona.—Every applicant must be over twenty-one years of age, of good moral character, and a *bona-fide* resident of Arizona. A recent law provides that no person shall receive a license to practise medicine within the territory unless he or she shall have: *First:* Obtained a diploma to practise medicine, regularly issued by a lawfully organized medical college, and, *Second:* Obtained a certificate entitling him or her to practise medicine, as prescribed in the Revised Statutes of Arizona, 1901, or shall have passed a satisfactory examination prescribed by the provisions of an act to regulate the practice of medicine in the Territory of Arizona, approved March 18, 1897; or, *Third:* Practised medicine within the Territory of Arizona continuously for five successive years preceding the date fixed for the taking effect of this act; or, *Fourth:* Upon examination by the Board of Medical Examiners of Arizona, shall show to the satisfaction of the board that he or she possesses sufficient knowledge and skill to practise medicine.

All recent graduates will have to pass the examination.

Examinations consist of five or ten questions each in Anatomy, Physiology, Chemistry, Materia Medica and Therapeutics, Obstetrics, Gynecology, Practice, Pathology, Surgery.

The applicant must obtain a total average of 80 per cent., provided that in no branch shall the percentage be less than 70, except in Practice, Obstetrics, Gynecology and Surgery, in which branches the minimum is placed at 85 per cent. The fee for examination is $10 and for license $2.

Examinations are held at Phœnix, on the first Monday of January, April, July, and October.

Secretary of the Board of Medical Examiners, Wm. Duffield, M.D., Phœnix, Ariz.

Arkansas.—Applicants must be of the age of twenty-one years and must pass an examination in the following subjects: Anatomy, Physiology, Chemistry, Materia Medica and Therapeutics, Surgery, Practice of Medicine, and Obstetrics. The questions are elementary and practical. If, in the opinion of the board, the applicant possesses the necessary qualifications, a certificate will be issued to him. The fee for examination and registration is $10.

Examinations are held four times a year, on the second Tuesday in January, April, July, and October; and at such places as a majority may agree upon.

Secretary of Board of Examiners, Dr. J. P. Runyon, Little Rock, Ark.

California.—"The medical law and the rules of the Board of Medical Examiners require an applicant to possess a diploma issued to him by a legally chartered medical college, the requirements of which are in no particular less than those prescribed by the Association of American Colleges for that year. The applicant must produce to the board such a diploma, and an affidavit stating that he is the lawful possessor of said diploma. Such affidavit must be taken before any person authorized to administer oaths (blanks will be furnished by the secretary of the board). The applicant must furnish satisfactory testimonials of good moral character. In addition to the above, every applicant must be examined on Anatomy, Physiology, Bacteriology, Pathology, Chemistry and Toxicology, Surgery, Obstetrics, Materia Medica and Therapeutics, Theory and Practice of Medicine. There will be not less than ten questions on each subject. The examination must be in whole or in part in writing, and in the English language. A general average of 75 per cent. must be attained." The fee is $20.

Examinations are held on the first Tuesday of April, August, and December, in San Francisco.

Reciprocity, none.

Secretary of the Board of Medical Examiners, George G. Gere, 825 Market Street, San Francisco, Cal.

Colorado.—Graduates of recognized medical schools are registered without examination. For definite information as to what schools are recognized apply to the secretary. Those graduating after 1899 must have had a full four-year course in a medical college with the standard of requirements recognized by the Association of the American Colleges. Physicians possessing such qualifications, in order to practise medicine in Colorado, must appear in person before some member of the Board of Examiners (preferably the secretary) and fill out an official application. This must be sworn to before a Colorado notary public, or the president of the board, and sent, together with his diploma and the fee ($5), to the secretary of the Board at Denver for filing and presentation to the board at their next regular meeting. Applicants must produce documentary evidence of general preliminary education, equal to a four years' high-school course.

For other physicians, and undergraduates, there will be an examination in Anatomy, Chemistry, Physiology, Pathology, Surgery, Practice of Medicine, and Obstetrics. The fee for the examination is ten dollars.

Regular quarterly meetings of the board are held at Denver on the first Tuesday of January, April, July, and October; examinations are held at the office of the secretary, two weeks prior to the regular quarterly meetings of the board.

Reciprocity, none,

Secretary of State Board of Medical Examiners, S. D. Van Meter, M.D., Denver, Col.

Connecticut.—All candidates must be graduates of some reputable medical college and must present their diplomas (or a certificate from the dean of the medical college) for inspection, to the secretary of the board at the opening of the session. All candidates must undergo the regular examination conducted in writing, and consisting of ten questions each in Anatomy; Surgery; Materia Medica, including therapeutics; Practice, including pathology and diagnosis; Obstetrics, including Gynecology; Physiology; Medical Chemistry, and Hygiene. In order to be admitted to practise, the applicant must obtain a general average of 75 per cent. In no branch shall his percentage be less than 60, and in Practice, Obstetrics, and Surgery, the minimum requirement will be 65 per cent." The examination fee is $15.

Examinations are held on the second Tuesday of March, July, and November, at the City Hall, New Haven, Conn.

Reciprocity is permissible with States in which the examination is of the same kind and of as high a grade as that of Connecticut.

Secretary of the Medical Examining Committee, Chas. A. Tuttle, M.D., New Haven, Conn.

Cuba.—The graduate of a foreign school must present his diploma for registration to the medical department of the University of Havana. If this diploma is approved the candidate will be admitted to examination upon payment of a fee of $35. The applicant must undergo a theoretical examination, in which the professors constituting the board may question him, *ad libitum*, upon all matters that are subjects of study in the University course of medicine. The following day the examination will consist of two parts: The first part will consist of the clinical examination of a patient, in whose case the applicant must make a diagnosis, in the presence of the board, as well as a prognosis and plan of treatment. In the second part he must describe the method of performing an operation, selected by chance from the "*Cuestionario de Medicina Operatoria*" used in the examination for the degree of licenciate in medicine, in accordance with existing rules. The last part of the examination will take place on the following day and will consist of the writing of a thesis upon a subject selected by lot from ten proposed by the professors. For the preparation of this thesis, he will be allowed five hours, during which he must not communicate with any one, the board taking such measures as it may deem necessary to secure this end. After writing this thesis, the applicant must read it before the board, three members of which, designated by the president, will question him in regard thereto. When this last part of the examination shall have ended, the board will declare the candidate either "Admitted" or "Rejected."

The examinations, both oral and written, must be in the Spanish language, or through an interpreter. In the latter case the interpreter will be entitled to a fee of $15. The department in charge

of public instruction will issue to such person as may pass this examination a degree, in the same form as that issued to graduates of the University of Havana, but stating therein that it has been obtained by examination, on presentation of a foreign diploma. The degrees so issued shall have the same legal status as those issued to the graduates of the University of Havana.

Secretary of the Faculty of Medicine and Pharmacy in the University of Havana, Dr. Hernando, Havana, Cuba.

Delaware.—"Applicants must furnish satisfactory proof of good moral character, be more than twenty-one years of age, possess a good English education, and have a diploma conferring the degree of doctor of medicine, from some incorporated medical college; which diploma must be presented to the secretary of the medical council, or the secretary of the examining board before which the candidate is to appear for examination. Applicants who have received their degree since the passage of this act, must have pursued the study of medicine for at least four years prior to the granting of this diploma."

The examinations are written, and comprise the following subjects: Anatomy, Physiology, Hygiene, Chemistry, Surgery, Obstetrics, Practice of Medicine, Pathology, Diagnosis, Therapeutics and Materia Medica. An average of 75 per cent. is required in order to pass the examination. The fee for the examination is $10.

Reciprocity is permissible with other States having requirements practically the same as those of Delaware. At present reciprocity exists with New Jersey and Maryland.

Examinations are held at Dover, twice a year, on the third Tuesday in June, and the second Tuesday in December.

Secretary of the Medical Council, P. W. Tomlinson, M.D., Wilmington, Del.

District of Columbia.—Applicants must be of good moral character. Only those who hold the degree of doctor of medicine are admitted to examination. Those who have received such degree before June 30, 1898, must have studied medicine not less than three years, and those who have received it after that date must have studied not less than four years, before graduation. The examination is both written and oral. It includes Anatomy, Physiology, Chemistry, Bacteriology, Pathology, Materia Medica and Therapeutics, Hygiene, Histology, Practice of Medicine, Surgery, Obstetrics and Gynecology, Diseases of the Eye and Ear, Medical jurisprudence, "and such other branches as may be from time to time determined by the Board of Medical Supervisors."

"A general average of 75 per cent. will entitle the candidate to a license if in no section the percentage be less than 50; a candidate having a general average of 75 or more, and having attained less than 50 in a single section, may, upon his request, be granted an immediate reëxamination in that section. If, however, a candidate have less than 50 per cent. in more than one section, or less than 33.3 in any section, his application will be rejected, no matter what may be his general average." The fee for the examination is $10.

Examinations are held quarterly, on the second Thursday in January, April, July, and October.

Reciprocity, practically none. "The Board of Medical Supervisors of the District of Columbia will reciprocate with any State or Territory, the medical law of which grants to licentiates of the Board of Medical Supervisors of the District of Columbia rights and recognition in such State or Territory equal to the rights and recognition grantable reciprocally to the licentiates of such State or Territory."

Secretary of Board of Medical Supervisors, Dr. W. C. Woodward, Washington, D. C.

Florida.—Applicants must present a diploma from a recognized medical school, and also pass an examination in the following subjects: Anatomy, Physiology, Surgery, Gynecology, Obstetrics, Chemistry, Therapeutics. There are nine examining boards in this State, one for each of the seven judicial districts (and one each for the Homœopaths and Eclectics). Each of these seven boards has its own standard for examinations. Fortunately a certificate from any one of these boards is recognized by the other boards. The fee for the examination is $10.

Reciprocity, none.

Examinations are held twice a year.

Secretaries of the State boards: First Judicial District, Dr. Louis de M. Blocker, Pensacola, Fla. Second, Dr. J. F. Williams, Monticello, Fla. Third, Dr. J. A. Townsend, Lake City, Fla. Fourth, Dr. J. H. Durkee, Jacksonville, Fla. Fifth, Dr. G. E. Welch, Palatka, Fla. Sixth, Dr. L. A. Bize, Tampa, Fla. Seventh, Dr. R. L. Harris, Orlando, Fla.

Georgia.—All applicants must be graduates of an incorporated medical college, requiring not less than three full courses of study of six months each. Applicants must pass a satisfactory examination on Anatomy, Physiology, Chemistry, Surgery, Obstetrics, Gynecology, Practice, Materia Medica and Therapeutics, Diagnosis. An average of 75 per cent. is required. The fee for the examinations is $10; but a candidate who has failed in his examination can take any subsequent examination without paying an additional fee.

Examinations are held twice a year, the first about the time of graduation from the medical colleges of the State, the other on the second Tuesday in October.

Reciprocity, none.

Secretary of the State Board of Medical Examiners, I. H. Goss, M.D., Athens, Ga.

Hawaii.—Applicants must pass an examination before the Board of Medical Examiners. The examinations are practical and are designed to demonstrate the applicants' fitness to practise medicine, or the reverse. The questions are principally upon Practice, Surgery, Obstetrics, Gynecology, Anatomy, and Physiology; although a question or two may be asked upon Histology and Chemistry. The fee for the examination is $10.

There is no reciprocity.

Chairman of the Board of Medical Examiners, C. B. Wood, M.D., 166 Beretania Street, Honolulu, Hawaii.

Idaho.—Applicants must be of good moral character, citizens of the United States, or have declared intention of becoming such, and must be graduates of a recognized reputable medical college in good standing and must present their diploma to the board for inspection. Every applicant must be examined. "The examinations are wholly in writing, and embrace the following twelve branches or subjects, with ten questions on each subject, viz., Anatomy, Physiology, Chemistry and Toxicology, Materia Medica and Therapeutics, Diagnosis, Theory and Practice, Hygiene, Obstetrics, Gynecology, Surgery, Pathology, and Histology. A general average of 75 per cent. is required by law to entitle applicant to receive a license. "The fee for examination is $25.

Examinations are held twice a year, the first Tuesday in April and October.

Reciprocity, none.

Secretary, State Board of Medical Examiners, Dr. R. L. Nourse, Hailey, Idaho.

Illinois.—Applicants must be of good moral crhacter. All applicants must present a diploma from some medical college or institution in good standing with the Illinois State Board of Health. Applicants must, further, pass the examination of the board. At present the examination consists of the following subjects: Anatomy, Chemistry, Gynecology, Hygiene, Materia Medica and Therapeutics, Medical Jurisprudence, Obstetrics, Pathology and Bacteriology, Practice of Medicine, Physiology, Surgery. Ten questions are asked on each subject. Applicants must obtain a general average of at least 75 per cent. The fee for the examination is $10. If the applicant is successful a further fee of $5 is charged for certificate of license to practise.

Examinations are held in Chicago quarterly.

Reciprocity: "Applicants who have been examined and licensed by other State examining boards having, at the time of examination, standards not lower than those required by the State Board of Health of Illinois, will be granted certificates without examination, if the Examining Board in question will recognize the certificates issued by the Illinois Board, under the provisions of the act now in force. The Illinois State Board of Health now reciprocates—in the case of licenses issued on examination—with Maine, Michigan, Nebraska, New Jersey, Ohio, Virginia, and Wisconsin, and probably Iowa and Kentucky." (Report of Illinois State Board of Health.)

Secretary State Board of Health, Dr. J. A. Egan, Springfield, Ill.

Indian Territory.—*Cherokee Nation.*—Applicants must present a diploma from a reputable and recognized medical school, and must be examined by the Board of Examiners. (There is one board for each supreme judicial district.) The fee for the examination is $10.

Examinations are held every three months.

Choctaw Nation.—Applicants must present satisfactory evidence of good moral character from "four or more citizens of the nation of good standing, to whom the applicant is known." Applicant must, further, either present a diploma which is satisfactory to the board; or must pass a satisfactory examination before the board. The fee for the examination is $25.

Muskogee or Creek Nation.—Graduates of medicine file their diploma with the board, and if satisfactory a license is granted which entitles the applicant to practise. Fee, $5. Non-graduates must submit satisfactory proof of moral character, and pass an examination before the board. The fee for the examination is $25.

Indiana.—Every applicant must be a *bona-fide* resident of the county and State. Applicants must be graduates of a medical college recognized as in good standing. An examination is required of all applicants, with the following exception: "The only applicants exempt from examination are the graduates of reputable medical colleges located in Indiana, who matriculated therein prior to January 1, 1901, and graduated therefrom, and make application for registration prior to January 1, 1905." Fee, $10.

After January 1, 1905, an examination will be required of all candidates. The subjects for examination are Anatomy, Physiology, Obstetrics, Gynecology, Materia Medica, and Therapeutics, Theory and Practice of Medicine, Chemistry, Surgery, Pathology, Bacteriology, Hygiene, Histology, Rhinology, Medical Jurisprudence, Ophthalmology, Otology, Laryngology, and Dermatology. The examination begins the second Tuesday in January and July. Applications for examination, accompanied by diploma and fee, $25, should be on file in the office of the board at least five days prior to the date of examination. To pass the examination a candidate must obtain a total average of 75 per cent. A candidate having less than 50 per cent. in one subject shall be rejected; but he is entitled to a second examination within a year without paying another fee.

Reciprocity: "Indiana is willing to reciprocate with all sister States on the following conditions, viz., 1. That the applicant for reciprocal recognition must present, or give satisfactory evidence of possessing a diploma from a medical institution that is recognized, at the time for application, by the Indiana Board of Medical Registration and Examination. 2. Acceptable proof must be furnished that the applicant has been examined by a legally constituted State board authorized to examine applicants to practise medicine and surgery." Reciprocity now exists with Michigan, Nebraska, and Wisconsin.

The Secretary of the Board of Medical Registration and Examination is W. T. Gott, M.D., Crawfordville, Ind.

Iowa.—Applicants must be of good moral character. "After January 1, 1899, no person can begin the practice of medicine in Iowa excepting upon examination; and no person will be admitted to examination except upon graduation from a medical college recognized by the board as of good standing; and no college will be so recognized by the board that does not require of those graduating after January 1, 1899, attendance upon four full courses of study of not less than twenty-six weeks each, no two of which courses shall have been taken within one year, as a condition of such graduation. The examinations are practical in character, and embrace Anatomy, Chemistry, Materia Medica and Therapeutics, Obstetrics, Pathology, Physiology, Practice, and Surgery. Ten questions are asked upon each branch, the answers to which must be written. The board requires a general average of 75 per cent. on a scale of 100. In case of failure, and reëxamination, no credit is given for percentages gained in a former examination, but the reëxamination must, as in the former one, be upon all branches." The fee for the examination is $10; in case of failure a reëxamination can be taken without payment of additional fee.

Examinations are held two weeks before the first Tuesday in February, May, August, and November.

Reciprocity has been provided for by a recent amendment to the medical law, but is not yet in operation.

Secretary of the State Board of Medical Examiners, Dr. J. F. Kennedy, Des Moines, Iowa.

Kansas.—Applicants must be of good moral character. "The basis of all registration for the practice of medicine and surgery will be a satisfactory examination by the board. All applicants must have one of the following qualifications to be admitted to the examination: (1) They must have attended a legally qualified medical school two years and have had ten years' practice, or (2) They must have attended a legally qualified medical school three years and have had five years' practice, or (3) They must have attended a legally qualified medical school four years. The board shall be the judge of what constitutes a legally qualified medical school."

The examination will be on the following subjects: Anatomy and Histology, Chemistry, Obstetrics and Gynecology, Materia Medica and Therapeutics,

Pathology, Bacteriology, Theory and Practice of Medicine, Physiology, Surgery. The fee for examinations is $15.

Examinations are held at Topeka on the second Thursday in February, June, and October.

Reciprocity, none.

Secretary of the State Board of Medical Registration and Examination, O. F. Lewis, M.D., Hepler, Kan.

Kentucky.—Applicants may receive a certificate from the Board of Health, enabling them to practise in the State, on presenting evidence of any of the following qualifications: (1) A diploma from a reputable medical college legally chartered under the laws of the State. (2) A diploma from a reputable and legally chartered medical college of some other State or country, endorsed as such by the State Board of Health. (3) Satisfactory evidence from the person claiming the same that such person was reputably and honorably engaged in the practice of medicine in the State prior to February 23, 1864. (4) Satisfactory evidence from any person who was reputably and honorably engaged in the practice of medicine in the State prior to February 23, 1884, who has passed a satisfactory practical examination before said board."

Fee for certificate, $2, and for recording, 50 cents. Non-residents of the State are not allowed to register. Reciprocity: The Board may, acting under its general powers, reciprocate with other States in which the standards are no lower than in Kentucky.

Secretary of the State Board of Health, Dr. J. N. McCormack, Bowling Green, Ky.

Louisiana.—Applicants must be twenty-one years of age, of good moral character, and possess at least a fair primary education. Applicants must also present to the Board of Medical Examiners a diploma from a medical college in good standing; such standing to be determined by the board. A satisfactory examination must be passed in Anatomy, Physiology, Chemistry, Principles of Medicine, Obstetrics, Physical Diagnosis, Surgery, Materia Medica, Hygiene. The fee for the examination is $10; in case of failure $5 only is retained. Examinations are held twice a year in New Orleans.

Reciprocity, none.

Secretary of the State Board of Medical Examiners, F. A. Larue, M.D., 624 Gravier Street, New Orleans, La.

Maine.—Applicants must be of good moral character. It is necessary to have a diploma from some reputable medical school or college, maintaining a standard of preliminary education and of medical instruction acceptable to the board. The standard of medical instruction which the board will approve is three years of medical study and three courses of lectures for those who graduated previous to 1902, and four years' study and four courses of lectures after 1901. Five years of reputable practice before 1901 will be accepted in lieu of one year's study. It is further necessary to pass an examination in Anatomy (including Histology), Physiology, Pathology (including Bacteriology), Materia Medica and Therapeutics, Practice, Surgery (including diseases of the eye and ear), Obstetrics (including Gynecology), the above in writing, ten questions on each paper; also a brief oral examination in hygiene, chemistry, medical jurisprudence, etc. A rating of an average of 75 per cent is required. Fee, $10 for examination, and $2 for certificate. Examinations are held in March, July, and November.

Reciprocity: "The Maine Board will register any person who is eligible to examination by our board and who has been examined and received a rating of at least 75 per cent. by any board that maintains a standard equal to our own and been registered by it, provided the board will accept our certificate under similar circumstances." Reciprocity now exists with Illinois, Michigan, New Jersey, and probably Ohio.

Secretary of the Board of Registration of Medicine, A. K. P. Meserve, M.D., 109 Emery Street, Portland, Me.

Maryland.—Applicants must be of good moral character, must submit evidence of a competent common-school education, and must have received a diploma from a medical school in the United States, requiring a four years' course, and recognized by the American Medical College Association or the Intercollegiate Committee of the American Institute of Homœopathy. Medical students at the end of their second year of study who have, as verified by the certificate of the dean of the college which they have attended, completed the studies of Anatomy, Physiology, Medical Chemistry, and Materia Medica in said college may be examined in these subjects. All applicants must pass an examination in Anatomy, Physiology, Medical Chemistry, Surgery, Practice of Medicine, Materia Medica, Therapeutics, Obstetrics, and Pathology. Fee, for the examination is $15. In case of failure the fee is not returnable, but the applicant is allowed a reëxamination without further fee.

Reciprocity: "The board is authorized to recognize certificates issued by other States whose requirements are of as high a standard as those of Maryland, provided such other State will, in a similar manner, recognize the certificates issued by the board of Maryland." Reciprocity exists at present with Delaware and New Jersey.

Secretary of the Board of Medical Examiners, Dr. J. McP. Scott, Hagerstown, Md.

Massachusetts.—Applicants must furnish proof of being twenty-one years of age or over, and of good moral character. A medical diploma is not necessary, and non-graduates in medicine are admitted to the examination. Examination is compulsory for all applicants. "Examinations shall be wholly or in part in writing in the English language, and shall be of a scientific and practical character. They shall include the subjects of Anatomy, Surgery, Physiology, Pathology, Obstetrics, Gynecology, Practice of Medicine and Hygiene, and shall be sufficiently thorough to test the applicant's fitness to practise medicine. When the general average of the ratings given the several sets of papers of an applicant by the individual examiners is below 70 per cent. his examination is regarded unsatisfactory. If, however, one's general average is found to be near the minimum requirement, his papers are reviewed by the board in general session, and his ratings fixed by a consensus of opinion." A person refused registration by reason of failure to pass a satisfactory examination is entitled to two reëxaminations within one year after his first failure, without filing a new application or paying an additional fee. The fee for the examination is $20.

Examinations are held on the second Tuesday and Wednesday of March, July, and November. Special examinations are also held at same time in May and September.

There is no reciprocity.

Secretary of Board of Registration, Edwin B. Harvey, M.D., State House, Boston, Mass.

Michigan.—Applicants must furnish proof of being over twenty-one years of age, and of good moral character. Each applicant must also have received previous to the beginning of his course in medicine, a diploma from a recognized and reputable

high school, academy, college, or university, having a classical course, or shall pass an examination equivalent at least to the minimum standard of preliminary education adopted by the board. Each applicant must also have received a medical diploma from a reputable college of medicine within the United States, or within any foreign nation (provided such foreign nation accord a like privilege to graduates of approved medical colleges of this State), having at least four years' course of seven months each calendar year, as shall be approved and designated by the Board of Registration in Medicine. *Exemption:* "The requirement of medical education shall not apply to those graduates of legally organized and reputable medical colleges approved by said board who had graduated from such college previous to the date of the passage of this act (September 16, 1903); and students complying with the other provisions of this section, who, on January 1, 1903, were regularly registered as students of legally organized and reputable medical colleges of this State, approved by said board, may obtain a certificate of registration as graduates of such colleges and without examination by the board upon payment of a fee of $10."

Applicants must satisfactorily pass an examination on Anatomy, Physiology, Chemistry, Pathology, Materia Medica and Therapeutics, Toxicology, Histology, Practice of Medicine, Surgery, Obstetrics, Gynecology, Mental and Nervous Diseases, Diseases of the Eye, Ear, Nose, and Throat, Bacteriology, Hygiene, Public Health Laws of Michigan, and Medical Jurisprudence. An average of at least 75 per cent. is required. The fee for examination is $25, except that graduates of any medical school in the State of Michigan, approved by the board, shall only pay a fee of $10.

Examinations are held at Lansing on the second Tuesday of June and October.

At present reciprocity exists with Illinois, Indiana, Iowa, Kentucky, Maine, Maryland, Nebraska, New Jersey, Ohio, Wisconsin.

Secretary of the State Board of Registration, B. D. Harison, M.D., Sault Ste. Marie, Mich.

Minnesota.—Each applicant is required to give satisfactory proof of age, place of residence, time and place of each course of lectures, and date of graduation. Graduates of medical colleges granting advanced standing for work done at other than medical colleges shall not be eligible to the examinations given by this board. Each applicant, if he graduated or completed his final course of lectures after January 1, 1899, must show proof that he has attended four full courses of lectures at a recognized medical college, no two courses being in the same year. Each applicant, if he graduated after July 1, 1887, and prior to January 1, 1899, or completed his final course of lectures during that period, must show proof that he has attended three full courses of lectures at a recognized medical college, no two courses being in the same year. Applicants who graduated at a recognized medical college prior to July 1, 1887, must show proof of having attended two courses of lectures at a medical college. An examination is required of each and every one on Anatomy, Physiology, Chemistry, Histology, Materia Medica, Therapeutics, Preventive Medicine, Practice of Medicine, Surgery, Obstetrics, Diseases of Women and Children, Diseases of the Nervous System, Diseases of the Eye and Ear, Medical Jurisprudence, and such other branches as the board shall deem advisable. Ten questions are given on each paper. A general average of 75 per cent. must be attained. "Handwriting of candidates must be legible, and orthography must not be such as will disgrace the medical profession." Fee for the examination is $10. This fee is not returned in case of failure.

Examinations are held at Minneapolis, on the first Tuesday of January, April, June, and October.

Reciprocity, none.

Secretary of the State Board of Medical Examiners, C. J. Ringnell, M.D., 512 Nicollet Avenue, Minneapolis, Minn.

Mississippi.—"The application for license must state: (1) The applicant's name in full; (2) his place of residence and post-office address; (3) his nativity and age; (4) the time spent by him in medical studies; (5) the name and post-office address of the preceptor under whom medical studies were pursued; (6) courses of medical lectures attended; (7) name of medical school attended; (8) if a graduate of a medical college, name thereof; (9) time spent in hospital; (10) time spent in the practice of medicine, if any; (11) school or system of practice chosen, and (12) references as to his personal character." Everyone must be examined. Examinations are in Anatomy, Chemistry, Obstetrics, Materia Medica, Physiology, Pathology, Surgery, and Hygiene. The fee for the examination is $10.25.

Examinations are held at Jackson, twice a yea on the second Tuesday in May and October.

Reciprocity, none.

Secretary of the State Board of Health, Dr. J. F. Hunter, Jackson, Miss.

Missouri.—Applicants must furnish evidence of preliminary education and of good moral character. Any student who matriculated in any medical college of the State of Missouri on or prior to March 12, 1901, subsequently graduating from a medical college in the State, may receive from the Board of Health a license to practise medicine without undergoing examination, provided that said student pays to the Board of Health a fee of $15, and presents a diploma from any medical college in the State. This became effective on June 24, 1903. All other applicants must take an examination in the following subjects: Anatomy, Chemistry, Physiology, Pathology, Therapeutics, Obstetrics, Gynecology, Surgery, Practice of Medicine, Medical Jurisprudence, Hygiene, and Bacteriology. In order to pass, an average of 75 per cent. is required. The fee for examination is $15, which entitles the applicant, in case of failure, to reëxamination within one year without paying an additional fee.

Examinations are held quarterly.

Reciprocity, none.

Secretary of the State Board of Health is Dr. W. F. Morrow, Kansas City, Mo.

Montana.—Every applicant who graduated after June 30, 1898, must present evidence of having attended four courses of lectures of at least six months each. Applicants must present a diploma from a legally organized medical school in good standing, and also pass an examination in the following subjects: Anatomy, Physiology, Materia Medica, Therapeutics, Practice of Medicine, Surgery, Obstetrics, Diseases of Women and Children, Diseases of the Nervous System, Diseases of the Eye and Ear. "Such examinations shall be both scientific and practical, but of sufficient thoroughness to test the candidates' fitness to practise medicine and surgery." A general average of 75 per cent. is required in order to pass the examination. The fee for the examination is $15.

Examinations are held in Helena on the first Tuesday of April and October, and at such other times and at the same and other places as the board may determine.

Reciprocity, none.

Secretary of the Board of Medical Examiners is Dr. W. C. Riddell, Helena, Mont.

Nebraska.—Applicants must be of good moral character. The applicant must furnish proof that he is a graduate of a medical school or college in good standing, requiring a four years' course. (No medical school will be recognized by the board, unless said school is recognized by the Association of Medical Colleges of the School of Practice to which it belongs.) Applicants must further pass examination by the board. "The examination shall embrace those subjects and topics, a knowledge of which is commonly and generally required of candidates for the degree of Doctor of Medicine, by reputable medical colleges in the United States." At a recent examination the subjects were: Anatomy, Chemistry, Physiology, Pathology, Practice, Surgery, Obstetrics, Gynecology, Materia Medica. "Every holder of a diploma from a recognized medical college within the State of Nebraska, making application for an examination and certificate under the provisions of this act, shall pay to the Board of Secretaries prior to his examination the sum of $10. All other persons, making such application shall pay to said board the sum of $25."

Reciprocity: The State Board of Health may at its discretion admit, without examination, legally qualified medical practitioners who hold certificates to practise medicine in any State with equal requirements to those of the State of Nebraska.

Reciprocity now exists with Illinois, Indiana, Michigan, and Wisconsin, and probably will soon be established with Iowa.

Secretary of the State Board of Health, Dr. Geo. H. Brash, Beatrice, Neb.

Nevada.—Applicants must be of good moral character. "Certificates of license to practise are issued, without examination, to all who furnish satisfactory proof of having received diplomas or licenses from reputable and legally chartered medical institutions of the United States which are in good standing, or from the State examining board of any State of the United States, providing the holder of said State certificate has been practising in this State for at least five years. The board shall also issue a certificate to any person who shall have been regularly engaged in the practice of medicine and surgery within this State for five years immediately preceding the passage of this act, and who, after an examination by said board, shall be found to be qualified to practise medicine and surgery. It shall also issue a certificate to any person who has had issued to him a diploma or license from any reputable school or college of medicine and surgery which is located without the United States, upon the applicant being found competent after having passed a satisfactory examination by the said board. All examinations of applicants to practise shall be thorough and searching, and shall be in the following branches: Anatomy, Physiology, Chemistry, Materia Medica, Therapeutics, Principles and Practice of Medicine, Principles and Practice of Surgery, Gynecology, Obstetrics, Ophthalmology, Pathology, and all subjects relating to the practice of medicine and surgery." Fee for certificate is $25.

Examinations are held on the first Monday of May and November.

Secretary of the State Board of Medical Examiners is Dr. S. L. Lee, Carson City, Nev.

New Hampshire.—"The regent shall admit to examination any candidate who pays a fee of $10 and submits satisfactory evidence, verified by oath, if required, that he—(1) Is more than twenty-one years of age; (2) Is of good moral character; (3) Has graduated from a registered college; or satisfactorily completed a full course in a registered academy or high school; or had a preliminary education considered and accepted by the regent as fully equivalent; (4) Has studied medicine not less than four full school years, of at least nine months each, including four satisfactory courses, of at least six months each, in four different calendar years, in a medical college registered as maintaining at the time a satisfactory standard; the regent shall accept, as the equivalent for any part of the third and fourth requirements, evidence of five or more years' reputable practice, provided that such substitution be specified in the license; (5) Has either received the degree of bachelor or doctor of medicine from some registered medical school, or a diploma or license conferring full right to practise medicine in some foreign country."

"No licenses issued by States, or diplomas from medical colleges, are endorsed by the regent in place of examination with one exception, graduates from Dartmouth Medical School may receive a certificate on presentation of diploma, if said diploma shall have been issued between the enactment of the Medical Law, March, 1897, and January 1, 1903."

Examinations are held at Concord, at least twice a year. The subjects for examination are: Anatomy, Physiology and Hygiene. Chemistry. Surgery, Obstetrics, Pathology and Diagnosis, and Therapeutics (including Practice and Materia Medica). The fee for the examination is $10.

Reciprocity, none.

Regent of the State Board, Channing Folsom, Concord, N. H.

New Jersey.—Applicants must be over twenty-one years of age, and of good moral character. They must give proof of having received a satisfactory academic education, or must pass an examination before the State or County Board of Examiners for Teachers, application for which must be made to the State Superintendent of Public Instruction, Trenton, N. J., at least ten days before the examination.

Candidates must have received a diploma from some approved medical college, and have also studied medicine not less than four full school years of at least nine months each, in some legally incorporated American or foreign medical college or colleges, prior to the granting of said diploma. Candidates who graduated prior to July 4, 1903, however, and have been in continuous and reputable practice for at least five years since graduation may be admitted to the examinations upon satisfactory evidence of three courses of medical lectures in different calendar years. Candidates who graduated prior to July 4, 1894, and have been in continuous and reputable practice since graduation may be admitted to examination upon satisfactory evidence of two courses of medical lectures in different calendar years.

Examinations are held in Materia Medica and Therapeutics; Obstetrics and Gynecology; Practice of Medicine, including Diseases of the Skin, Nose, and Throat; Surgery, including Surgical Anatomy and Diseases of the Eye, Ear, and Genitourinary Organs; Anatomy; Physiology; Chemistry; Histology, Pathology, and Bacteriology; Hygiene and Medical Jurisprudence. In each of these sections fifteen questions are submitted, of which ten must be answered by the candidate. A total average of 75 per cent. shall be necessary to license, provided that in no section shall the average be less than 50 per cent. The fee for the examination is $25.

Examinations are held at Trenton on the third Tuesday in June and October.

Reciprocity: New Jersey reciprocates with Dela-

vare, Maine, Maryland, Illinois, Virginia, and Washington; and endorses the licenses issued by New York and Pennsylvania.

Secretary of the State Board of Medical Examiners, E. L. B. Godfrey, M.D., Camden, N. J.

New Mexico.—"Each applicant must furnish, s references regarding moral character and professional standing, two or more names of reputable physicians, preferably the president and secretary f State Licensing Board, or president and secretary f State Medical Society where applicant last reided. Non-residents of the Territory of New lexico will not be licensed under any condition. ll applicants presenting foreign diplomas must ass supplementary examinations, besides comlying with other requirements demanding good oral character and professional standing, as well s evidence of preliminary education." Diplomas rom a recognized medical school requiring a four ears' course entitles to a license; all other applicants must pass the examination.

The examination is written and oral and consists of: 1) Practice of Medicine, Pathology and Bacteriology; (2) General Surgery, including Surgical Pathology and Surgical Bacteriology; (3) Obstetrics, Gynecology, Embryology; (4) Toxicology; (5) Inorganic and Medical Chemistry; (6) Physiology; 7) Anatomy. A minimum average of 65 per cent. s required and must not fall below 45 per cent. in nore than one subject. The fee for the examinaion is $25. The fee for license on presentation of liploma is $15.

Examinations are held twice a year at Santa Fe on irst Monday of June and December.

Reciprocity, none.

Secretary of the Board of Health, D. B. Black, M.D., Las Vegas, N. M.

New York.—Candidates have to submit satisactory evidences, verified by oath, if required, as ollows: (1) Evidence that applicant is more than wenty-one years of age. (2) Certificates of moral haracter from not less than two physicians in good standing. (3) Evidence that applicant has he general education required, preliminary to reeiving the degree of bachelor or doctor of medicine n this State. (4) Evidence that applicant has tudied medicine not less than four full school ears of at least nine months each, including four atisfactory courses of at least six months each, in our different calendar years in a medical school egistered as maintaining at the same time a atisfactory standard. The increase in the required ourse of medical study from three to four years did not take effect until January 1, 1898, and does not apply to students who matriculated before that date and receive the degree of M.D. before January 1, 1902. The regents may, in their discretion, accept as the equivalent for any part of the third and fourth requirement, evidence of five or more years reputable practice, provided that such substitution be specified in the license; and as the equivalent of the first year of the fourth requirement evidence of graduation from a registered college course, provided that such college course shall have included not less than the minimum requirements prescribed by the regents for such admission. (5) Evidence that applicant has either received the degree of bachelor or doctor of medicine from some registered medical school, or has a diploma or license conferring full right to practise medicine in some foreign country,

Applicants must also pass an examination in (1) Anatomy; (2) Physiology and Hygiene; (3) Chemistry; (4) Surgery; (5) Obstetrics; (6) Pathology and Diagnosis; (7) Therapeutics, Practice and Materia Medica. Each paper has fifteen questions, and of these the applicant selects ten. The fee for the examination is $25. Candidates must obtain 75 per cent. on each paper. All subjects must be passed at the same examination, except that a candidate who has been rejected in but one paper, and whose total average is at least 80 per cent., is reëxamined again in the subject in which he failed.

Examinations are held at New York, Albany, Syracuse, and Buffalo, in January, May, June, and September.

Reciprocity, none.

Secretary of the Regents of the University of New York, _____, Jr., Albany, N. Y.

North Carolina.—Applicants must present a certificate of good moral character from two persons known to the board. "All applicants shall exhibit a diploma, or furnish satisfactory proof of graduation from a medical college in good standing requiring an attendance of not less than three years and supplying such facilities for clinical instruction as shall meet the approval of the board. But license or other satisfactory evidence of standing as a legal practitioner in another State shall be accepted in lieu of a diploma and entitle to examination." Applicants must, further, be examined in the following subjects: Surgery, Anatomy and Histology, Materia Medica and Therapeutics, Practice of Medicine, Obstetrics, Gynecology and Pediatrics, Physiology and Hygiene, Chemistry and Pharmacy. To secure a license an average grade of not less than 80 per cent. will be required, but an applicant receiving a grade of 35 per cent. or less in any one branch shall be rejected regardless of his grade in other branches. The fee for the examination is $10, which shall be returned in the event of the applicant's rejection.

Reciprocity, none.

Secretary of the Board of Medical Examiners is Dr. Geo. W. Pressly, Charlotte, N. C.

North Dakota.—Applicants must present evidence of having attended three courses of lectures of at least six months each. "Applicants must further pass an examination in the following branches: Anatomy, Physiology, Chemistry, Histology, Materia Medica, Therapeutics, Diseases of Women and Children, Diseases of the Nervous System, Diseases of the Eye and Ear, Medical Jurisprudence, and such other branches as the board deems advisable. The board shall cause such examination to be practical and scientific and sufficient to test the candidate's fitness to practise medicine, surgery, and obstetrics." Seventy-five per cent. is required to pass. The fee for the examination is $20.

Examinations are held at Grand Forks, the first Tuesday in January, April, July, and October.

Reciprocity, none.

Secretary of the State Board of Medical Examiners, H. M. Wheeler, M.D., Grand Forks, N. D.

Ohio.—Applicants must furnish satisfactory proof of being more than twenty-one years of age and of good moral character. They must also give evidence of preliminary education practically equivalent to that necessary for admission to a reputable college granting the degree of A.B., B.S., or equivalent degree. Applicants must further show that they are graduates in medicine from some college recognized by the State Board of Medical Registration and Examination. Applicants will then have to pass an examination in the following subjects: Anatomy, Physiology, Pathology, Chemistry, Materia Medica and Therapeutics, the Principles and Practice of

Medicine, Obstetrics, Diseases of Women and Children, and Physical Diagnosis. The fee for the examination is $25.

Examinations are held at Cleveland, Columbus, and Cincinnati on the second Tuesday of June and December.

Reciprocity upon examination certificates, with Illinois, Indiana, Michigan, and Wisconsin.

Secretary of the State Board of Medical Registration and Examination, Frank Winders, M.D., Columbus, Ohio.

Oklahoma.—Applicants must submit proof of good moral character. Applicants must also submit proof of graduation from a reputable medical college, or proof of ten years' continuous practice. Applicants must further pass an examination in the following subjects: Anatomy, Physiology, Chemistry, Materia Medica and Therapeutics, Medical Jurisprudence, Surgery, Obstetrics, Physical Diagnosis, Practice.

A grade of 66⅔ per cent. must be attained in each branch. The fee for examination is $5.

Examinations are held every three months. Notice will be given of time and place.

Reciprocity, none.

Secretary of Board of Health, Dr. E. E. Cowdrick, Enid, Oklahoma.

Oregon.—Applicants must be "of good repute," must make application stating time spent in study of medicine, place of study, and time and place of actual practice. Applicants must also pass an examination in the following branches: Anatomy, Physiology, Chemistry, Materia Medica, Therapeutics, Practice of Medicine, Surgery, Obstetrics, Diseases of Women, Medical Jurisprudence, and such other branches as the board shall deem advisable. Such examination shall be both scientific and practical, and of sufficient severity to test the candidate's fitness to practice medicine and surgery, and shall be written or printed (or partly written or partly printed), questions and answers. The fee for the examination is $10.

Examinations are held at Portland, Oregon, on the first Tuesday of January and July.

Reciprocity is permitted, but has not yet been arranged for.

Secretary of Board of Medical Examiners, Byron E. Miller, M.D., Portland, Oregon.

Pennsylvania.—Applicants must present satisfactory evidence of being more than twenty-one years of age, and of good moral character. Applicants must show that they have received sufficient preliminary education for admission to the freshman class in a literary college, otherwise they will have to pass a preliminary examination in Arithmetic, Grammar, Geography, Orthography, American History, and English Composition. Applicants must also have received a diploma conferring a degree in medicine from a legally incorporated medical college of the United States, or a diploma or license conferring the full right to practise all the branches of medicine and surgery in some foreign country. "Applicants who received their degree in medicine after the 1st day of July, 1894, must have pursued the study of medicine for at least three years, including three regular courses of lectures in different years, in a legally incorporated medical college or colleges, prior to granting of the said diploma, or foreign license, and after the 1st day of July, 1895, such applicants must have pursued the study of medicine for at least four years, including three regular courses of lectures, in different years, in some legally incorporated medical college, or colleges, prior to the granting of said diploma or foreign license." Applicants must also pass an examination in Anatomy, Physiology, Hygiene, Chemistry, Surgery, Obstetrics, Pathology, Diagnosis, Therapeutics, Practice of Medicine, and Materia Medica. A general average of not less than 75 points is necessary. No license shall be issued to any candidate whose examination papers shall, on any two subjects, fall below fifty-five; provided, that those papers marked below fifty-five shall be subject to revision by the entire board by which the candidate was examined. The fee for the examination is $25.

Examinations are held twice a year—in June and December.

Reciprocity is allowed by law, and formerly certificates from New Jersey and New York were endorsed; but first the New Jersey licenses were refused, and now (since February, 1904) the New York licenses are not recognized, the Medical Council of Pennsylvania finding "on careful examination that the standard of acquirements of the medical examination of the State of New York is not substantially the same as that of the medical examination of the State of Pennsylvania."

Secretary of the State Board of Medical Examiners, Hiram S. McConnel, M.D., New Brighton, Pennsylvania.

Philippines.—"In accordance with the provisions of an Act Regulating the Practice of Medicine and Surgery in the Philippine Islands enacted December 4, 1901, it shall be unlawful after March 1, 1902, for any person to practise medicine in any of its branches in the Philippine Islands unless he holds a certificate of registration from the Board of Medical Examiners for the Philippine Islands. Such certificates are granted without examination to persons engaged in the practice of medicine in the Philippine Islands prior to the passage of this act who submit to the Board of Medical Examiners a diploma of Doctor of Medicine from a reputable medical school or college, to certain students in the St. Thomas University in the City of Manila and to persons who have passed the examinations before a board of examiners convened pursuant to special order No. 5 and Circular No. 6 of the United States Military Government of the Philippine Islands, dated respectively February 25 and April 1, 1900. Every other person desiring to begin the practice of medicine and surgery in the Philippine Islands must apply to the Board of Medical Examiners for a certificate of registration as Doctor of Medicine, and submit to an examination in the usual branches of medicine, and also present a diploma of Doctor of Medicine from a medical school or college recognized as reputable by the Board of Health of the Philippine Islands. The Board of Medical Examiners meets in the city of Manila for the purpose of examining candidates on the second Tuesday in January, April, July, and October of each year. Applications for examination should be made to the Secretary-Treasurer of the Board of Medical Examiners of the Philippine Islands, Manila." (From the Report of the Illinois State Board of Health, for 1903.)

Porto Rico.—Each applicant must furnish proof that he "is a graduate of a medical school or institution in good standing and legally organized, and duly approved by said board of examiners. If the diploma is found genuine, which fact the said board of examiners shall determine, and if the person presenting and claiming said diploma be the person to whom the same was originally granted, at a time and place designated by said board, or at a regular

meeting of said board, said applicant shall be required to take an examination embracing those general subjects and topics, a knowledge of which is commonly and generally required of candidates for the degree of doctor of medicine by respectable medical colleges in the United States." "The standard for examination is that for the New York State regents, and a study of their reports will give an idea of the nature of the examination here" (Secretary of Superior Board of Health, February 1, 1904). "Applicants who possess diplomas from reputable medical colleges, and who have been licensed by State boards, may, upon the payment of a fee of twenty-five dollars ($25), be licensed by the board of examiners without examination if the board of examiners so decides." The fee for the examination is $10; and $5 for a certificate if issued. In case of failure to pass the examination, the applicant shall be entitled to a second examination within six months without fee.

Examinations are held on the first Tuesday of April and October at San Juan.

Secretary of the Board of Medical Examiners, Dr. Quevedo Baez, San Juan, Porto Rico.

Rhode Island.—Applicants must be reputable physicians and must pass an examination as follows: "Examinations shall be in writing and in English, and of a practical character, but sufficiently strict to test the qualifications of the applicant as a practitioner. Examinations will be presented upon the following subjects or groups of subjects: (1) Anatomy and Physiology; (2) Materia Medica and Chemistry; (3) Pathology; (4) Surgery; (5) Theory and Practice; (6) Obstetrics and Gynecology; (7) Hygiene and Medical Jurisprudence. Ten questions will be presented upon each subject or group of subjects. An average of 75 per cent. of correct answers will be required." The fee for the examination is $10, and for the certificate (if issued) $2.

Examinations are held in Providence, on the first Thursday in January, April, July, and October.

Reciprocity, none.

Secretary of the State Board of Health, Dr. Gardner T. Swarts, M.D., Providence, Rhode Island.

South Carolina.—Applicants must exhibit a diploma from a recognized medical college, a certificate of moral character, and must pass a satisfactory written examination on all the branches of medicine. But one examination for permanent license is held each year. The President and Secretary of the Board are allowed to grant a temporary license to practice medicine until the meeting of the Board in May of each year, at which time the applicant must come up for the regular written examination above mentioned. The applicant for a temporary license will be expected to stand an oral examination on all the branches of medicine. A fee of $2.50 is charged for temporary license.

Examinations are held under the following heads: (1) Anatomy, General and Regional; (2) Physiology, Histology and Hygiene; (3) Chemistry, Practical Urinalysis, Medical Physics; (4) Materia Medica and Therapeutics and Toxicology; (5) Surgery and Surgical Pathology; (6) Practice and Diseases of Children; (7) Obstetrics and Gynecology. An average of at least 75 per cent. on the whole list of subjects shall be attained by each applicant, and he shall not make less than 60 per cent. on any one branch. A fee of $5 will be required of each applicant. This fee will be refunded to those failing to pass.

Examinations are held once a year at Columbia, on the third Tuesday in May.

Reciprocity with other States having equal requirements is permitted by law.

Secretary of State Board of Medical Examiners, C. S. Baker, M.D., Sumter, South Carolina.

South Dakota.—Applicants must give satisfactory proofs of being at least twenty-one years of age, and of good moral character. "Applicants must also present evidence of having attended four full courses of lectures, of at least twenty-six weeks each in a legally organized and reputable medical college, recognized by the Board of Medical Examiners, no two courses being in the same year; and of having received a diploma from a legally organized and reputable medical college, which shall be in good standing as shall be determined by the board, and said diploma must be submitted to the board for inspection and verification; provided that the four courses of lectures of six months each shall not apply to applicants who graduated prior to 1898. Applicants must also pass an examination in the following subjects: Anatomy, Physiology, Chemistry, Pathology, Therapeutics, Practice of Medicine, Surgery, Obstetrics, Gynecology, Diseases of the Eye and Ear, Bacteriology, Medical Jurisprudence, and such other branches as the board may deem advisable." An average of at least 75 per cent. is required in order to pass the examination. The fee for the examination is $20.

Examinations are held twice a year, on the second Wednesday of January and July, at places determined by the board.

Reciprocity, none.

Secretary of Board of Medical Examiners, H. E. McNutt, M.D., Aberdeen, South Dakota.

Tennessee.—Applicants must be of good moral character. Every applicant must take the medical examination. "In examining the written answers of the applicants (in the medical examination), the evidences of an English education as shown in the papers shall be considered in determining the fitness of an applicant for license to practise medicine in this State." Examinations shall be both written and oral, and upon the following branches: Anatomy, Physiology, Chemistry, Pathology, Surgery, Obstetrics, Materia Medica, and Practice. Candidates must obtain 75 per cent. in order to pass. The fee for the examination is $10.

Examinations are held once or twice a year in Nashville.

Secretary of the State Board of Medical Examiners, T. J. Happel, M.D., Trenton, Tenn.

Texas.—Applicants must submit satisfactory evidence of being more than twenty-one years of age, and of good moral character. "The applicant shall be examined in the following branches: Anatomy, Physiology, Chemistry, Materia Medica, Therapeutics, Histology, Pathology, Practice of Medicine, Surgery, including Diseases of the Eye, Ear, Nose, and Throat, Obstetrics, Gynecology, Hygiene, and Medical Jurisprudence. A general average of not less than seventy-five of a possible one hundred points, if in no section the percentage be less than fifty, shall entitle the applicant to practise medicine and surgery in the State of Texas, provided that he or she has otherwise complied with the law. An applicant having a general average of seventy-five or more, and having attained less than fifty in a single section, may, upon his or her request, be granted an immediate reëxamination in that section. If, however, an applicant has less than fifty in more than one section, or less than 33⅓ per cent. in any one section, his or her application will be rejected, no matter what may be his or her general average." In case of rejection no reëxamination shall be taken within a year. The fee for examination is $15.

Examinations are held at least twice a year.

Reciprocity: Licenses will be accepted from

States having requirements equal to those of Texas. "States from which license may be accepted from applicants without examination by the Board of Medical Examiners for the State of Texas: Delaware, District of Columbia, Georgia, Iowa, Louisiana, Maryland, Mississippi (if issued since July 1, 1901), Montana, Nevada, New Hampshire, New Jersey, New York, North Carolina, Oregon, Pennsylvania, South Carolina, Utah, Virginia, Washington (State of)."

Secretary of the Board of Medical Examiners, Dr. M. M. Smith, Austin, Tex.

Utah.—Applicants must have received a degree or diploma from a chartered medical college, in good standing, and must also pass an examination. The subjects for examination are: Bacteriology, Histology, Medical Jurisprudence, Practice and Pathology, Pediatrics, Chemistry, Materia Medica, Therapeutics, Obstetrics and Gynecology, Diseases of Skin, Anatomy, Surgery, Eye, Ear, Nose and Throat, Hygiene, Physiology. An average of 75 per cent. is required. The fee for the examination is $15.

Examinations are held at Salt Lake City on the first Monday in January, April, July, and October.

Reciprocity, none.

Secretary of the Board of Medical Examiners, R. W. Fisher, M.D., Salt Lake City, Utah.

Vermont.—Applicants must present a diploma from a medical college or university, and also pass an examination. All applicants will be examined on the following subjects: Anatomy, Physiology, Chemistry, Materia Medica and Therapeutics, Practice of Medicine, Surgery, Pathology, Obstetrics, Hygiene. "In order to receive consideration, examination papers must be legibly written in English and free from such errors in spelling, grammar, and reasoning as would show gross ignorance of the elementary branches of education." Graduates of Canadian medical colleges are required to attend at least one course of lectures and pass the final examinations of some legally recognized medical college in the United States.

The fee for the examination is $5.

Examinations are held at Burlington, on the second Wednesdays of January, April, and July, and the first Wednesday of October.

Reciprocity is permitted with other States whose requirements are equivalent to those of Vermont, and who will also reciprocate with Vermont.

Secretary of the State Board of Medical Censors, S. W. Hammond, M.D., Rutland, Vermont.

Virginia.—Applicants must present their diplomas from some medical college, chartered by the State or Territory in which it is situated. The Medical Examining Board of Virginia will decline to recognize the diploma of any college which does not conform to the requirements of the Association of Medical Colleges. Applicants must also pass an examination.

The examination comprises the following subjects: Hygiene and Medical Jurisprudence, Anatomy, Physiology, Chemistry, Histology, Pathology and Bacteriology, Materia Medica and Therapeutics, Obstetrics and Gynecology, Practice and Surgery. A total average of 75 per cent. shall be necessary, provided, that in no one section shall the percentage be less than 45.

The fee for the examination is $10; those failing to pass the examination will not be required to pay further fee when they appear for re-examination.

Reciprocity: The following resolution in regard to reciprocity was adopted by the Virginia Board at its meeting held at Lynchburg, June 25-28, 1900:

"*Resolved*, That the Virginia State Medical Examining Board desires to reciprocate with the Boards of other States, but deems it necessary for its own protection that every applicant claiming such recognition shall present with his petition a diploma from a reputable college, together with an attested certificate from a State Medical Examining Board, having same requirements as our Board, and shall pass a satisfactory oral examination before a committee of the Board. Having complied with these requirements, a certificate will be issued on payment of the usual fee."

Secretary of Medical Examining Board, R. S. Martin, M.D., Stuart, Va.

Washington.—Applicants must be over twenty-one years of age, must present a written recommendation of good moral and professional character from two physicians in good standing, and must have graduated from some duly authorized and recognized medical college now having at least a three years' graded course. The examination is in the following subjects: Anatomy, Physiology, Chemistry, Histology, Materia Medica and Therapeutics, Preventive Medicine, Practice of Medicine, Surgery, Obstetrics, Diseases of Women and Children, Diseases of the Nervous System, Diseases of the Eye and Ear, and Medical Jurisprudence. "The examination shall be both scientific and practical, and of sufficient severity to test the candidate's fitness to practise medicine and surgery." Candidates who have practised ten years or over are required to obtain a general average of 70 per cent.; those who have practised less than ten years are required to obtain an average of 75 per cent. The fee for the examination is $10. Examinations are held alternately in Eastern and Western Washington, at such places as the board may designate, on the first Tuesday of January and July. The next examination will be at Spokane, on first Tuesday of July, 1904.

Reciprocity, none.

Secretary of State Board of Medical Examiners, P. B. Swearingen, M.D., Tacoma, Wash.

West Virginia.—All applicants must be examined. "Applicants for the board's examination will present to the secretary of the board for verification their diplomas, medical certificates which evidence their academic and professional labors, and present a certificate of good moral character signed by two physicians in active practice in the county of their legal or actual residence. When applicant fails to produce evidence of proficiency in general or high-school education, the board reserves the right to examine him in English, Easy Latin, and in Arithmetic, Algebra, and Geometry." The examination will cover the following subjects: Anatomy, Chemistry, Physiology, Materia Medica and Therapeutics, Practice of Medicine, Bacteriology, and Histology, Hygiene, Obstetrics, Gynecology, Surgery. The fee for the examination is $10.

Examinations are held not less than three times a year, in April, July, and November, at places convenient to applicants, or to the Board of Health.

Reciprocity, none.

Secretary of the State Board of Health, Hugh A. Barbee, M.D., Point Pleasant, W. Va.

Wisconsin.—"All applicants must present evidence of good moral character; also a diploma from a reputable medical college requiring a four years' course of at least seven months each before graduation, no two of such courses to be taken within any one twelve months, and that shall require for admission thereto a preliminary education equivalent to that necessary for entrance to

he junior class of an accredited high school in this State, including a one year's course in Latin, and hat shall, after the year 1906, require for admission o such school a preliminary education equivalent o graduation from an accredited high school of his State." Applicants must also pass an examiation in Pathology, Surgery, Obstetrics, Gynecology, Anatomy, Materia Medica, Practice of Medicine, Dietetics, Jurisprudence, Therapeutics, Physiology, Hygiene, Diagnosis, Toxicology, Histology, Bacteriology, Chemistry, Uranalysis. "A general average of 75 per cent. shall be necessary, provided that in no one branch shall the percentage be less than 60. The fee for the examination and license is $20. If license is not granted, $5 will be returned to the applicant.

Regular meetings will be held on the second Tuesday of July at Madison, and of January at Milwaukee; or examinations will be held at such time and place as the board may determine, notice of which will be given upon application to secretary.

Reciprocity: "Graduates of reputable medical colleges with a certificate from any State board whose requirements are equal to those of this State, may be admitted to practise without examination at the discretion of the board." At present Wisconsin reciprocates with Illinois, Indiana, Kentucky, Maine, Maryland, Michigan, Nebraska, and Ohio.

Secretary of the Board of Medical Examiners, Filip A. Forsbeck, M.D., 121 Wisconsin Street, Milwaukee, Wis.

Wyoming.—The applicant, "if a graduate in medicine, shall present his diploma to the State Board of Medical Examiners for verification as to its genuineness. If the diploma is found to be genuine, and issued by a medical college of recognized merit, said college being a member of the American Association of Medical Colleges, the Homœopathic Institutes, or the National Eclectic Medical Association, or any college of similar standing in foreign countries, and if the person named therein be the person claimed and presenting the diploma, the State Board of Medical Examiners shall issue its certificate to that effect, signed by the majority of all the members thereof, with the seal of the board attached, and such diploma and certificate shall be conclusive as to the right of the lawful holder of the same to practise medicine in this State; provided, no person holding diplomas, certificates, or other credentials from schools or institutions other than those of recognized merit, as specified in this chapter, shall be permitted to practise in this State, until he has passed a satisfactory examination before said board. Said examination shall be in whole or in part in writing, and shall be of an elementary and practical character, and shall be upon the following subjects: Anatomy, Physiology, Chemistry, Pathology, Materia Medica and Therapeutics, Hygiene, Theory and Practice of Medicine, Surgery and Obstetrics, and sufficiently strict to test the qualifications of the candidate as a practitioner." Fee, if diploma is accepted, $5; if examination is taken, $25.

Examinations are held at any time as required.

Reciprocity, none.

Secretary of the State Board of Medical Examiners, Dr. Geo. P. Johnston, Cheyenne, Wyo.

306 West Ninety-third Street.

Typhus in Africa.—Captain Dannhauer, the correspondent in German South Africa of the *Lokal Anzeiger* of Berlin, has cabled from Windhock that the number of soldiers suffering from typhus fever in the hospitals at Otjihaenena, Winkhoek, Opahandya, and Karibb is one hundred and seventy-five.

Volvulus of the Stomach.—C. D. Spivak concludes that: (1) The occurrence of volvulus of the stomach is a possibility beyond the shadow of a doubt; it remains, therefore, for physicians to bear this condition in mind when making a differential diagnosis between pyloric obstruction, occlusion of the bowels, poisoning, cyclic vomiting, cholelithiasis, peritonitis, etc.; for surgeons to be ready to operate when necessary, and not to forget to empty the stomach of its contents; and for authors to devote some space to this condition in their textbooks on diagnosis and surgery. (2) Volvulus of the stomach occurs in all ages and in both sexes. (3) Digestive disorders may be considered as etiologic factors. (4) From the pathologic standpoint, volvulus of the stomach may be divided into (*a*) that due to organic changes produced by adhesions, and (*b*) that in which no visible organic changes have taken place. (5) The characteristic symptoms of volvulus are: Sudden onset; distension which commences in the left hypochondriac region, and which gradually increases in size; a tumor, which gives, on percussion, a tympanitic sound; vomiting or regurgitation immediately following ingestion of food or drink; no belching, no escape of flatus; inability to pass a sound into the stomach. (6) When the condition is recognized, early operative interference is indicated, and recovery is almost certain.—*Denver Medical Times.*

The Oats Cure in Severe Cases of Diabetes Mellitus.—Carl Von Noorden gives a preliminary report of his work along these lines. He uses oatmeal or oat groats. He boils the substance in water for a considerable length of time with the addition of a little salt. While boiling, butter and some vegetable albumen, or after cooling off, beaten white of an egg, is added. Roborat or rice albumen is commonly used. The usual daily doses at the beginning of treatment are 250 gm. oats, 100 gm. albumen, 300 gm. butter. The soup thus prepared was given every two hours. In addition, a little brandy or wine and a little strong black coffee were allowed. The author then appends a series of cases. The first one is that of a patient in whom the use of the strictest diet for twelve days did not free the urine from sugar. The oats cure was instituted. From day to day the sugar has diminished and acetone was seen to be normal on the third day. Sugar was noticed only temporarily upon a gradual return to a mixed diet (thirty-seventh to forty-seventh day). Beginning with the forty-ninth day, the patient thrived on ordinary strict diet, which formerly had forced 50 gm. of sugar into his urine, and finally it was possible to add to the conventional diabetes diet considerable quantities of various carbohydrates without reëxciting glycosuria. Since the patient was discharged, a weekly examination of urine since that date has shown no trace of sugar. Acetone is present in normal quantity only. The general condition is excellent. The writer declares that, according to his experience, mild cases without diaceturia do not do well under the oats cure, and as a rule, lose in tolerance if the treatment is persisted in. How to account for the paradox effects of the oats cure must be left to conjecture. The fact has been pointed out before that a very simple diet rich in carbohydrates is better borne by diabetics than a mixed diet poor in carbohydrates. The latest facts adduced make it more than ever incumbent upon the physician to abstain from treating a diabetic patient by any standard formula and to substitute strict individualization. The question of diet is to be approached cautiously even by the most experienced practitioners. While the writer recommends a trial of the new method for a certain number of cases, the characteristics of which he is as yet unable to define, he adds a decided warning against treating every case of diabetes by this method without a fixed plan. For, as against the few who are actually benefited there are those to whom the method is of no advantage and a still greater number who might be seriously injured thereby.—*The Post-Graduate.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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THE POST-GRADUATE PERIOD.

Two grave problems confront the young man on the threshold of life who has failed to select his ancestors among those well favored with this world's goods. The first of these is the choice of a vocation; the second, how to make a successful start in the chosen calling. The medical student has made his selection, whether wisely or not depending upon certain personal qualities which need not enter into discussion here; in most cases the choice is unalterable and there remains only the question of how he shall turn to best advantage to himself and to his fellows the knowledge and skill with which his college and hospital training should endow him. To the man with influence or with the means of support during the necessary years of waiting, this question is of little moment; he is either inducted at once into the active practice of his profession under the guidance of an experienced elder, or he waits with what patience he can command until a clientele is built up, employing his abundant leisure in the meantime to pursue his studies and fit himself more fully for the responsibilities that are sure to come. To the young graduate without means or influence, however, the problem of subsistence becomes at once a most serious one.

In the present number of the MEDICAL RECORD will be found a series of articles, written by men of experience and practical knowledge of the topics of which they treat, designed to point out to the young physician the opportunities offered him of making a living outside of regular practice. These may be roughly divided into three classes—those which offer a permanent career outside of civil practice, such as the public services; those which offer only a temporary assistance, such as most of the municipal appointments; and those which offer a more or less permanent supplement to the income from private practice, such as appointments as insurance examiners, railway surgeons, surgeons to the police and fire departments in the larger cities, etc.

It will surprise some of our readers, no doubt, to learn how many ways there are of increasing one's income in a method not inconsistent with professional dignity, and we hope many will be helped by the information here given to bridge over the critical period of beginning professional life. A word of caution is, however, necessary. The man who wants to succeed in general practice must look on these various helps as temporary makeshifts, and form the resolution and adhere to it, to give them up as soon as his practice will support him. If, seduced by the security which a salary, however small, gives him, he follows the extra-professional, or rather extra-practical, calling too long, he will in the end become dependent upon it, and the demands it makes upon his time and strength will seriously handicap him in the race for success in practice.

It is different, of course, with the public services and some other positions which carry with them a living salary from the beginning. These offer the young physician a career outside of private practice, and should be taken up only as a life work. The man who enters the Army, the Navy, or the Marine-hospital Service with the idea of remaining there only a few years and then resigning to enter upon private practice, makes a fatal mistake. The training he receives in these services is not well adapted to fit him for civil practice, and his salary in the early years is hardly more than enough for daily needs, so that it will be practically impossible to save a sum sufficient for support during the waiting period.

It is not, however, for the necessitous only that this number of the MEDICAL RECORD has been prepared. The college and hospital graduate, however well fitted he is, is not yet entitled to practise his profession. The State demands that he once more demonstrate his fitness for professional work before becoming legally qualified to treat the sick. The laws on this point unfortunately differ in the different States, and one who would settle in any locality must acquaint himself with the provision of the medical law for that particular State. All needed information in this respect, as well as practical hints regarding the preparation for examination, etc., will be found in the article on this subject by Dr. Scott.

The legal rights and obligations of the physician should be thoroughly understood by the young practitioner who would avoid the annoyance and expense of a possible malpractice suit, or the chagrin of being unable to establish his claim for professional services rendered those able but unwilling to pay. All that is necessary for him to know in this regard may be learned from the very practical article by Mr. Taylor in this issue.

The time has gone by when protests against the practice of medicine by women can be entertained; but though the woman has obtained equal rights with her male colleagues she has yet to secure many of the privileges which man enjoys. Few of the aids to a livelihood treated of in this issue are open to her, yet that there are some ways by which she can eke out the scanty income of early practice can be learned from Dr. Walker's interesting article.

Finally, Dr. Roosa warns the recent graduate that the necessity for work does not cease with graduation, but that he must keep in constant touch with the progress of his science by post-graduate study—and, we may be permitted to add, by the regular reading of a progressive medical journal. Indeed the recent graduate, whatever his needs or his aims, will find here advice and guidance which cannot but serve him in the choice of and preparation for his future career in one of the callings open to medical men.

THE ETIOLOGY OF ACUTE RHEUMATISM.

THE *Journal of Pathology and Bacteriology* for December last contains an article by W. V. Shaw, and the number for March another by J. M. Beattie, on this subject. Although as far back as 1887, Popoff reproduced the lesions (arthritis, pericarditis, endocarditis) by the injection of a microorganism isolated by him, little attention was paid to his results. In 1891 Achalme isolated an anthrax-like bacillus which he regarded as causal, and in 1896 Thiroloix reproduced the whole picture of rheumatic fever by intravenous injection in rabbits of a microorganism apparently identical with Achalme's bacillus. Still, in view of the partial successes and partial failures, the subject remained in abeyance till the publication, in 1900, of the work of Poynton and Paine, the latter having started with the expectation of confirming Achalme's results. These observers isolated in eleven (later in eighteen) cases a diplococcus from which in five cases they obtained a pure culture, and which injected intravenously into rabbits produced the symptoms of rheumatic fever (polyarthritis, pericarditis, valvulitis, chorea). The organism was also recovered in pure culture from the joint exudations, heart blood, urine, and cerebrospinal fluid, of the rabbits. The authors concluded that the organism is "a cause of rheumatic fever." And in 1903 Beaton and Walker announced that they had isolated a similar diplococcus from fifteen cases and had reproduced in rabbits typical acute rheumatism.

Shaw gives the results of a number of inoculation experiments upon rabbits and monkeys. Of the latter, two in number, one showed clinically acute rheumatism, and post mortem, arthritis, pericarditis, and endocarditis. The second, still alive, showed a disease bearing a close and unmistakable resemblance to acute rheumatism in children; fever, inability to use legs, the joints of which were not swollen, hot, and tender), and a distinct systolic murmur, especially close to the left nipple, the murmur never having been audible before the illness. Shaw remarks that this microorganism from the human subject breeds true, reproduces the lesions on inoculation, and can be recovered from the reproduced lesions in pure culture.

Beattie's case was a girl of sixteen, who had had rheumatism at seven and nine, cardiac disease accompanying the latter attack. At fifteen acute rheumatism (polyarthritis, loud presystolic and systolic murmurs, no increase of cardiac dulness), with, on sixth day, increase of cardiac dulness to left and right; and very rapid dicrotomous pulse; great dyspnœa, cough with bright, frothy, blood-stained sputum, and numerous medium and fine crepitant râles over right lung, and friction over right axilla, and base behind, and to right of sternum; and death on the seventh day. The autopsy showed a slight mount of turbid fluid in pericardial sac, and general thickening of pericardium with a slight amount of recent lymph over the right auricle; a few petechial hemorrhages in the grooves between the auricles and ventricles; mitral cusps much thickened with recent vegetations, old thickening of the aortic cusps; small pinkish areas scattered through the heart muscle suggestive of acute myocarditis; general dilatation, but no incompetence of valves; very slight patchy congestion of synovial membrane of knees. Cultures from the last named places yielded a minute microorganism in pairs and short chains which corresponded in reactions and cultures to Poynton and Paine's diplococcus. A rabbit inoculated intravenously from subcultures made in tubes, showed on the third day, lameness of one hind leg; on the fourth a suspicious systolic murmur, distinct on the fifth; and, killed six days later, marked endocarditis with large vegetations on the aortic cusps and dilatation of the left ventricle; a pale recent infarct in right kidney; non-purulent fluid in right knee and left ankle-joints with the synovial membrane thickened and somewhat gelatinous. The diplococcus was recovered in pure culture from the vegetations, joints, and urine. The vegetations contained the diplococcus in numbers, while the infarct showed none.

Beattie concludes that in the light of all the work done, it is impossible to resist the conviction that acute rheumatism, and its associate chorea, is a bacterial disease. The only question is whether the microorganism is a specific one. The fact that in most cases of rheumatism organisms are not found is only what might be expected, as the disease is rarely fatal in the acute stage. Moreover, the diplococcus is very minute and might very easily be overlooked, and besides it seems to be very easily destroyed in the tissues. The presence of streptococci, pneumococci, and other organisms does not signify until they shall have been proven capable of transmitting the disease. They are liable to be deposited on any damaged area. Up to the present time only two organisms have been shown experimentally to produce acute rheumatism, namely, Achalme's bacillus, and the diplococcus described by several observers? It is highly improbable that later observers with their attention focussed on the point by previous work, could have overlooked the former of these organisms, while, on the other hand, it is quite possible that the first observers might have overlooked the diplococcus. At present, therefore, the weight of evidence is in favor of the diplococcus as the causal agent.

INSPECTION OF THE SOURCES OF THE OYSTER SUPPLY.

TYPHOID FEVER occurs so frequently in the cities of the United States—even in New York the disease is by no means uncommon—as to render the source of infection a matter of the greatest moment. The chief causes of typhoid fever in most American cities are obvious. Contaminated water supply, impure milk and inefficient sanitary arrangements generally are the most prominent factors in originating and in spreading an epidemic of the malady. New York, however, prides herself—and justly, too—upon possessing a good water supply and an efficient sanitary system. The milk supply is fairly good, but is probably the origin of many of the sporadic cases of typhoid fever which crop up at intervals, though it does not account for all. Whence, then, proceed the infective agents responsible for the remainder? To two causes these cases of typhoid fever are usually attributed: to infected oysters and to infected vegetables.

During recent years the oyster has been regarded with grave suspicion in this connection. Indeed, in several instances in England the case against the

shell fish as a conveyor of typhoid infection has been proved up to the hilt. The danger now would seem to be that the prevalence of this mode of infection should be exaggerated.

Nevertheless, there is little doubt that oysters are guilty of causing typhoid fever in a large number of cases. Granted, then, that typhoid fever is more or less frequently transmitted by means of oysters, and that the water supply and sanitation of New York are satisfactory and that the milk supply is fairly good, it is only reasonable to lay to the charge of infected oysters a certain proportion of the cases which occur in this city.

The Department of Health has at any rate taken this view of the question and has lately caused the sources of the greater part of the oyster supply of New York to undergo inspection.

The *New York Independent*, May 12, referring to the subject editorially, says: "Most of the oysters that are sent to New York in the regular course of the trade are provided with many opportunities of becoming infected with sewage material of varying degrees of virulence. Along the Sound shore of Long Island, or of Connecticut, or in Staten Island, or in New Jersey, oysters after gathering are exposed for some time to contamination by being placed in the waters of little streams that run out into the salt water and carry down with them the sewage and drainage of neighboring villages and of various factories and farms along the banks. This subject has not been investigated merely by casual inspection, but definite, incontrovertible records of what inspectors observed have been preserved by means of photographs. At a meeting of the Medical Society of the County of New York, held on April 25, photographs were exhibited as stereoscopic slides, with proper explanation of their significance by Dr. Walter Bensel, acting Sanitary Superintendent of the Department of Health of New York City. The oysters are stored before shipment for several days, as a rule, in oyster houses, the lower floor of which is below the level of the water, or in oyster floats, through which the water is allowed to find its way. These and floats are usually placed some distance up various little streams. It has been found that if the water that flows over the oysters is not entirely salt, the shell-fish become plump, and are somewhat bleached, thus looking more inviting to the untrained in oyster lore. This process is known as fattening. . . . Many of the photographs exhibited show the existence of privies and other sources of the worst forms of sewage, situated either on the banks of the streams or in close proximity. In most of the streams the ebb and flow of the tide prevent even that carrying away of floating material common in ordinary country streams."

The result of investigations in Great Britain has been to prove conclusively that infected oysters have been the cause of some serious epidemics of typhoid fever. The findings of the recent inspection by the New York Health Board support these conclusions, and show that many sporadic cases of the disease in this city may have been and probably were due to contaminated oysters. Possessing this knowledge, the remedy is not difficult. In the first instance, oyster beds should be placed in such a situation that the water in which they lie cannot under any circumstances become contaminated; and secondly, while oysters are being prepared for the market they should not be permitted to come into contact with other than pure and wholesome water. Regulations to this effect might be enacted. The present methods are a distinct menace to the public health, and a person eating oysters, ignorant of their source, is running a serious risk. The New York City Department of Health has rendered valuable service to the community at large by ordering the inspection of the sources of the oyster supply and by publishing the results of their investigations.

The Necessity of Disinfection of Railway Property.

Dr. M. J. Rosenau read a paper dealing with this matter at the meeting of the New York State Association of Railway Surgeons on November 14, 1901. There is no doubt that disease is more or less frequently spread by those who travel when suffering from a communicable malady, and that railway traveling is to a certain extent a source of danger to death from this cause. Dr. Rosenau, at the beginning of his paper, considers this question: Is it necessary to disinfect the railroad coach, the sleeping car, the railroad station, the yard, even when no case of contagious or infectious disease has been known to have contaminated these places? and concludes that it is necessary for the reasons that all such diseases may exist in latent or mild form, so that they are difficult to recognize. Diphtheria, for instance, may be easily communicated by using a drinking glass, or towel which shortly before has been put to the lips or mouth of an individual who may have virulent diphtheria bacilli in his mouth, without having any local lesions or constitutional disturbance. Mild cases of smallpox which cannot be recognized as such, may be disseminated and infect the railroad coach, while the same may be said of typhoid fever, scarlet fever, measles, cholera, yellow fever, plague, and the whole list of pestilential diseases.

"There are, says the writer, evils of construction in the modern railroad car responsible for much of the infection and the difficulty of eradicating it. With the spitting, hawking, and blowing of the nose into the wash bowl—everybody washes their teeth over these bowls, for no other place is provided—it is no wonder that they frequently convey infection. It is unfortunate, as Dr. Hurty points out, that a special sink is not furnished in the toilet room of the coach for the teeth-cleaning process."

Railway cars, too, are ornamented and molded to so great an extent as to provide convenient harboring-places for dust, dirt, and infection. The upholstering is gorgeous but insanitary to a degree. So far as the berth in the sleeper is concerned, no more convenient mode of conveying infection could scarcely have been devised. Sheets and pillow-slips may have been changed, but there still remain the blankets, and all the other surfaces that have been so carefully closed up, almost hermetically, against the fresh air and sunshine during the day. The necessity of the frequent disinfection of the sleeping coach is too obvious to need further emphasis.

With regard to the arrangement of the water-closet on the passenger coach, Dr. Rosenau has this to say: "There is little doubt in my mind that typhoid fever is spread broadcast throughout the length and breadth of the land by means of the primitive and offensive open hopper. There are many patients with typhoid fever traveling in railroad trains. Some are walking cases, some are convalescent, some have the disease developing. From the nature of the disease, these patients use the closet

frequently, and their discharges, laden with typhoid bacilli, are dropped along the route and smear the underside of the car, to be splashed and spattered in all directions. Some of these discharges may directly contaminate the water supply of towns and cities by falling into the river as the train crosses the bridge; some may do so indirectly by being washed into the water-courses along which the railroad so frequently runs, others, in the country, become the breeding and feeding places for flies, which carry the infection to the nearest farmhouse."

The foregoing is a phase of the subject which requires close attention. The evils of the present water-closet system of the American railroads have not been in any way exaggerated by Dr. Rosenau. They are undoubtedly a fertile source of spreading typhoid fever, and the matter should be looked into carefully and steps be taken to minimize the resulting danger by those responsible for the safety of the traveling public. The community at large does not appreciate the menace to health threatened by the open hoppers, but the subject should be ventilated and pressure be brought to bear upon the railroad authorities to put an end to a method which is offensively dirty and at the same time in a higher degree inimical to health. It is said that the evolvement of a satisfactory solution of the problem is extremely difficult, but it is a question of so great importance that it behooves the engineering departments of railroads to spare neither time nor money in finding a remedy for the existing unhealthy state of affairs.

Street Locomotion in New York City.

The figures supplied by the New York State Railroad Commission show the extent to which New Yorkers use their local transportation lines, and is a further argument, if such were needed, that means to relieve the present state of congestion are a vital necessity. The methods in use now for carrying New Yorkers to and fro on business or otherwise are notoriously inadequate and have given rise to a condition of things not only inconvenient but prejudicial to health and against the laws of decency.

For the year ended February 29, 1,036,834,773 passengers were carried on the surface and elevated roads of the five boroughs, an increase of 65,075,964 over the previous year. This was a total car mileage of 197,826,719, an increase of 18,220,741. The surface lines, however, did not show any appreciable increase, and it was stated that this was because the company had reached its limit under present conditions, with its total of passengers of 397,644,829. The elevated lines in Manhattan carried 273,133,242, the gain being 37,315,852. The total for the year in Manhattan was 670,778,071 passengers, an increase of 37,463,163; in Brooklyn the number of passengers carried on all lines was 320,107,163, an increase of 24,363,201. In Queens the total was 16,058,207, an increase of 762,354. In Richmond all roads carried 7,744,255 passengers, an increase of 498,610.

Reply to the Physiological Sub-committee of the Committee of Fifty.

Mr. Gallinger presented a document, No. 171, to the national Senate, containing a reply to the physiological sub-committee of the Committee of Fifty, by Mrs. Mary H. Hunt, world and national Superintendent of Department of Woman's Christian Temperance Union. The document was ordered to be printed. The sub-committee, after a lengthy and careful consideration of the present system of scientific temperance instruction in the public schools of the United States, concluded that the teaching as at present conducted was not exactly scientific and was also too one-sided. (1) They object to instruction being given to all pupils in all schools instead of being confined to the older pupils, especially those in the high school. (2) They object to it as frankly and honestly a total abstinence movement. (3) They cite for criticism the teaching that alcohol is not a food, but a poison. Mrs. Hunt in her reply endeavors to show: (1) That no evidence is presented by the sub-committee to prove that alcohol is a food in the sense in which the word is commonly understood. (2) That no evidence is presented by the sub-committee that alcohol is not a poison according to standard definitions of the word poison. (3) That no evidence is presented by the sub-committee that anyone who attempts the beverage use of alcoholic drinks, even with meals after the day's work is done, can be sure that he will not fall a victim to the alcoholic appetite. Hence they do not prove that moderate drinking is safe. (4) That no evidence is presented by the sub-committee that confining the study of temperance physiology to the older pupils, especially those in the high school, would not introduce it too late, after cigarette and other wrong habits may have been formed, or after an overwhelming majority of the pupils have left the school. Therefore, in the opinion of Mrs. Hunt, the Physiological Sub-committee have not proved the indorsed physiologies inaccurate on the above points, or that confining the teaching to the older pupils would be either wise or safe.

With regard to temperance in the use of alcohol, the Medical Record has always strongly advocated the strictly scientific interpretation of stimulation. The promoters and followers of the temperance movement in their zeal for the furtherance of their beliefs will listen to no argument from those who hold with moderation. They argue that if a large amount of alcohol does great harm a smaller quantity must necessarily do harm to a lesser extent. There is no proof that this is so,—indeed, as Sir James Paget pointed out, the facts are the other way. Large quantities of quinine will make a man, at least for a time, deaf and blind; smaller quantities may do nothing of the kind, but may cure his ague; and yet smaller doses may leave him with his ague and all his senses unaffected but may improve his appetite. One quantity of arsenic may kill any man; another much smaller may strengthen him or cure his neuralgia or some disease of his skin.

So far as the teaching of the public schools respecting the physiological action of alcohol is concerned, there can be no great objection to it provided that such teaching is in agreement with the opinions of the most eminent authorities on the subject. It would be interesting to learn the source from which the present method of physiological teaching was drawn, whether from the writings of the best known authorities or only from those whose views chime in with the views of the advanced temperance section. The fact must be borne in mind that the greater weight of argument rests with the men who believe in moderate drinking and not in total abstinence. At any rate, it would seem that the sub-committee are perfectly right in insisting that young children should not be taught the harmfulness of alcohol from a physiological standpoint. Even if the subject be taught fairly, they cannot understand, are apt to become wearied, and instead of doing them the good intended, the reverse is the case. Mrs. Hunt and her followers are enthusia tic in the cause of temperance, and for this are worthy of the highest commendation, but some of their

zeal has been diverted into misdirected channels, one of which is the teaching of the physiological action of alcohol in the public schools.

Typhoid Fever in Philadelphia.

Although the cities of the United States are improving in sanitary matters, they are for the most part far behind some of the European large towns, —notably those of Germany and Great Britain— in this respect. One of the most reliable gauges of efficient sanitation is the freedom of a locality from typhoid fever. If this disease frequently occur then the sanitary arrangements, and particularly the water supply, must be viewed with grave suspicion. Judged by this standpoint, there are unfortunately a large number of cities in this country which, if weighed in the balance, will be found wanting. Among the large centers of population, to which attention is continually being drawn by oft recurring epidemics of typhoid fever, Philadelphia is the most prominent. Typhoid fever and Philadelphia are almost synonymous terms. The hope expressed that an abatement of the typhoid death rate of the Pennsylvania city was at length in sight, has not been borne out by recent official statistics. These figures show that during the week ending May 15, 297 new cases and 38 deaths were reported. The disease, too, is now epidemic in nearly all parts of the city and there are no signs of its decrease. Since January 1, 4,051 cases and 361 deaths have been reported.

Under the circumstances it is difficult to resist the conclusion that the sanitary authorities of Philadelphia have not grappled with the matter in a sufficiently energetic way. It would appear, that there has been either too much laxity in performance on the part of the local sanitary administration, or that there is a lamentable lack of expert knowledge among Philadelphia sanitarians. Be the cause what it may, it is a decided blot on the government of the Quaker city that a preventable malady like typhoid fever should be allowed to spread almost unchecked. Lessons as to the best methods of dealing with this disease can be easily obtained in many European cities and in a few American cities, and for the sake of the fair fame of Philadelphia it would be fitting that measures be taken to stay the course of typhoid fever and to prevent its frequent recurrence.

The Practice of Medicine in New York City.

A case which has recently been decided in New York City, throws much light upon the manner in which the laws regulating the practice of medicine in New York State are not infrequently evaded. The case in question was brought by the Medical Society of the County of New York against an individual, who, in the opinion of the society, had contravened the medical laws of the State.

The defendant advertised himself as a physician of natural cure and balneotechnic, and stated that he cured all kinds of diseases without medicine or instrument, by means of massage and heat gymnastics, magno-electro and hydropathic treatments. He also provided all kinds of cure-baths, herbs, mineral, sulphur, iron, lithia, pine-needle, aromatic and all medicated baths. Blood purifying and good complexion a specialty. Massage, steam, hot air, vapor, and astringent baths for males, females, and children. Prices liberal.

The point to be decided was as to whether the defendant had practised medicine without registration—that is to say, whether he had undertaken to diagnosticate and cure disease. The witnesses called, one of whom was an agent for the New York County Medical Society, proved to the satisfaction of the court that he had done so, and the defendant was sentenced to pay a fine of $100, and in default of payment to be committed to the New York City Prison for a term of thirty days. An example might with advantage be made of many like fakirs, who prey upon the ignorance of the public and who take the bread from the mouths of legitimate medical practitioners. The law as to medical practice should be scrupulously enforced.

News of the Week.

Health-Board Diagnosis of Cerebrospinal Meningitis.—Owing to the prevalence in the city of epidemic cerebrospinal meningitis, the Department of Health offers to place at the disposal of hospitals and medical practitioners the service of its laboratories to aid in the diagnosis of this disease. The meningococcus is found in the cerebrospinal fluid of the majority of cases, and usually also in the nasal secretion. The Department of Health will examine free of charge specimens of cerebrospinal fluid, as well as smears of, and cultures from, the nasal secretion. Such examination will in many instances assist in the early recognition of the disease, and in determining the nature of obscure cases. Special outfits, consisting of a blood-serum culture tube, a sterilized swab, and a glass slide for the smear, can be obtained at the Department of Health, Fifty-fifth street and Sixth avenue. After the specimens have been obtained they should be sent at once to the Department. Reports will be sent by telephone and mail. Specimens of cerebrospinal fluid can be readily obtained by lumbar puncture, a simple operation easily performed by the attending physician himself, or any surgeon. The operation, in addition to being an aid in diagnosis, is directly beneficial because of the relief of the intraspinal pressure.

The American Medical Temperance Association.—The thirteenth annual meeting of this association will be held in the parlors of the hotel Dennis at Atlantic City, June 8 and 9. There will be an address "On the Effects of Alcohol on the Structure of the Body," by the honorary president, Dr. N. S. Davis of Chicago, and also "A Review of Late Researches Concerning Alcohol as a Drug in Medicine," by Prof. W. S. Hall, the president. Other papers on allied topics will be read by Drs. Mann, Nichol, Crothers, Mason, Kellogg, Reynolds, Steward, Reese, Paulison, Madden, and others. "The object of this association is to encourage and promote the clinical, therapeutical, pharmacological and chemical study of alcohol in health and disease. It also aims to gather, compile, and make available the studies and experiences of medical men in all parts of the country concerning the use of alcohol and to formulate such definite facts as can be utilized and made available in the practice of medicine. The spirit and purpose of the association is a purely scientific one, concerning the nature and the character of alcohol, irrespective of all possible conclusions. Regular practitioners of medicine may become members by a two-thirds vote of the association after signing an application to the secretary. All persons interested in this great topic are earnestly invited to attend the annual meeting." Further particulars may be obtained by adressing T. D. Crothers, Secretary, Hartford, Conn.

Evening Meetings of the American Medical Association.—In addition to the orations to be delivered as usual at the general sessions of the annual meeting

t Atlantic City, there will be on each of the first ree evenings a number of minor addresses on arious subjects. At the first meeting, following e Oration on Medicine by Dr. George Dock of nn Arbor, Mich., there will be given by Dr. J. S. illings of New York an account of the work of the arnegie Institution; Dr. L. Emmett Holt of New ork will speak of the Rockefeller Institute; Dr. rank Billings of Chicago of the Memorial Institute r Infectious Diseases; Dr. Harold C. Ernst of oston of he research work at Harvard, and Dr. lfred Stengel of Philadelphia of the William Pepper inical Laboratory. Wednesday evening Dr. W. Mayo of Rochester, Minn., will deliver the Ora- on on Surgery. Following this Dr. Victor C. aughan of Ann Arbor, Mich., will talk on the sub- ct "What Can the Medical Departments of the rmy, of the Navy, and of the Public Health and arine-Hospital Service Do for Medical Science?" rgeon-Major William C. Borden, U. S. Army, ill speak on "What Can the Medical Profession o for the Army?" Surgeon C. F. Stokes, U. S. avy, will speak for the Navy, and Surgeon-General alter Wyman will speak for the Public Health and arine-Hospital Service. Thursday evening the ration on State Medicine will be delivered by Dr. erman M. Biggs of New York City. Following this r. William H. Welch of Baltimore will speak on The Bureau of Animal Industry; Its Service to edical Science"; Dr. D. E. Salmon of Washington, . C., on "The Service of the Medical Profession the Bureau of Animal Industry," and Dr. H. W. Wiley of Washington, D. C., on "The Bureau f Chemistry and Medical Science."

Faculty Reorganization at the University of Pennsylvania.—A plan for the reorganization of the aculty has just been approved by the board of rustees, whereby the faculty membership has been xtended to the clinical, associated, and assistant rofessors, to the associates and lecturers, and to mited representation from the subordinate staff. he scheme provides for an executive body or coun- il, to be composed of the heads of the departments a the fundamental subjects and two representatives f the specialties. The plan will be put into effect n September 1 of the current year.

A New Women's Dispensary.—The articles of in- orporation of the Bedford Guild Dispensary, which ave the approval of the State Board of Charities, ere filed in the County Clerk's office in Brooklyn st week. The object of the organization, as stated a the charter, is to provide medical and surgical id for women and children by women physi- ians.

Gift to the Manhattan Eye, Ear, and Throat Hospital.—It is stated that conditional donations to the mount of $125,000 are now assured to this institu- ion by a gift of $40,000, needed to meet the condi- ions, by Mr. Edward R. Thomas of this city. A ite for the new building has been secured on Sixty- hird and Sixty-fourth streets, east of Third avenue. t is not far from where the Rockefeller Institute is o be built.

The Woman's Hospital.—The corner-stone of the ew Woman's Hospital was laid on May 17. Mr. ohn E. Parsons, president of the hospital, made he principal address. The new hospital will be six tories high, of steel and brick, with fancy trimmings. The building will have a frontage of 200 feet on One hundred and tenth street, and will extend through to One hundred and ninth street. There will be two wings in the shape of the letter U. When completed the new building will have cost a little over $1,000,000.

Typhoid Fever in Philadelphia.—Notwithstanding the lateness of the season there seems to be no abatement in the typhoid-fever epidemic in Philadelphia During last week 297 new cases were reported and 38 deaths. Until quite recently the disease was largely confined to West Philadelphia, but it is now epidemic in nearly all parts of the city. Since January 1 there have been 4,051 cases reported and 361 deaths, showing a mortality of very nearly 9 per cent.

Michael Reese Hospital Receives $400,000.—This amount has been raised by the committee of eight for the erection of a new hospital by this name, and at the joint annual meeting of the Board of Directors of the United Hebrew Charities, and the Associated Jewish Charities, Leon Mandel, Edwin G. Foreman, W. N. Eisendrath, Moses Born, Julius Rosenwald, Maurice Rosenfeld, Moses E. Greenbaum, and Herman F. Hahn, were appointed a building committee, with power to act.

Philadelphia Hospital.—As a result of the examination held recently for the position of interne forty-one of the eighty-five applicants passed the civil-service examination and are thus eligible for election. There are nineteen vacancies to be filled from time to time, and these will be assigned to those who attain the highest averages. Should any of these decline to serve, the positions will be offered to those who stand next in order in the list. Of the first nineteen, eleven are graduates of the University of Pennsylvania; six graduates of Jefferson Medical College, and two graduates of the Medico-Chirurgical College. Of the remainder, fourteen are graduates of the University of Pennsylvania; four graduates of the Medico-Chirurgical College; three graduates of Jefferson Medical College, and one is a graduate of the Woman's Medical College of Pennsylvania.

Indiana State Medical Association.—The Indiana State Medical Association closed its annual convention May 20, with the election of the following named officers: *President*, G. T. McCoy, Columbus; *Vice-Presidents*, H. J. Hall, Franklin; C. T. Hendershot, Cannelston; D. J. Loring, Valparaiso; *Secretary*, F. C. Heath, Indianapolis; *Treasurer*, A. E. Bulson, Ft. Wayne. Edwin Walker, Evansville; W. N. Wishard, Indianapolis; D. C. Peyton, Jeffersonville, and C. A. Daugherty, South Bend, were selected delegates to the convention of the American Medical Association, at Atlantic City, in June. The State association will meet next year at West Baden. A resolution was adopted requesting the State Board of Medical Registration to refuse the demands of various literary institutions of the State that they be permitted to establish a two-year pre-medical course, to be recognized as that much of the regular four-years' college course demanded for the Bachelor of Science degree.

Kentucky State Medical Association.—The Kentucky State Medical Association closed its convention May 20 with the election of the following named officers: *President*, F. H. Clarke, Lexington; *Vice-Presidents*, L. L. Robinson, Middlesboro; H. S. Cooke, Wayne County, and Buckner Littlepage, Powell County; *Secretary*, James B. Bullit, Louisville; *Treasurer*, W. B. McClure, Lexington; *Orator in Surgery*, Louis Frank, Louisville; *Orator in Medicine*, J. A. McClymonds, Lexington; *Delegates to the American Medical Association*, J. H. McCormick, Bowling Green, and A. D. Price, Harrodsburg; *Delegate to Mississippi Valley Medical Association*, J. H. Stucky, Louisville. The only change made in the list of councillors was in the election of J. S. Locke of Knox County to succeed B. F. Herndon.

Ohio State Medical Association.—The association elected officers on May 20 as follows: *President*, Dr. S. S. Halderman, Portsmouth; *Vice-President*, Dr. J. S. Deemy, Bellefontaine; Dr. W. E. Morris, Lisbon, and Dr. H. H. McCullough, Mansfield; *Secretary*, Frank Wilders, Columbus; *Councillors*, First and Sixth Districts, Dr. Brooks F. Beebe, Cincinnati, and Dr. T. Clark Miller, Massillon; *Delegates to the American Medical Association Convention*, Dr. John P. Sawyer, Cleveland; Dr. J. F. Marchand, Canton, and Dr. Thos. Hubbard, Toledo.

State Hospital Changes.—At a meeting of the New York State Commission in Lunacy held May 21, the following transfers of superintendents were ordered to take effect June 1, 1904: Dr. O. M. Dewing, from the Long Island State Hospital, Kings Park, to the Long Island State Hospital, Flatbush; Dr. W. A. Macy, from the Willard State Hospital to the Long Island State Hospital, Kings Park, and Dr. R. M. Elliott, from the Long Island State Hospital, Flatbush, to the Willard State Hospital.

Officers of the Louisiana State Medical Society.—At the twenty-fifth annual session of the Louisiana State Medical Society, held at New Orleans May 10, 11, and 12, the following officers were elected to serve until May, 1905: *President*, Dr. Charles Chassaignac, New Orleans; *First Vice-President*, Dr. Oscar Dowling, Shreveport; *Second Vice-President*, Dr. L. C. Tarleton, Marksville; *Third Vice-President*, Dr. J. F. Buquoi, Colomb; *Secretary*, Dr. Isaac Ivan Lemann, New Orleans; *Treasurer*, Dr. M. H. McGuire, New Orleans. *Councillors:* A councillor was elected for each of the seven congressional districts, as follows: First, Dr. P. E. Archinard, New Orleans; Second, Dr. A.G. Friedrichs, New Orleans; Third, Dr. J. J. Ayo, Bowie; Fourth, Dr. N. K. Vance, Shreveport; Fifth, Dr. S. L. Williams, Oak Ridge; Sixth, Dr. C. M. Sitman, Greensburg; Seventh, Dr. C. A. Gardiner, Sunset. *Delegates to the American Medical Association:* Until 1905, Dr. W. G. Owen, White Castle; Alternate, Dr. A. F. Barrow, St. Francisville. Until 1906, Dr. Wm. M. Perkins, New Orleans: Alternate, Dr. J. B. Elliott, Jr., New Orleans.

Commencement of Medical Department of University of Cincinnati.—The annual commencement of the Ohio Medical College was held at the university auditorium May 25 at 3 P.M. Forty-six were graduated.

Jefferson Medical College.—The following clinical professors have been elected to full chairs with seats in the faculty: Dr. Howard Forde Hansell, ophthalmology; Dr. W. Joseph Hearn, surgery; Dr. Henry W. Stelwagon, dermatology; Dr. H. Augustus Wilson, orthopedic surgery; Dr. Edwin E. Graham, pediatrics; Dr. Orville Horwitz, genitourinary surgery; Dr. S. MacCuen Smith, otology; Dr. D. Braden Kyle, laryngology; Dr. Solomon Solis-Cohen, medicine. Dr. John H. Gibbon has been elected Associate Professor of Surgery; Dr. Randle C. Rosenberger, Assistant Professor of Bacteriology; Dr. Aller G. Ellis, Associate in Pathology.

Dr. Stanley Zinke of West Eighth street, Cincinnati, former city hospital interne, has successfully passed an examination to enter the medical department of the United States Army. He will enter the service with the rank of first lieutenant.

State Hospital Officials to Meet.—An interesting program has been prepared for the meeting of Ohio State Hospital officials to take place on June 21 at Longview Asylum, Cincinnati, under the presidency of Dr. Henry A. Tobey.

"Elks' Medical Relief Corps" is the name of an organization just perfected to attend to the physical ills of the Elks during the reunion next July in Cincinnati. Health Officer Davis has been elected chairman, and Dr. Otis, secretary, with the following members: Drs. Walker, Corboy, Wilson, Haerr, Wendel, Maloney, Bebe, and Musecamp. Others are expected to join. As the reunion is to be held during the most heated part of the year, and as men are somewhat careless on such occasions, it is anticipated that there will be more or less illness, and the design of the corps is to meet it. There will be a number of medical relief stations established, and an ambulance corps formed, the city being divided into districts for the purpose.

Illinois State Medical Society.—The fifty-fourth annual meeting was held at Bloomington, May 17, 18, and 19, 1904, under the presidency of Dr. Carl E. Black of Jacksonville. The scientific work was divided into two sections, medical and surgical. In both sections over sixty papers were read and discussed. There were symposia on tuberculosis, eclampsia, and carcinoma. The meeting was well attended. The following officers were elected for the ensuing year: *President*, Dr. Wm. E. Quine, Chicago; *Vice-Presidents*, Dr. H. C. Mitchell, Carbondale, and Dr. J. F. Percy, Galesburg; *Secretary*, Dr. E. W. Weis, Ottawa; *Treasurer*, Dr. Everett J. Brown, Decatur. Rock Island was selected as the place for holding the next annual meeting.

The Graduating Exercises for Nurses were held at the College of Physicans and Surgeons, Chicago, May 18, when twelve nurses were given diplomas, they having completed the three years' course of instruction given at the West Side Hospital.

Plague Bacilli Loose.—A London doctor, on his way home from India, is reported to have lost a number of test-tube cultures of plague bacilli somewhere between St. Paul and Chicago. The collection was made during a course of three years' study on the west coast of India.

American Laryngological, Rhinological, and Otological Society.—The tenth annual meeting of this society will be held in the Auditorium Hotel, Chicago, on May 30 and 31, and June 1, under the presidency of Dr. Nooval H. Pierce of Chicago. The secretary is Dr. Wendell C. Phillips, 40 West Forty-seventh Street, New York City. The program contains the titles of thirty-three papers and discussions. On the evening of the first day the president will entertain the fellows of the society at a reception, and the annual dinner will take place on the second evening.

National Association for the Study and Prevention of Tuberculosis.—The first meeting of this recently founded society will be held in the Public School Building, Atlantic City, N. J., on Monday evening, June 6, at 8 o'clock. A draft of a constitution and by-laws, drawn up by the committee on organization will be submitted for adoption at this meeting. Those intending to be present are requested to notify the secretary, Dr. H. B. Jacobs, 11 Mt. Vernon place, West, Baltimore, Md.

Maine Medical Association.—The fifty-second annual meeting of this society will be held in the Common Council Chamber of the City Hall, Portland, on June 1, 2, and 3, under the presidency of Dr. Augustus S. Thayer of Portland. The corresponding secretary is Dr. A. H. Sturtevant of Augusta. The annual dinner will be given on the afternoon of June 2 at 4 o'clock, and at 8 o'clock the evening the annual oration on "Anomalies of Thyroid Secretion" will be delivered by Dr. Frederick E. Shattuck of Boston.

Obituary Notes.—Dr. CHARLES HARRISON CRAWORD of Chicago died at his residence in that city i April 28. He was a graduate of the Albany Medal College in the class of 1881.

Dr. THOMAS J. FITZMAURICE of Paterson, N. J., ed on May 20 of disease of the liver. He was a aduate of the Bellevue Hospital Medical College this city in the class of 1891. He was elected derman about two years ago.

Dr. MERRITT H. CASH VAIL of Vailsburg, Essex ., N. J., died a few days ago at Long Beach, Cal. e was born in Glenwood, Sussex Co., N. J., seventyre years ago. He studied medicine with his uncle, r. Cash, obtaining his degree from the Castleton, t., Medical College in 1851, and then started in actice in Susquehanna, Pa. He went to Newark 1860 and practised there for a time. During the vil War he went to the front with the First New rsey Regiment of Volunteers. After the war he nducted the *Newark Morning Register* for ten years d later owned a weekly newspaper called the *ewark Item*. During his residence in Newark e represented the Second Ward on the Board of ducation. He was appointed County Superinndent in 1891. He afterward removed to South range, and founded the town of Vailsburg.

Dr. FRANK P. BLAIR of Allegany, N. Y., died on lay 21 of cancer, at the age of sixty-one years. le was a graduate of the Albany Medical College i the class of 1877.

Dr. J. ELWOOD PETERS died of apoplexy at Jenintown, Pa., on May 16, at the age of forty-nine ears. He was graduated from Hahnemann Medical ollege, Philadelphia, in the class of 1875.

Dr. ALVIN M. WOODWARD died at his home in his city on May 20, at the age of sixty-eight years. le was born at Dresden Mills, Me., and studied nedicine at Bowdoin College, later going to the Homœopathic Medical School in New York, where e was graduated in 1862. For thirty years he was ttending physician at the Protestant Orphan sylum in this city.

The Vital Importance of Detection and Relief of Eye-train.—Ambrose L. Ranney presents a comprehensive eries of conclusions and deductions, some of which are as ollows: Eye-strain can be a potent factor in disturbing he normal development of both mind and body and in ausing and perpetuating physical ills. Near-sightedness, hen uncomplicated, causes little or no eye-strain. An mperfect centering of a strong myopic glass to the pupils nay create great nervous disturbance, however, because f prismatic effects. Far-sightedness and astigmatism hould be recognized early in life and corrected by glasses. Both cause an unnatural expenditure of nervous force in proportion to the extent of the defect. Mal-adjustment f the eye muscles may exist as an independent deformity. t is a most prolific cause of physical and mental ills. Imperfect mental or physical development is very apt to e associated with some type of eye-strain. No child hould ever be allowed to begin its education without preliminary testing of the eyes and also of the eye muscles. The full amount of mal-adjustment of the eye muscles is not usually disclosed because sufferers of this class unconsciously acquire "tricks of adjustment." A very large proportion of eye defects is congenital. Eye-strain predisposes to the development of cataract and other eye diseases. The writer believes that many inmates of institutions for the feeble-minded, insane hospitals, and epileptic colonies, owe to eye-strain their confinement or social ostracism. This statement is based upon carefully collected clinical data. Legislative enactment should compel an eye examination of every child before it enters the public schools.—*New England Medical Monthly*. February, 1904.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

MEASLES IN SCHOOLS—CANCER—REPORT OF THE RESEARCH FUND — RADIUM, MR. PLIMMER'S VIEW—MIDDLESEX HOSPITAL DINNER—A CANCER WARD.

LONDON, April 5, 1904.

No one doubts the influence of schools in the spread of measles, and most of us agree that during our epidemic, children who have not suffered from it, should not attend. Dr. Newsholme, the energetic M. O. S. of Brighton goes further. He would exclude the infant classes and close infant schools compulsorily. They would certainly be better away from crowded school-rooms. If we desired to spread an infectious disease of children could we take a surer method than to crowd these classes into ill-ventilated rooms? Mere babies from three to six are really learning nothing *pace* the educationist's craze. The schools are popular enough for these babies. Yes, the mothers are thus relieved of care, and the teachers are enabled through them to secure a larger government grant, and so the poor mites are deprived of play and exposed to concentrated infection. Then those who favor the system hold up their hands in horror when told that 75 per cent. of the cases of measles occur among these infant classes with about 90 to 95 per cent. of the deaths. If those infants were excluded their natural protectors would have the care of them, about 14 per cent. would be added to the school accommodation of the country and a quarter of a million of pound sterling would be saved from the educational tax which is increasing so rapidly that a reaction is likely to set in against the extravagance of the self-styled "educationists."

The first report on the investigations of the Cancer Research Fund, under the direction of the two Royal colleges is now out and contains three papers, recording the work done by Drs. Bashford and Murray. In the first paper the zoological distribution of the disease is considered. Growths with the histological characteristics of cancer have been obtained from domestic animals, captive wild animals and the same in their wild surroundings. These observations confirm those of previous investigations as to the wide distribution of cancer among vertebrates and show how slight, if any, must be the influence of diet, habitation, and other conditions.

In the next section, the transmissibility of malignant growths from one animal to another is considered. The success announced by Jensen and Borrel in transplanting cancer in mice from one animal to another was further tested in the laboratory with material supplied by Professor Jensen. With this material, 259 inoculations were made. The result was successful in 25 to 30 per cent., and confirmed Jensen's statement that the development of the tumors arose from the actual cells inoculated. In successful transplantations the parenchyma of the growth preserves the same characters. The rate of growth and the proportion of stroma is subject to variation. The success is prevented by exposing the tissue to a temperature of 37° C. for twenty-four hours. Breaking it down in a mortar does the same.

The third section is devoted to the comparative cytological characters of malignant growths. Here I notice that the heterotype mitosis described by Farmer, Moore, and Walker, and which I reported to you at the time, is confirmed by the work in the Cancer Research Laboratory. The number of cells showing this mitosis varies in different tumors and seems to have no relation to the degree of malignancy; the mitoses in the growing margin are uniformly of the somatic type, and where rapid degeneration is going on, are sometimes difficult to find. This militates strongly against their value as an aid to diagnosis.

The negative results of transplantation of tissue of the testis or ovary also militates against the view of Farmer, Moore, and Walker that the cancer process is a transformation of normal into reproductive tissue possessing malignant properties. Certain nuclear figures seen in some of the carcinomata examined are considered to support the idea that a sort of conjugation takes place in these cells; if so, a new cycle would thereby be started, and the independent growth of new malignant tumors explained. Whether such conjugation of the cells or nuclei of normal tissues occurs to start a cancer tissue is a matter for further investigation.

Mr. H. G. Plimmer's experiments with radium in cases of cancer is generally quoted as almost conclusive that the hopes generally excited are to be disappointed. He investigated seventeen cases of carcinoma, some of them in an advanced condition. One was a fungating mass secondary to epithelioma of the jaw. Another a sloughing epithelioma of the lip, the others mostly schirrus. The exposures varied in length of time but none were very

prolonged. One could scarcely expect a very great effect in the deeper parts from a brief exposure, and the results of these trials are particularly negative. Mr. Plimmer says, "It appears as if the emanations from radium can only act upon young and rapidly growing cells, and that older cells, especially if surounded by fibrous tissue, are less and less easily affected, and if there be an excess of fibrous tissue the cells are not at all affected." This agrees very well with the effect observed by Exner in a case of melanotic sarcoma and with Apolants' experiments on mice, and is, perhaps, the opinion most generally entertained at present.

The Lord Mayor presided at a dinner in aid of the Middlesex Hospital on Tuesday. About 170 guests were present and above £6,000 subscribed. Lord Sanhurst, the Chairman of the Weekly Board, mentioned the improvements lately made and said that the records of the institution from 1746 had been examined, giving statistics of six thousand cases of cancer which would, no doubt, be useful to investigators. The Lord Mayor said the hospital was established 150 years ago and opened the cancer ward twenty years afterward. You are aware how this ward has developed and that the Middlesex Cancer Research is being carried on under the best auspices.

DISINFECTION OF CAR CLOSETS.

To the Editor of the Medical Record:

Sir: My attention has lately been called to an interesting article by Dr. P. B. Barringer, in your issue of December 19, 1903. In discussing the etiology of typhoid fever, he alludes to an Unrecognized Source in the dissemination of fæces by railroad trains and suggests a retention closet. While hygienists must generally have seen the advisability of retention closets on trains and fresh-water boats, if their attention has been thus directed, so that the matter of priority is unimportant, I take the liberty to quote from an article published in the *Buffalo Medical and Surgical Journal* of October, 1892. During the summer and fall of 1892, there was considerable apprehension of an epidemic of cholera asiatica, and the health physicians were ordered to report on the sanitary conditions of their districts, with special reference to the conditions bearing on a possible epidemic of cholera. As my district included the principal station and considerable of the intramural tracks, railroad sanitation was considered in a separate paragraph. . . . "As railroads are the principal carriers of infection to inland towns, and as the main exit of the cholera spirillum is through the intestine, the closets in passenger cars should be kept locked inside the city limits. In fact, it would be better . . . to have a metal bucket fitted to the ordinary open cylinder of the car closet. A disinfectant could be kept in the bucket, which could be changed at certain stations and the disinfection completed."

A. L. Benedict, M.D.

Buffalo, N.Y., May 7, 1904.

Sulphur Baths.—P. Roethlisberger presents the results of his experiments with sulphur baths. He found that in the baths and for a considerable time afterward, the temperature of the rectum showed a marked diminution, whereas the external (axillary) temperature increased or remained stationary in baths varying from 88° to 100° F. In water of 100° to 100½° the heat of the rectum decidely rose, but dropped below normal after the baths. The number of the heart's pulsations were distinctively diminished in the baths at a temperature of 88° to 93½° F. This effect lasted for sometime. The number of pulsations increased in baths of 97° to 100½°. The blood pressure was very little lowered by the warmer baths, but was increased by the cooler ones. At the very commencement of all baths the number of respirations increased and remained more frequent in the warmer ones. In the cooler baths, the respirations became normal again, or even subnormal, this diminution continuing after the baths. As to nutrition, during and after bathing, there was a very marked increase of urea in proportion to the total nitrogen, showing diminution of the xanthin bases lessening of the acidity of the urine, a decrease of the total phosphates, and augmentation of the total sulphates. There was regular increase of hunger and thirst during bathing. After the cooler baths there was augmentation of muscular strength, and after the warm ones, a diminution of the same—*Journal of Balneology and Climatology.*

Progress of Medical Science.

The Boston Medical and Surgical Journal, May 19, 1904.

Enterostomy in Peritonitis.—Robert B. Greenough sums up the points covered in his paper as follows: The obstruction of the intestine in diffuse peritonitis is the result of a combination of causes. The most important cause is suspension or paralysis of peristalsis. Paralysis of peristalsis is due to inhibition, to toxic paralysis, and to the paralysis of distention. Mechanical causes, such as infiltration of the bowel wall and light adhesions in certain cases contribute to this paralysis. Pure mechanical obstruction due to adhesions is the result of chronic or local peritonitis of at least some days' duration. Enterostomy is indicated in addition to other operative measures in the graver forms of diffuse peritonitis. Its greatest advantage is the drainage of the gases and decomposing contents of the bowel and the relief of paralysis of peristalsis. By enterostomy the surgeon obtains direct control over the intestine for lavage and for the introduction of stimulants, nourishment, fluids and cathartics. For the relief of paralysis of peristalsis primary enterostomy is to be preferred to the secondary operation. Enterostomy is best performed by the use of the Mixter tube. The cæcum is the most satisfactory part of the bowel for a primary enterostomy, and the jejunum is to be avoided. Spontaneous closure of the fistula may be expected when the cæcum is opened, if the opening is kept below the level of the parietal peritoneum. By the systematic use of enterostomy in the graver forms of diffuse peritonitis the number of patients dying on the second, third and fourth days after operation is reduced. The symptoms of visible peristalsis and spasmodic pain in intestinal obstruction indicate a mechanical cause for the obstruction. The persistence of these symptoms, unrelieved by enemata and cathartics, is an indication for operation. Under these circumstances the cause of the obstruction should be removed if possible by operation. In advanced cases of obstruction of this form, enterostomy of the coil of intestine nearest above the obstruction should be done.

Journal of the American Medical Association, May 21, 1904.

The Apostoli Treatment.—G. Betton Massey summarizes the final results of this method of treatment in some cases of uterine fibroids. His conclusions are as follows: (1) A prolonged observation of cases of fibroid tumors of the uterus under the Apostoli treatment teaches that three-quarters of the cases subjected to this method will be practically cured, as attested by inquiries made from three to sixteen years after the cessation of treatment. (2) The cases that responded poorly, or not at all, to this treatment are not harmed by it, when properly applied, and heroic measures may then be adopted with the certainty that milder means are of no avail. (3) Hemorrhagic and interstitial fibroids are best adapted to the Apostoli treatment, while subperitoneal or degenerative fibroids and those complicated with pyosalpinx are least adapted to be relieved by it. (4) So far as the author's inquiries and circulars show, there have been but seven deaths among one hundred and ten patients during the sixteen years or less that they have been under his observation. It is an interesting fact, moreover, that but one of these deaths was due to the progress of the growth itself, proving the non-mortal character of this affection. Of the remaining six, one died long after treatment of an affection totally unconnected with the growth, one of septicæmia under electric treatment and four while under operation with the knife.

Serum-therapeutic Measures.—H. T. Rickets reviews the progress that has been made along the lines indicated. He notes that various salts even in nitrate quantities inhibit the action of this class of remedies, and suggests that susceptibility and resistance to infection may vary according to the saline elements in the blood at the time of exposure to infection. He believes that certain laws have been discovered in accordance with which certain immunity reactions occur. Some of our sero-therapeutic measures, especially vaccination and the antitoxin treatment of disease, justify a belief in these laws, but our failure in other directions shows that to these laws are attached certain corollaries about which we are still ignorant. We are not yet in a position to treat all threatened cases by vaccination of various kinds, but our immediate task is to seek for antitoxins for all the infectious diseases. As yet all our attempts to obtain from such bacteria as the typhoid bacillus, toxins, immunization with which will yield an antitoxic serum of value in combating the established infection, have failed. It may be that the desired result will come out of the attempts made to obtain an anti-typhoid preparation by grinding the bacillus at the temperature of liquified air. If we can attain success in the case of this particular malady, there

s reason to hope for a like happy result with other diseases.

The Use and Abuse of Hypnotics.—According to W. Blair Stewart, no plan of treating insomnia is rational hat does not seek for the underlying cause of the condition complained of. The insomnia of acute indigestion, ever, earache, toothache, outside noises calls for the rimary removal of the respective causes of these conditions and not for the routine administration of some avorite remedy. Mild massage, warm baths, and warm il-rubs at bed time will often render drugs unnecessary. o prescribe alcohol even in small quantities to induce leep is a dangerous procedure. There is always danger of abit-formation, and there comes a time when only a large uantity will induce sleep and this sleep is not restful. loreover, the next day there appear the toxic effects of he alcohol in the shape of nervousness, irritability, eadache, anorexia, and often delusions. All of the usual ypnotics are cardiac depressants and ought to be given ith the greatest caution. Perhaps the two safest are ional and sulfonal in that they offer the smallest amount f disagreeable after-effects. Thorough ventilation of the leeping room, hypnotic suggestion, and a cup of warm roth or milk on retiring often render any other measures nnecessary.

The Operative Treatment of Eclampsia.—C. S. Bacon ealizes that operation is often the only way by which to revent eclamptic seizures. Two methods come under onsideration, induction of labor and cæsarean section. or the former that method should be selected which ffers the least amount of disturbance to the patient. For n anæsthetic the author prefers ether to chloroform. o control convulsions simply, morphine is the preferable emedy. Purgation by croton oil, diaphoresis by hot packs, venesection from the arm, normal salt solutions nder the skin and oxygen all are adjuvants to the operative procedure adopted. Slow dilatation of the cervix is preferable, and we should dilate the cervix with a branch or olid dilator to admit one finger, rupture the membranes nd introduce a small Voorhees bag. Then ether should be withdrawn and the patient put back in bed. With careful control of symptoms and care for elimination the labor should be allowed to progress until the bag is expelled. Then if necessary the anæsthetic should be given again and another bag inserted, and again labor be allowed to proceed as before. Finally, after the cervix is well dilated, or after effacement is complete and more active dilatation is safe, more active measures may be taken to deliver the child.

Medical News, May 21, 1904.

Fracture of the Base of the Skull as a Cause of Epilepsy.—Charles T. Aldrich states that his search of the literature establishes the fact that epilepsy is an infrequent sequel of basal fracture. The cause of this infrequency is probably due to the fact that when the base is fractured, the contiguous brain structures are the ones most likely to suffer. These are not structures whose injury is liable to result in convulsive disease, and fractures of the base. When the lesions are severe, extending to the convexity, they usually result in death. The writer believes that cerebral injury wherever located may in after years result in epilepsy. He believes that fracture of the base will be far more liable to produce epilepsy than concussion alone. The writer then reports the history of a case. The patient, a man of thirty-two years, fractured the base of his skull at the age of eighteen. One year following the injury he had a "spell," in which he jerked and twitched, and was unconscious; this was undoubtedly an epileptic fit. Eleven years later he had another attack, in which he presented all of the classical characteristics of a major epileptic seizure. Since that time he has had other attacks. There is no aura. He appears to be irritable for several days preceding the epilepsy. During the seizure his eyes are turned to the right and upward. The face is also turned to the right with the chin over the right shoulder. The body is then twisted around. The clavic spasms are severe. After recovery from the attack he suffers only from general weakness and numbness, neither of which is localized.

The Classification and Symptomatology of Diseases of the Pancreas.—Charles G. Stockton first speaks of tumors of the pancreas. These occur as carcinomata of various forms, adenomata, tuberculosis, syphilis, and cysts. The so-called inflammatory diseases of the pancreas are next discussed. Two forms of distribution of the fibroid degeneration are now accepted: one, the ordinary interlobular type; the other, characterized by diffuse proliferation of the interacinar tissue which invades the islands of Langerhans and apparently constitutes the structural change upon which pancreatic diabetes depends. The writer does not think it satisfactory to attempt the explanation of acute pancreatic processes along the line of ordinary inflammation. In some instances an inflammatory reaction is evident, in others it is entirely lacking. The term necrosis seems more appropriate than inflammation in describing certain instances of acute disease of the pancreas. The presence of hemorrhage in these cases is most significant. The symptomatology of acute hemorrhagic pancreatitis and that of hemorrhage into the pancreas are very closely related. Hemorrhage may be the first recognized step in the necrotic process. In the onset there is intense pain in the lower part of the epigastrium, manifestations of shock, generally nausea and vomiting. These symptoms may continue for a few hours or days. The general appearance of the patient suggests a grave abdominal trouble. The bowels are usually somewhat sluggish. The symptoms are increased by movements of the body. Sometimes the patient sinks into stupor at the last. In suppurative pancreatitis or pancreatitic abscess, there is considerable variation of the symptoms in different cases. In a proportion of cases there is both purulent and hemorrhagic pancreatitis in the same case, producing a group of symptoms that include those which relate to hemorrhage, necrosis, and suppuration. Leucocytosis is to be expected in suppurative cases, but is inconspicuous or absent in those of other types. The fat necrosis of Balser occurs in most but not all acute processes of the pancreas. A number of questions concerning the diseases of this organ yet remain to be elucidated.

New York Medical Journal, May 21, 1904.

A Case of Diabetes Mellitus; Gangrene of the Foot; Operation; Recovery.—The patient of E. P. Stone was an army officer of sixty-five years. The history of diabetes dated back over twenty years, presenting the usual features. In the eighteenth year of the disease gangrene appeared in the right great toe and gradually extended up to the ankle,where a line of demarcation formed. It was the dry, mummifying form of the disease and was comparatively painless. During this time the condition of the urine was gradually improving and finally the absence of sugar was reported. Albumin—formerly present in fair amount—was reduced to little more than a trace, but hyaline and granular casts persisted. The condition of the foot had meantime become a menace to life and amputation, under chloroform anæsthesia, was performed at the junction of the middle and upper thirds. Recovery was uneventful. Three years later the patient was a in very comfortable condition. The sugar had not returned though albumin was present in larger percentage than before the operation, together with hyaline, granular, and occasional epithelial casts.

American Medicine, May 21, 1904.

A Case of Splenomyelogenous Leukæmia Showing Marked Improvement under the Use of the Röntgen Ray.—Charles H. Weber gives an interesting account of this case. The patient, a widow of fifty-three, has now been under observation for a period of less than six months. During this time there has been a progressive improvement in her general condition, symptoms, and blood. For the last five months she has received no medication, only the Röntgen ray. There have been no fluctuations in the blood counts, as exhibited in some cases. The myelocytes have gradually decreased, both relatively and absolutely. At the last examination they had entirely disappeared. At present the blood is normal practically, and if the patient were to come under examination now for the first time, a proper diagnosis would be impossible. The patient feels as well as ever. The case is not reported as a recovery, but it would seem to offer evidence that the Röntgen ray has been of therapeutic value in this condition. Whether in the Röntgen ray there has been found a method which gives permanent relief, time alone will determine.

The Treatment of Pneumonia.—R. S. Thornton declares that pneumonia is a disease which will not submit to cast-iron rules of treatment. It presents a great variety of types. But there are a few indications that are important to be observed in all cases. The chief one of these is rest—both general and local. This means a firm bed. It means the use of the bed-pan, the urine jar, the feeding cup. Every muscular movement that can be avoided, must be avoided. The heart must suffer no unnecessary exertion. Rest means especially that there shall be no talking and no visitors. The temperature of the room must be as equable as possible, at 65° to 70°. The atmosphere should be moistened, especially in winter. As to poultices, they give relief and are welcomed by the patient. But when consolidation has taken place the poultice should be discarded. A smart mustard plaster, the cotton jacket and the hot-water bag all have their use. It is most important to keep the bowels and kidneys acting freely. Sufficient water must be given. An initial purge is indicated—a dose of calomel, or better, a saline laxative.

The writer then discusses the uses of drugs. Digitalin and strychnine are of special value near and after the time of crisis. He has abandoned the use of alcohol altogether. He emphasizes the value of creosote. It is important that the creosote or creosote carbonate should be continued throughout convalescence. The probable explanation of its action is that of an internal antiseptic.

Ulcerative Endocarditis: Report of a Case.—William H. Morrison reports this case that came under his care. The patient, a lad of twelve, had been perfectly well up to the age of six, at which time he presented symptoms indicating the presence of scarlet fever, sore throat, and eruption. Later, he suffered from an attack of nephritis. He was treated for this condition for six or seven months, after which he seemed fairly well with the exception that any extra exertion, as running, led to violent action of the heart, dyspnœa, dry cough, and cyanosis. About five years later he had another illness which was diagnosed as typhoid fever. Two months later he was placed under the writer's care. There was entire absence of symptoms and signs, with the exception of remittent fever, rapid pulse, mitral systolic murmur, and enlargement of the liver and spleen. A careful temperature record was kept for weeks and showed an exceedingly irregular and remittent fever. As a rule the highest point was reached at noon. Considering the history of old cardiac disease, the presence of a continuous, irregular temperature and the absence of the evidences of local disease with the exception of those referable to the mitral valve, a diagnosis of ulcerative endocarditis seemed to be warranted. The prognosis was unfavorable. About six weeks before death there was a sudden attack of severe pain in the right iliac region associated with a fall of the temperature to 97°. This was relieved by a small hypodermic injection of morphia. Two weeks before death there was suppression of urine, with œdema of the face. The urine contained a trace of albumin and a few blood corpuscles. Ten days before death there occurred an attack of syncope. Petechias made their appearance for the first time one week before death. The boy grew steadily weaker and died of exhaustion. Autopsy showed extensive disease of both leaflets of the mitral valve, the entire auricular surface of the valve being covered to the depth of half an inch with friable vegetations. No bacteriologic study was made.

The Lancet, May 14, 1904.

Fasting in Therapeutics.—J. Haddon gives an account of the effects of fasting in the case of a man of sixty-five years who had been a heavy eater and drinker all his life. A scaffold had fallen on him, and when first seen by the author seven years later he walked only with a cane, could not sleep from coughing and spitting, urinated every hour, and could hardly turn in bed from a stabbing pain in the side. He was put on a little fruit twice daily. In five days he lost ten pounds in weight and could dress himself. All his troublesome symptoms left him. He was able to sleep all night, and in a few months was able to perform quite laborious exercise. His pulse at first irregular and intermittent, gradually improved and became fairly regular. He felt neither hungry nor thirsty on the fruit diet.

A Chinese Remedy for Hydrophobia.—V. G. Thorpe finds that a remedy much in vogue in China for cases of hydrophobia is probably nothing more or less than the ordinary strychnine, though in the hands of the natives narcotic and sudorific effects seem to have followed its use. A reference to these effects is found by the author in an old edition (1786) of Chambers' Encyclopædia, although there is no allusion to its employment in the disease in question. Some of the symptoms of hydrophobia bear a certain resemblance to those of poisoning by strychinine, and it would, therefore, almost appear as though the principle of *similia similibus curantur* has been applied by the Chinese in this case. There is no doubt that in regard to other remedies they have a firm belief in this doctrine.

The Relation of the Pancreas to Diabetes and the Question of the Transplantation of that Gland as a Remedy for the Disease.—J. W. Allan calls attention to the following facts: (1) It is well-known that total extirpation of the pancreas induces diabetes. (2) If only a portion of the pancreas is left—even the splenic end—no diabetes occurs. (3) If pancreas is transplanted into an animal before its own pancreas is cut out no diabetes takes place. If the graft is removed diabetes occurs. (4) From (2) and (3) it is evident that the prevention of glycosuria is not due to the ordinary secretion of the pancreas, which flows into the duodenum by the duct of Wirsung. (5) It is reasonable to assume that the organ produces an internal sugar-destroying secretion, and that the portion of gland left (2), or the transplanted gland (3), has the power of forming that sugar-destroying secretion or juice. (6) From the foregoing it might, therefore, be hoped that by transplantation of pancreas a case of diabetes might be cured or relieved. (7) Again, turning to the pathological aspect of the question, we find that disease of the pancreas is frequently associated with diabetes, as is shown *post-mortem*. This is well known and it is, perhaps, unnecessary to cite particular instances. (8) But it must be admitted that there are many cases of diabetes in which no disease of the pancreas is detected. How are we to explain these cases? In the first place, a naked-eye examination may fail to reveal changes in the organ and it may be hastily pronounced "normal" or "healthy." But the real question is, has the gland been subjected to a careful microscopic examination by a skilled observer and does that examination show the islands of Langerhans to be in a health condition? for in those islands the sugar-destroying ferment, the "internal secretion," is produced. From the results of thymoid transplantation in myxœdema, Allan believes that that of the pancreas in diabetes is reasonable and justifiable. Internal administration of pancreatic preparations has been disappointing. He says that if he had a case of diabetes which did not respond to dietetic or drug treatment, and was drifting within the range of diabetic coma, he should be willing to assume the responsibility of advising transplantation of pancreas on the following conditions: (1) That after full and honest explanation of pros and cons the patient requested that the operation shall be performed; (2) that the patient was not suffering from acetonuria at the time; and (3) that a sheep should be killed close to, or in, the place of operation and its pancreas directly conveyed to the body of the patient.

British Medical Journal, May 14, 1904.

The Prevention of Bubonic Plague.—C. Marsh-Beadnell calls attention to the fact that the means of entrance of the plague microorganism or its spore is most often by a solution of continuity of the skin or mucous membrane. This is usually situated in the foot amongst non-Europeans. The writer thinks it would be a good plan to compel all "colored" people resident within or in the immediate neighborhood of plague-infected areas, to wear an adequate protective covering to their feet. He thinks that if this suggestion were enforced, a marked diminution in the bubonic plague-rate would ensue.

The Occurrence of Primary Tuberculous Infection of the Intestinal Tract in Children; the Results of 5,142 Consecutive Necropsies.—William Hunter has made a careful study of this subject. He believes that primary tuberculosis of the intestine is rare in children under five years of age. He believes, too, that tuberculosis of the mesenteric glands is also rare. These necropsies were held during the years 1902 and 1903 at the public mortuary in Hong-kong. The number of children under five years old comprised about 35 per cent. The bodies came from all parts of Hong-kong and the adjoining newly acquired territory. The writer believes that the results obtained amongst a native population where tuberculosis in all its forms is rife, and the conditions of life extremely favorable for the dissemination of the disease, point to the alimentary canal as a rare avenue through which infection in tuberculosis is conveyed in childhood.

Abdominal Pain in Acute Rheumatism.—S. Vere Pearson, in describing this pain, says that it is nearly always situated about the upper half of the abdomen. It is not a superficial pain, but is invariably said to be "inside." Yet it does not go through to the back nor travel round the trunk. It is of short duration, but recurs. It is not associated with nausea or vomiting. It comes on independently of food. Any explanation of its causation must at present rest upon mere speculation. The treatment of this symptom is that of acute rheumatism. When occurring in children, especially if the symptoms are only moderately severe, this is often quite difficult. Sodium salicylate will often alleviate the pain. But when it is severe its cure as a rule is only affected by putting the patient to bed and giving full antirheumatic treatment. Much patience is required in investigating such symptoms in a child.

Remarks on the Infective Nature of Rheumatic Fever, Illustrated by the Study of a Fatal Case.—F. J. Poynton reports the twenty-fifth fatal case that he has investigated. After death the bacteriological results from the cultures were as follows: Pure cultures of the diplococcus were found in the tubes inoculated from the mitral valve, the spleen, and the kidney. The culture from the lung was not pure, but the diplococcus was present among other microorganisms. The tubes containing the pericardial fluid and the blood gave negative results. But these microorganisms, when they grow in the body, grow best in the local lesions, and although they are often present

n the blood they do not thrive in it. Neither are they asily found in recent exudations, for they lie in the novial tissues, and not in the pericardiac exudations. o reach these fluids they must destroy the phagocytic ndothelia that line the synovial membrane and peri-ardium, and the reason why the microorganisms are eposited in the tissues and not at first in the exudation, clearly because they are carried in the blood stream, nd when they escape they will find themselves in the nnective tissues around the blood capillaries. It is ot to be expected that in a slight attack of rheumatic ver, either examination of the blood or of the synovial udation will often result in success. In speaking of the ractical applications of the infective view of rheumatic ver, the writer mentions the following facts: The ex-tence of a true rheumatic bronchopneumonia and a eumatic pleurisy, the existence of a true renal rheuma-sm; the existence of a true rheumatic peritonitis. He ids that simple and malignant endocarditis can be ages in the same process. So if rheumatic endocarditis infective it can be both simple and malignant in type. nte-mortem thrombosis may occur in the heart in eumatic fever without any severe valvular damage. ccurate knowledge can now be obtained upon the pidity of the formation of vegetations and upon their tual structure. The myocardial changes in rheuma-sm are absolutely proved by experiment, for they can e produced by this microorganism. The author gives an lustration of a section taken through a vegetation on the itral valve showing numerous diplococci and chains in he necrotic tissue.

Deutsche medizinische Wochenschrift, May 5, 1904.

Hæmaturia as a Sign of Scurvy.—E. Neter calls atten-ion to the fact that a hæmaturia may be the only evident utward sign of the presence of Barlow's disease. He eports a typical case in a well-developed infant of eight nonths, who had been fed during the previous four nonths exclusively with malted foods. The child did not eem quite well, but the only result of the examination as the finding of blood in the urine. The diagnosis of curvy was made by exclusion and the child was put on a iet of raw milk. In eight days after beginning treat-ent the baby was better and no more blood was found n the stools. The author suggests that in every child n which hæmaturia is present, and all other bladder or idney troubles can be excluded, the presence of scurvy hould be suspected. In doubtful cases, appropriate ntiscorbutic treatment will always aid in confirming he diagnosis.

A New Serum for the Cure of Dysentery.—L. Rosenthal as made some successful experiments with a curative erum obtained from horses. If 0.5 c.c. of this serum ere injected into a guinea-pig the day after infection ad occurred, the animal would be saved, whereas the ontrol animal perished within twenty-four hours. Anti-oxic properties are also attributed to the serum. He eports having used the serum in 157 cases, about 20-40 c.c. eing given in the average case. The only sequelæ ere occasional erythema or urticaria. The mortality ate in this series of cases was about 4½ per cent., while he prevalent rate at the Moscow Hospital was between 12 per cent. and 17 per cent. The author claims that he serum has a favorable effect on all the subjective nd objective symptoms. Pain and tenesmus lessens within twenty-four hours, blood disappears from the tools, the duration of the disease is shortened, and the hronic form seldom comes on, and finally the death rate s reduced over one-half. Recovery takes place within ne to two days, if the serum is administered within the irst three days after the disease has infected the patient.

A New Distomum Found in Man.—M. Askanazy re-orted some three years ago that a parasite, commonly ound in cats and dogs in certain European countries, had in two instances been demonstrated in man. The parasite is known as Distomum felineum. The same uthor has now made some further studies on the etiology nd pathology of the disease, which raises several inter-esting questions. One of the cases which he reported had been dagnosed as tumor of the liver together with ob-struction of the inferior vena cava. The autopsy showed an extensive carcinoma of the liver, and within the biliary passages there was found a great number of dis-toma and their eggs in various stages of development. As this and another case also presented evidences of in-fection by tapeworm, the author investigated the stools of a large number of persons afflicted with this parasite. Out of fifteen, five also were infected with the Distomum felineum. The fact that carcinoma of the biliary pas-sages was present in a number of other cases in which the distomum was found at the same time, inclines the author to the belief that the epithelial proliferation due to their presence may afford a predisposing cause for the produc-tion of cancer. The parasite is very prevalent in cats and dogs in sea-port towns, and efforts to find the source of the infection resulted in the discovery that most of these animals had been consuming quantities of raw fish. The roach (Leuciscus rutilis) seemed to be the chief source of infection, and animals fed exclusively with this species soon showed the presence of the parasitic worm. It is also to be noted that one of the patients stated that he had been accustomed to eating raw fish. Further ex-periments are now under way for the purpose of deter-mining whether it is possible to produce cancer in dogs by feeding them with infected fish. In the intermediate stage the parasite has not yet been demonstrated in the fish, and the complete cycle of development therefore still remains to be worked out.

Berliner klinische Wochenschrift, May 2, 1904.

Facial Anomalies and Their Effects.—V. Babes calls at-tention to a class of cases in which a primary facial anomaly may be accompanied by marked anomalies in the ex-tremities. He has collected a number of these in which the cranial malformations were principally marked by early ossification and sclerosis of the base of the skull. All four extremities are usually involved, although those in the upper are most clearly marked. The changes may be divided into three classes: (1) A toe or finger may be absent, or there may be general shortening of the entire limb; (2) the number of fingers or toes may be increased, and there may be an increase in the size of the limb; and (3) the change may include both excess and defect, such as an increase in the number of metatarsal bones, amalgamation of either fingers or toes, and an increase or decrease in the length of the limbs. A remarkable fact about these phenomena is the symmetrical arrange-ment of these deformities, as well as their resemblance to certain animal groups—the arthrodactylates, the perissdactylates, and the bidactylates. From the cases which he has studied he concludes that there is a region in the base of the skull which stands in close relation to the development of the extremities. In other words, we must assume the existence of a center in this region which determines the normal development, and any change in the shape or character of the former will have as a result an abnormal growth of the limbs. Further studies along these lines may serve as an aid in clearing up our knowledge of some of the processes which underlie the differentiation of the various races and classes of animals.

The Significance of Blood Traces in the Fæces.—Joachim has made an extended series of observations of the stools of a large number of patients suffering from various diseases in which there might have been hemorrhage in some part of the intestinal canal. The guaiac and aloin tests after the method of Rössel were both employed. The test was always negative in those cases in which the presence of blood in the stools could not have been ex-plained. But even the coming on of a slight epistaxis produced a positive result. After a hæmoptysis, however, this was rare, probably because in the latter case the sputum is not usually swallowed. Among malignant tumors of the alimentary canal, the tests were positive in every case with the exception of a carcinoma of the œsophagus. The hemorrhage was regular but weak, whereas in gastric ulce the bleeding was more profuse and irregular and sometimes was entirely absent from the stools. Much less tendency to hemorrhage was shown by other ulcerative processes. In cases of tuber-culosis of the small intestine, traces of blood were never found in the stools. In typhoid fever it was possible to de-tect evidences of blood by these tests before any gross ap-pearances were present, and this means of diagnosing pre-monitory hemorrhages may prove of value. In ordinary gastric catarrhs the test was negative, also in gastro-ptosis and in all lesions immediately surrounding the tract, appendicitis, subphrenic abscess, etc. In the presence of marked venous stasis, as with cardiac disease accompanied by compensatory disturbances, it was al-ways possible to demonstrate blood in the stools. This disappeared as soon as the stasis was relieved. In catar-rhal jaundice the tests was always positive, but in cases of cholelithiasis they were negative. When a secondary carcinoma of the liver was present, blood could always be demonstrated in the stools. Although these tests have undoubted clinical value, their diagnostic importance is not so great, on account of the large number of diseases of the intestinal tract in which hemorrhages can be demonstrated. The information secured by these tests may prove of value, however, in tracing the progress of a disease, such as gastric ulcer, and in this manner judging the effect of the various methods of treatment. To avoid the possibility of error, the author recommends that both tests be employed in all cases, as one then acts as control on the other. Other factors which must be borne in mind in drawing final conclusions are, the possibility of

an admixture of menstrual blood or of that from bleeding hemorrhoids, gums, or nose, and blood-stained sputum which may have been swallowed. When food containing blood has been eaten, such as raw meat, blood sausage, etc., the test may also result positively.

Münchener medizinische Wochenschrift, May 3, 1904.

Effect of Alternating Current Baths on the Heart.—Büddingen and Geissler have studied the value of these baths in a number of cases and claim that the results in all cases were favorable. The subjective symptoms show immediate improvement; this includes the feeling of pressure in the cardiac region, palpitation, the dyspnœa, etc. Among the changes in the objective signs, the most noticeable is the diminution in the area of cardiac dulness. The irregular heart action also improved and the pulse became less frequent and strong. The authors, although recognizing the value of these baths, insist that other therapeutic measures must not be neglected. Certain precautions must be observed, as not all cases are suitable for this treatment. As the contractile elements in the muscular system are stimulated, the heart is called upon for an exertion. A heart which therefore has no reserve strength, or very little, needs rest rather than procedures of this kind. Contraindications are a weak heart or advanced arterial sclerosis.

Effect of the X-rays on the Internal Organs.—H. Heinecke, in some experiments made about a year ago, found that small animals exposed to the rays for a number of hours, died in from seven to fourteen days. The spleen showed an excessive increase in the pigment, a disappearance of the follicles, and a destruction of the splenic pulp. More recently he extended his experiments and exposed a larger number of animals of about the same size He then found that it was possible to separate entirely the processes in the follicles from those taking place in the other parts of the spleen. The former started a few hours after beginning the radiations and were completed in twenty-four hours. The nuclei of the lymphocytes in the follicles disintegrate within a few hours and the remnants are taken up by the phagocytes, which shortly disappear from the spleen. This results in an almost complete destruction of the follicle. Analogous processes are also found to take place in all other lymphoid structures of the body. In the marrow similar processes occur. When larger animals, such as the dog, were employed for the experiments, the same results were obtained, except that the time was slightly prolonged. It was determined that the minimum length of time required to bring about these changes was fifteen minutes in rabbits or a moderate size dog. For these short exposures the amount of destruction is limited and repair can undoubtedly take place. These experiments show that there are cells in the body which react to the rays much more quickly and delicately than the cells of the epidermis. The author believes that similar effects take place in man, and that the lymphoid structures are affected without there being any marked reaction in the skin. He therefore claims that a therapeutic application may be made of this principle in treating certain diseases of the lymphatic system—leukæmia, pseudo-leukæmia, malignant lymphomata and lympho-sarcomata. It may also prove of value when disturbances are due to an abnormally large thymus. He has not made any use of this method himself, but in a foot-note refers to cases of leukæmia thus treated by American surgeons.

French and Italian Journals.

Pernicious Malarial Infection.—Agenore Zeri contributes the histories of four cases of pernicious malarial fever contracted in the Roman Campagna. All four were confirmed as true malarial cases by the examination of the blood and the finding of the parasites, though few in number. No organisms were found with central masses of pigment. It would be a grave error in such cases to fail to make the diagnosis of malarial fever on account of the scarcity of organisms, and one that would be fatal to the patient. In one of the author's cases the patient had previously had a malarial attack with hemorrhage from the stomach, vomiting, and severe abdominal pain. In the pernicious attack he was also affected by severe hemorrhage and vomiting. In another case in which there were severe cerebral symptoms there had previously been an affection of the middle ear. Bacelli has stated that the individual affected by any other disease or weakness finds it more difficult to resist pernicious malarial infection. Headache, vomiting, and vertigo are usual symptoms in these cases. The vertigo is not due to the quinine given, for heavy doses of quinine cut short the fever and vertigo. The treatment must be immediate to be successful, and the method preferred by the author for the exhibition of the quinine is by hypodermic injection.—*Il Policlinico*, April, 1904.

Comparative Value of Methods Used for the Cure of Hydrocele.—Jean de Smeth, after carefully reviewing this subject, concludes that expectant treatment, the application of compresses for the purpose of resolution, simple puncture, or puncture followed by the injection of alcohol, are the methods which are often successful in the treatment of infantile hydrocele, but which are not to be recommended for the adult. Injection of iodine is a method of treatment which ought to be abandoned on account of its dangers and the uncertainty of the results. The method of Bergmann—the total resection of the parietal layer of the tunica vaginalis—is the only method which can be relied upon to bring about a rapid and definite cure.—*Journal de Chirurgie et Annales de la Société Belge de Chirurgie*, February, 1904.

A Case of Carcinoma of the Liver.—Giovanni Galli publishes a case of cancer of the liver which simulated aneurysm of the abdominal aorta. The patient was fifty-four years old, a confirmed drinker, and had had venereal disease for which he had been treated. His symptoms began with heaviness in the stomach and pain after eating, but without vomiting. The abdomen became increased in size, not painful, with no œdema or increase in size of the abdominal veins. The inguinal glands became enlarged, and there was diffuse pulsation of the abdomen near its center, synchronous with the beat of the heart. There was a rounded projection the size of an orange over the liver. Toward the end of the case there was vomiting; and examination of the stomach contents showed no free hydrochloric acid. Autopsy showed a carcinoma of the cardiac region of the stomach from which the disease had extended to the liver The author states that in this case the localized pulsation, the distinct character of the abdominal swelling, the size of the liver, with the absence of stomach symptoms, and the superficial character of the swelling, might have justified the diagnosis of aneurysm.—*Gazzetta Medica di Roma*, April 1904.

A Clinico-statistical Study of the Sarcomata Observed in Eighteen Years in the Surgical Clinic of Francesco Durante.—These cases, seen in the surgical clinic of the University at Rome, from 1885–1902, were 167 in number. Of these tumors five were of the suprarenal capsule. From the author's tables he deduces the following observations: Heredity was observed in only 8 out of the whole number of cases. The frequency of sarcoma increases from youth up to the fortieth year. It is most frequent from forty to fifty, then decreases to the seventieth year. Trauma in the form of blows, etc., was observed in 19 cases before the appearance of the growth. Dental caries occurred in 16 cases preceding sarcomata of the jaws. As to results: 17 cases were inoperable; from 140 operations the immediate result was successful; 118 cases were followed for some time; 40 were radical cures; 71 had recurrences; 31 remained definitely cured after three years. The greatest percentage of cures was in sarcomata of bone, especially of the jaws. The reason of this is thought to be in slow growth of the sarcoma in bone, this being more marked in the jaw bones because of their solid character and the small number of blood-vessels.—*Il Policlinico*, No. 24, 1904.

The Rhythmical Pulsating Pain of Renal Colic.—Angelo Signorelli reports a case of renal colic which exemplifies the rhythmical pulsating pain which accompanies renal colic, and which he considers to be peculiar to this affection and of diagnostic value. Pain began in his case in the lumbar region and radiated along the ureter into the inguinal region of the same side and into the testicle. This pain was continuous, and had exacerbations and remissions. He had also a sense of rhythmical hammering beginning in the kidney and extending into the testicle. After a violent attack of colic, a calculus was passed after irrigation of the bladder. The rhythmical, pulsating pain can be observed in all cases of renal colic, and is characteristic of it. The usual pain is lancinating, and either continuous or intermittent. This peculiar pain is present during the violent colic and ends with the passage of the stone in the bladder. Its diagnostic value is both direct and differential. Most authors refer it to the reflex spasm of the muscle of the ureter and pelvis of the kidney, from the presence of the calculus. The pain is at the seat of the foreign body and is due to the offense of its presence, and its pressure on the sensitive nerve terminations, which excites the muscle to contract. Also the damming back of the urine, and the increase of tension in the urinary apparatus and stretching of the ureter and pelvis are factors in the production of rhythmical pain. Its rhythmic character is due to the increase of tension in the arteries obstructed by the calculus, and the stroke of the hammering is synchronous with the pulsation in the arteries.—*Rivista Critica di Clinica Medica*, April 2, 1904.

Book Reviews.

AIR, FOOD, AND EXERCISES. An Essay on the Predisposing Causes of Disease. By A. Rabagliati, M.A. w York: Wm. Wood & Co., 1904.

is rather original thinker and observer presents a rd edition of the above work, much amplified and writ- up to date. It is regrettable that his ideas could not e been conveyed in a more condensed form. The , however, of the theoretical considerations herein tained amounts to this: Eating too much and too quently produces an overplus of lymph in the connec- tissues of the body, and this he says "appears to be basis upon which the great mass of disease is built. excess of lymph or waste products produces a series connective tissue changes beginning with congestion terminating in hypertrophy. The resulting diseases responding to the varying stages. Of those affections which microorganisms play an apparently etiological t, his view is this: "The disease is not caused by the illus, but by the state of the body which makes the illus flourish," adding that "disease is essentially one h many aspects and phases."

His treatment for this "one" disease, with its many ects and phases, in which the cause is so well under- od, is naturally, first and last, limitation in diet to the nt of assimilative equilibrium. To judge from cases cites, the results are worthy of his convictions.

In the author's estimation, "exercises," from either a ventive or curative standpoint, are of doubtful e, if the habit of persistently overloading the tissues h an excess of food products is persisted in. As a ans of physical diversion and mental stimulus, they , he admits, to be endorsed.

His views on this question, however, appear to us to be ed on theory rather than actual experience.

The chapter "on the quantity and quality of food re- ired by man" contains much that is profitable to the dical as well as to the lay public.

ACTICAL GYNECOLOGY. A Comprehensive Textbook for Students and Physicians. By E. E. MONTGOMERY, M.D., LL.D., Professor of Gynecology, Jefferson Medical College; Gynecologist to the Jefferson Medical College and St. John's Hospitals; Consulting Gynecologist to the Philadelphia Lying-in Charity, and the Kensington Hospital for Women. Second Revised Edition. With five hundred and thirty-nine illustrations, the greater number of which have been drawn and engraved especially for this work, for the most part from original sources. Philadelphia: P. Blakiston's Son & Co., 1904

e second edition of this well-known work is only an lded testimonial to its merit. Many changes have been de in this revision, although the original plan of pre- nting the subject matter in the form of sections rather an in chapters has been undisturbed. This arrange- nt seems peculiarly well adapted to the needs of stu- nts, while it is very convenient for the physician who shes to consult a reference work. The author has pre- nted here not only the experience and methods of other ecialists, but also the fruit of his own rich experience. the present volume he has confined the consideration malformations to congenital conditions, while he con- ders the lesions of parturition under the term of trauma- ms. Disorders of the ovary and Fallopian tube are ecifically treated in Inflammation. In the section deal- g with genital tumors, extensive change has been made the consideration of myomata and malignant growths. this volume the reader will find that the later operative ocedures have been treated in greater detail. The ger part of the work has been rewritten to attain this d. The number of illustrations has also been increased d many of them have been redrawn. A large number the microscopical drawings of the first edition have been placed by new illustrations drawn from material taken om the writer's own practice.

LEMENTS OF SURGICAL DIAGNOSIS. By A. PEARCE GOULD, M.S. London, F.R.C.S. England. Surgeon to the Middlesex Hospital; Member of the Council of the Royal College of Surgeons of England, and of the Examining Board for England; Member of the Senate of the University of London. Third Edition. Revised and Enlarged. Chicago: W. T. Keener & Co., 1903.

In the present volume the author has reached his third dition, for which the entire text has been revised, while uch of it has been rewritten and many additions have een made. To the chapter on Diseases of the Head, a ection on the Diagnosis of the Intracranial Complications f Middle-ear Disease has been added. There are new hapters on the Diagnosis of Abdominal Tumors and of ertain Acute Abdominal Diseases, which are now treated urgically. Aside from these changes, the author has not ltered the general plan of the book. He states in the pref- ce that his aim has been to present those principles of iagnosis which apply in all cases and under all circumstances. He gives the application of these principles to the diseases and injuries of various regions as fully as possible. The diagnosis of injuries has been separated from that of diseases on account of the greater simplicity of this method. The importance of Bacteriology, Skiagraphy, and Blood Examination in the art of surgical diagnosis has been emphasized.

THE MEDICAL EPITOME SERIES. ORGANIC AND PHYSIOLOGIC CHEMISTRY. A Manual for Students and Practitioners. By ALEXIUS MCGLANNAN, M.D., Associate Professor of Physiological Chemistry, Instructor in Clinical Laboratory, College of Physicians and Surgeons, Baltimore, Md. Series edited by V. C. PEDERSEN, A.M., M.D., Instructor in Surgery and Anæsthetist and Instructor in Anæsthesia at the New York Polyclinic Medical School and Hospital; Deputy Genito-Urinary Surgeon to the Out-patient Department of the New York Hospital; Physician-in-Charge, St. Chrysostom's Dispensary; Anæsthetist to the Roosevelt Hospital (First Surgical Division). Illustrated with nine engravings. Philadelphia and New York: Lea Brothers & Co., 1904.

THE author in his preface clearly states the purpose of this little volume, which has been to select from the accumulated mass of knowledge on this subject the facts essentially important to medical students and practitioners and to present them in a clear and comprehensive style. This plan necessitates dogmatic statements, even when the question discussed may be a mooted one. The most generally accepted hypothesis, however, has been given in such cases. The little volume is well up to the standard of this excellent series.

THE NUTRITION OF THE INFANT. By RALPH VINCENT, M.D., member of the Royal College of Physicians. Physician to the Infants' Hospital; late Senior Resident Medical Officer, Queen Charlotte's Lying-in Hospital. New York: William Wood & Company, 1904.

THIS volume teems with interesting information which is the outcome of years of study and experience. In the preface the author tells of his dissatisfaction with the methods of infant feeding until he became acquainted with the work of Rotch. He thoroughly tested the percentage method propounded by this master of the art of infant feeding, and with the most gratifying results. The author calls attention to the marked variations which exist in the milk of nursing women. He gives various analyses made by different authorities on the subject. Substitute feeding is carefully considered in its various details, and several tables are given, among which are the "Practical Composition of Certain Percentage Mixtures" and the "Possible Variations of Mixtures with Divided Proteids." In the chapter on "Artificial Feeding" a number of well-known infants' foods are analyzed. The writer emphasizes the importance of nitrogenous extractives, which he believes probably play an important rôle in the infant's nutrition. Careful attention is given to the subject of milk-supply and the modification of milk. Bacteriology in relation to milk and to digestion is discussed. The last chapters are devoted to the consideration of the chemistry of infantile digestion, the diet of the infant in relation to growth and health; the normal development and general examination of the infant, the mortality and disease occurring in infants, and various diseases to which they are subject.

MANUAL PRATIQUE D'HYGIÈNE A L'USAGE DES MÉDECINS ET DES ÉTUDIANTS. Par le Docteur GUIRAUD. Professeur d'Hygiène à la Faculté de Médecine de l'Université de Toulouse. Troisième Édition. Revue et augmentée. Paris: G. Steinheil, 1904.

THIS volume of nearly eleven hundred pages is a very comprehensive treatise and discusses many and varied topics included under the general term of hygiene. The author begins with the consideration of such general subjects as the sun, the atmosphere, the classification and characteristics of climates, and potable waters. He discusses them all in detail, starting with the geological constitution of the sun, its physical properties, and its relations to air and water. The heat of the sun, its organic elements and their transformations, and its microorganisms are all included. The construction of houses is treated as to their situation, relation to the sun, building materials, interior arrangements, etc. The various methods of ventilation, heating, lighting, and disposition of water are discussed at some length. School hygiene military hygiene, professional and industrial hygiene, hygiene in relation to public buildings of various kinds and hygiene in relation to cemeteries have sections devoted to their treatment. There is a long chapter on diet and foods and a concluding chapter on the organization of public hygiene and sanitary legislation. This is the third edition of this work, but from time to time, as the author states, improvements take place which call for the revision of the older work. The book will appeal to all interested in this subject.

Society Reports.

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, Held April 25, 1904.

WENDELL C. PHILLIPS, M.D., PRESIDENT.

Bacteriological Experiments Relating to the Transmission of Typhoid Fever by Means of Infected Oysters.—CYRUS W. FIELD, Assistant Bacteriologist, Department of Health, told of the work carried out at the aquarium where oysters were supplied to determine two points: first, whether oysters carried the typhoid infection and, second, under what conditions and how long a time. Oysters were placed in large tanks containing brackish water which was infected with typhoid bacilli. At the end of twenty-four hours the oysters were removed, and it was found that the typhoid bacilli could be isolated from the oyster as late as the ninth day; in other words, it was shown that the oyster could carry the typhoid bacilli alive for nine days. Again the infected oysters were placed in salt water, and it was found that the typhoid bacilli could be isolated up to the eight day, but from the ninth day on no organisms could be obtained alive. When the tank was first infected there were found 20,000 organisms to the c.c., and at the end of twenty-four hours they had dropped to 10,000, or 50 per cent., and at the end of nine days none were found. It was shown that the death of the typhoid bacilli in oysters was brought about by the salt water, and again by dilution. He said that Cook of New Haven, in 1895, had some to the same conclusion or results, that the typhoid bacilli were destroyed in oysters at the end of the ninth or tenth day, but he also found an interesting thing. If the oysters were cooled he was then able to isolate the typhoid organisms at the end of from four to six weeks. Further experiments showed that many oysters die in transit to the market, and that the typhoid bacilli in dead or dying oysters make a very favorable culture medium for the organisms to increase.

The Oyster as a Possible Agent in the Transmission of Typhoid Fever.—Dr. WALTER BENSEL, Acting Sanitary Superintendent, Department of Health, showed by means of lantern slides that many of the oyster beds near New York City were polluted by sewage, excreta, chemicals, etc. His investigations were conducted in the neighborhood of Freeport, L. I., the Rahway river, Princess Bay, Lemon Creek, Godine Creek, Great Kills, S. I., and Indian Creek, Jamaica Bay, and New Haven, Conn., near the mouth of the Quinnipiac river. Oyster beds in these various localities were pictured and demonstrations made showing many sources of possible infection.

Some Considerations of the New York City Milk Supply.—Dr. WILLIAM HALLOCK PARK, Assistant Director of the Research Laboratory of the Department of Health, said that as time went on and population increased in New York City, we had greater difficulty in gaining definite knowledge as to where our food was coming from. He demonstrated by means of charts the milk supply coming from Pennsylvania, Massachusetts, Connecticut, and New York, all the milk being brought by railroads; in other words, the milk supply of New York City came from territory 300 miles across and 300 miles up and down, *i.e.* 90,000 square miles of territory. He said the question naturally arose as to what New York was doing toward looking for purity of food. Outside of New York City there was not much to be done because it was outside the jurisdiction of the local Board of Health; it was hardly possible, with the limited amount of money at hand, to inspect 90,000 square miles of territory. But, when they received word of bad conditions an inspector was sent, and samples of milk obtained, examined, and if found to be bad, an endeavor would be made to correct it. Nothing further than that could now be done unless more money was furnished the department. In some cases the farmers were instructed to do certain things, and often they readily complied. In the city no trouble was experienced in handling these milk conditions. The milk was inspected as it came in on the railroads, samples taken and tested. During the summer months both bacteriological and chemical examinations were made frequently.

Three years ago he made an interesting personal observation. A sample of milk sent to the laboratory showed 500,000,000 bacteria to the cm., and he took a trip to see where this milk came from. He found that the wagons carrying the milk were brought to the cars at 3 o'clock P.M., and placed in them. The doors were left open and the sun shone directly on the cans which were not protected by any ice. The cars were left until 5 o'clock when they were brought to New York, without ice.

He said he had had another interesting experience within the last two or three months showing how we were in danger of infection. In December last he was called to investigate an epidemic of what was supposed to be scarlet fever about thirty miles from New York up the Hudson River. The milk from a very good farm had been inadequate to supply the demand so this farmer had obtained milk from an adjoining farm. In this cow stable there was not even a window, and within it was found a septic cow, from which milk was taken only three days after calving; this milk was found to be filled with streptococci and infected thirty school boys who partook of it, giving rise to what was supposed to be a scarlet-fever epidemic.

With regard to the Milk Commission, he said this was started because of the inadequate amount of money allowed to carry on the work in this vast territory properly. It would require many inspectors to cover the ground and get better farms, clean cows, better water supplies, etc. This milk commission would have to continue to exist and come between the farmers and the consumers until more money was available. The city gave the laboratories to this commission for its work, the railroads gave passes to the inspectors, and every facility was to be had for carrying on this work at present.

With regard to certified milk and inspected milk, he said the people cared more for the certified milk probably because they would not take the trouble to ask for the inspected milk. He asked that the members of the society should endeavor to increase the demands not only for the certified milk, but also for the inspected milk, which costs either 8 or 8½ cents a quart.

New York City Water Supply, with Particular Reference to Possible Contamination with Typhoid Fever.—Mr. HARRY E. BRAMLEY, Chief Sanitary Inspector, Department of Health, read a paper on this subject. He said there were two chief water supplies for Greater New York, from the surface and from the underground source. A consideration of the former source was unnecessary because it was presumably pure. After treating of the water supplies to New York City from the earliest history he next considered the measures which could be adopted at present to prevent pollution of the present water sources as follows: (1) By the acquisition of more lands to meet the needs of the situation, a difficult matter at present because of the difficulty in obtaining titles to the land; (2) to compel the tenants in the neighborhood of the water supplies to introduce proper systems for the disposal of their wastes; (3) by combating the constantly recurring nuisances; (4) the instillation of filtration plants. He recommended that, at present, the instillation of properly equipped and efficiently controlled filtering plants would be the best means of preventing possible contamination of the water with typhoid-fever germs.

The Legal Aspect of New York City's Control of Its Own Watersheds.—HARFORD P. WALKER, Esq., Assistant Corporation Counsel, took up this question. The ideal control he said would consist in municipal ownership of several hundred feet on either side of lakes and streams

ich contributed water to this city. So far $7,000,000 l been spent for this, and he had no doubt but that the ure would show entire control of this extent of territory oining the lakes and streams. But while waiting for h an ideal control we should look for other aid. The bster Act was an excellent one to relieve the present ıation but, unfortunately, it ran but three years. This ı a good law because it gave the Department the right go ahead and remove any nuisance or contamination ich threatened our pure water supply. He spoke of the iculty encountered in getting anything done because so much red-tape, saying that the following was the ıal unsatisfactory course pursued: (1) inspection was de; (2) order was served; (3) re-inspection made to if pollution really existed; (4) State Board of Health ı notified; (5) State Board of Health made an inspec-n; (6) report made to State Board of Health; (7) te Board of Health orders local Board of Health to ıbat the nuisance; (8) local Board of Health does no-ng; (9) municipal attorney may bring an action. There-e, he realized the hopelessness of doing anything.

In conclusion he said the best method for protection of ter supply was municipal ownership of several hundred t on either side of lakes and streams, and this would t about $5,000,000. The next best method would be, his opinion, the revival of the Webster Act which gave e right to enter and remove any nuisance and pay the mages afterward. The introduction of a filtration nt he believed to be a good method if feasible.

Dr. Daniel Lewis, President of the State Board of ealth, continued the discussion. He said that municipal nership of our watershed was gradually being acquired, d also that there was a public health law which provided method whereby a law might be enacted by the State protect the watershed from pollution. To be sure, ch a law could not be enforced if resistance were shown, t during the past fifteen or twenty months a dozen cases d been met with and no difficulty encountered whatever. st year word was received that a number of infractions the rules had been discovered about the Croton water-ed; instead of any red-tape being required within teen days every one of the cases had been investigated competent civil engineers, and in less than twenty-one ys a report had been filed with the proper authorities. hy suits in these instances had not been brought he did t know, because they were all ready to be. If but one two convictions had been effected it would have had a ry good effect in preventing more suits and the people uld have been more likely to keep within the law. r. Lewis referred to one bill that had been introduced hich really was an amendment to the public health law one particular, namely, that inspections by the State oard of Health might be dispensed with. He referred iefly to another bill which differed from one already isting by about five words, and stated that the owner f the property who was required to abate a nuisance uld not be compensated by the city if the nuisance had en established since the rule was enacted. Dr. Lewis hought that was good ruling. He asked that these ques-ions be considered in a broader light than shown at this eeting, for the owner of property outside of New York ity should have the same protection as those living in the ity.

Dr. Lewis said that the State Board of Health was nxious to coöperate with the local Board of Health r the protection of their water and milk supplies. He id not think it fair to criticise the State Board of Health ecause they looked a little to the interests of the people living outside of New York City. He said the discussion did not seem to be apropos to existing things but that it might be to future conditions, because the water supply to New York City was the best in the United States.

Dr. William Hallock Park took this opportunity to thank Mr. Weiting, Commissioner of Agriculture, for the valuable assistance he had rendered the Research Laboratory in the pursuance of its work.

Dr. Thomas Darlington, Commissioner of Health, was the guest of the society and, in a brief address, thanked Dr. Lewis and the State Board of Health for their hearty coöperation in the health affairs of New York City. He also thanked the Medical Society of the County of New York for the valued assistance given the local health board, not only morally but financially.

Special Report of the Counsel of the Society.—Mr. Champe S. Andrews reported two unique cases that had come under the observation of the counsel during the past thirty days.

The man in the first case was known in connection with one of the so-called "Koch Lung Cures." At the recent Tuberculosis Congress in Germany this man hung around the hotel register until the original Koch had registered and then placed his name immediately beneath. He then had a photograph taken of the signatures which was used to make people believe he was the original Koch. He established the so-called "Koch Cures" all over the United States, in Boston, Baltimore, Pittsburgh, Chicago, St. Louis, Washington, New York City, and elsewhere. In New York City he had two registered physicians with him. With the coöperation of the New York *Herald* the counsel succeeded in exposing this man last March, when he was captured in Washington and he now rested behind prison bars. This man the counsel hoped to get rid of.

The second case was that of a man who had a rather unusual diploma. This man was interested in having the bill passed at Albany, legalizing the practice of osteopathy and which the County Society had spent so much money in combating. He was the president, secretary, first vice-president, and the whole faculty of what was termed the "Anatomio-Vitio-Americanio College," which was caught issuing medical diplomas for which he charged $550. At last the counsel succeeded in having him arrested on the charge of using the title of M.D. It was then learned for the first time that he was the introducer of this bill legalizing the practice of oteopathy in the State of New York. Further action in his case would be taken up at once.

Cincinnati Academy of Medicine.

At a regular meeting, held April 11, Dr. W. McLean Ayres gave a demonstration of the Thorner and Geneva Demonstrating Ophthalmoscopes; he also gave a short history of the ophthalmoscope, this was followed by the paper of the evening by Dr. August Ravogli.

"On Public Prophylaxis of Syphilis and Venereal Diseases." He said in brief: The statement that the regulation of prostitution means the legalization of crime is absurd and hypocritical. Prostitution has existed since the remotest times and has always been subject to regulation. It is shown by the Books of Moses that it was common among the Jews, and Moses established laws to check it. Adultery and rape were punished by death. In Leviticus he forbade intercourse with persons affected with flow from the genitals. These restrictions were continued until Solomon repealed them and soon Jerusalem was overrun with harlots.

In Athens Solon established houses filled with female slaves and the proceeds went to build a temple to Venus. The Dicteriades who kept these houses were isolated and compelled to wear a special dress. The abduction of a free Athenian girl to one of these houses was punished by death. In Rome, under Augustus, prostitutes were compelled to register in the office of the ædile, and when once registered nothing could wipe away the brand. Roman physicians refused to treat secret diseases, but under Nero public physicians were appointed for this purpose.

Charlemagne scourged all prostitutes, but excused the concubines of the rich. Louis VIII of France tried to regulate prostitution without result, but Louis IX

checked the progress of the evil by exile, but later milder measures were found necessary. From Louis IX to Louis XIV there was continuous alternation of severe penalties and repeals of the same. Under the Commune prostitutes were left alone and Paris streets were rendered unfit for respectable women; this led to complaint, and in 1796 they were again controlled.

In England, in 1430, those suffering from syphilis were excluded from the public houses.

In 1810 a dispensary was erected in Paris and a medical staff visited the prostitutes regularly. At present the regulation of prostitution in Paris is a model. The houses cannot be near a principal street, church, or school. Each girl must have a separate room and no back or side doors are allowed. Abundant utensils, water and soap, must be at hand. A woman, to keep a brothel, must apply to the police—she must never have been condemned for crime and must be of sober habits. Each girl must be reported to the police within twenty-four hours of her arrival. Prostitutes are inscribed in the Bureau des Mœurs. Each girl is taken before the Bureau, her parents or friends are notified and she is only inscribed if they fail to interfere. Once a week each prostitute is examined and those diseased are sent to the hospital.

In Spain the government takes no notice of prostitutes, but in Seville the first-class houses retain physicians, whose office it is to examine the women.

In London prostitution is unrestricted, and 50,000 houses of prostitution are said to be in the city and a constant trade in women for this purpose is carried on between London and Paris, London and Hamburg, and London and the country. Some are hired for this purpose, but many are decoyed by offers of legitimate employment. In St. Bartholomew's Hospital, of 5,327 out-patients, 2,513 were venereal cases. In 1892 of 196,336 soldiers of the British Army, 52,155 had been sent to hospital with venereal disease.

In 1871, before the abolition of the "Acts of Contagious Diseases," soldiers to the extent of 21.2 per 1,000 had been received in hospital with secondary syphilis, while after the abolition these increased to 33, 35, and 37 per 1,000. In India nearly one-half the soldiers have syphilis. In the period, 1874-79, under strict regulation of prostitution, 9.53 per 1,000 of the soldiers in military hospitals had venereal disease, but after this was abolished the number increased to 17.46 per 1,000, and the daily average of soldiers off duty for this cause was 4,191.

Among our own soldiers in Cuba and Porto Rico in 1898-99, syphilis reached 28.38 per 1,000 among the regulars and 50 per 1,000 among the volunteers. In the Provinces of Matanzas and Santa Clara, Cuba, venereal disease infected 171.28 among the regulars and 115.69 among the volunteers. The colored troops reached 195.92 against 127.35 in the United States. In these places prostitution was uncontrolled.

In Italy prostitution was controlled under Cavour, but under Crispi, 1888, this was abolished, and in the Ospedale Maggiore in Milan venereal disease increased from 5,916 patients in 1887-88 to 7,570 in 1888-89, and in the Maternity it increased in pregnant women from 1.28 per cent. to 4.27 per cent. In the Foundling House children with hereditary lues numbered 23 in 1887-88, 49 in 1888-89, and 98 in 1889-90.

The writer agrees with Neisser and Behrend in thinking that all prostitutes should be regularly examined, and if diseased sent to the hospital until all danger of infection is passed.

In Cincinnati, in 1894 Mayor John A. Caldwell started a system of protection. Detectives were detailed to watch these houses, and the keepers were compelled to report all inmates and to report cases of disease; these were sent to the Cincinnati Hospital. The following number of cases were treated in this hospital in 1890, 117; in 1891, 164; 1892, 131; and in 1893, 142. In 1894 the number rose to 224; in 1895, 220; in 1896, 182; and in 1897, 194, because of the new system; then, in 1898, the system was abolished under Mayor Gustav Tafel, and the numbers dropped to 144 and in 1899 to 149. The next Mayor, Julius Fleischman, reëstablished the system in 1900, and in the next three years the number treated increased to 224, 529, and 324. During the years when treatment was not enforced the cases of gonorrhœa were all severe, and in many cases required operation, but during the years of protection the cases were sent in much earlier and were much milder. Syphilis in the secondary period came to the hospital during the years of freedom at an average of 28-32 cases; this rose to 94-124 in the years of protection and again fell to 37-53 when inspection was abolished; thus 50 per cent. of contagious cases of syphilis were allowed free to spread the disease. Since 1900 this matter has been in the hands of the Board of Health, and Dr. Clark W. Davis, Health Officer, has established the system as it is at present. All prostitutes are registered secretly at the office of the Health Officer, and all are examined once a week by a corps of examining physicians and, when diseased, are sent to the hospital. In 1903-04 625 women were registered as public prostitutes, and in one week, ending March 12, 1904, 482 girls were examined and 19 found diseased. Knowing that they will be examined, the women keep themselves clean and so reducetheir liability to infection.

In the new Cincinnati Hospital these patients will have a building to themselves which will be provided with working and sewing rooms, where they will be employed, and the writer hopes that Christian women will try to provide institutions for the rescue of these misguided creatures, where they can be taught and helped to find an honest occupation.

The Pittsburg Academy of Medicine.

Scientific meeting April 12, 1904, Dr. Ewing W. Day presiding. Dr. Montgomery reported a case of surgical kidney in a woman, the mother of one child. Menstruation was established at sixteen years, and had always since been painful. She had pain on the right side, and a mass thought to be the kidney, was found in the right pelvic region. A laceration of the cervix was repaired. A posterior incision in the vagina revealed healthy tubes; but a mass was palpated in the right pelvis, posterior to the peritoneum, and was diagnosticated as surgical kidney. Some relief followed the trachelorrhaphy, but dysmenorrhœa recurred after a few months, and threatened to lead to the morphine habit. There was some rise of temperature at times. At the next examination the mass was found lower and larger, but the doctor was certain it was not tubal. An exploratory laparotomy proved the tubes healthy as diagnosticated, and the right kidney to be in the normal position. In attempting to remove the mass from the right pelvic region the finger pushed through the rectal vein, producing severe hemorrhage. Patient is now doing well. Dr. Montgomery has not yet had an opportunity to catheterize the ureters to clear the diagnosis between downward displacement of the left kidney to the right side, and congenital third kidney.

Dr. Lichty referred to a case of Edebohls' in which the kidney had been removed through the pelvis, showing that excessive downward displacement is not impossible.

Dr. S. C. Milligan reported a case of a woman with a history of pain in the infrasternal space, emaciation, vomiting, and loss of appetite. Later she had a hemorrhage from the stomach with elevation of temperature. A diagnosis of ulcer of the stomach was made. The patient was put on a diet of milk and eggs; with rest in bed for three months, resulting in a cure.

Dr. Frank H. Murdock read a paper on "The Indications for Surgical Intervention in Chronic Gastric Ulcer." He said, in part, as follows: Acute gastric ulcers are more common in women than in men; and occur mostly between the ages of fifteen and twenty-five. They are situated along the upper margin of the stomach; are multiple in 54

ent.; hemorrhage occurs as a first symptom in 75 per ; and perforation as a first symptom in 3 per cent. nic gastric ulcers rarely occur before the age of thirty, ituated at the pyloris and are solitary in 87 per cent. ediately fatal hemorrhage occurs in from 3 to 5 per and perforation in 7 per cent. Hemorrhage occurs me time in 18 per cent. of the cases. The indications rgical intervention are perforation and hemorrhage; ugh recently well known English and American cur- s have advocated operation for the cure of ulcer itself. leath rate, however, from chronic gastric ulcer under r medical treatment is not more than 4 per cent., eas the mortality following gastroenterostomy for be- stenosis of the pyloris is from 10 to 50 per cent. He ed Leube's opinion and teaching in regard to operation he use of the stomach tube in gastric ulcer as follows: nsider an operation advisable if the ulcer is bleeding f this condition persists for weeks. If the patient has eding ulcer I feed him by the bowel while the bleeding . If the ulcer is not bleeding usually, do not use l feeding. In other cases only during the first three of treatment. I do not use the tube, or at least only ses with severe vomiting; and when I fear more from omiting than from the use of the tube. This is, how- , very rare.". Patients with chronic gastric ulcer ld be kept on liquid food, not for weeks, but for months ntil the ulcer heals. When this is done, recurrence, at t in his experience, is very rare, happening in only two of thirty-two cases which he had reported. Dr. ity endorsed the conservative views of Dr. Mur- h, also the emphasis he had placed on the slowness aling of gastric ulcer. He had had a case of seven s' duration. He said the pain in chronic gastric ulcer n comes, not immediately after eating, but somewhat r, differing in this respect from acute cases. A small ount of blood may not be vomited nor detected in the ls, yet the hemorrhage from an ulcer be enough to e anæmia. This should be borne in mind in searching the cause of an anæmia of obscure origin.

Dr. Joseph Willets read a paper on "The Advantages of tracting the Lens, without Iridectomy," with presenta- of patient. He reviewed the embryology and an- my of the lens and its protecting ligament, showing how y develop without blood-vessels, lymph channels, or ves, therefore unaffected by disease in other parts of body, and even in the eye itself. He said that the lens nstantly undergoing chemical, physical, and morpho- al changes, beginning in early childhood, so that un- plicated senile cataract is purely a normal physio- al procedure. In reference to the extracting the lens, prefers the simple method. He said that a pre- inary iridectomy necessitates two operations; causes a inct disfigurement, cosmetically; and a great annoy- e from diffusion of light from the increased size of the il. In cases in which the conditions are such as demand ectomy, he thinks it can be done to better advantage r expulsion of the lens.

The Orleans Parish Medical Society.

t the semi-annual meeting of this society, held April 1904, Dr. A. G. Friedrichs exhibited two pieces of ratus for treating fractures of the inferior maxilla. fractures in front of the angle he uses a horseshoe- d splint, molded to fit accurately over the lower . Wires project from this, to which are attached ive-plaster strips. These bind the dental splint to a shoe-shaped wooden splint which presses against ower border of the inferior maxilla. For fractures r above the angle the speaker uses webbing straps, h pass from the sinciput around the chin and from occiput around the forehead. Results were quoted a case exhibited to prove the advantages of the de- s.

r. A. Granger read a paper entitled "Intractable iting of Pregnancy Cured by Electric Currents, Illus- trating the Importance of Current Differentiation." After persistent nausea and vomiting in three pregnancies, two of which terminated in abortion, patient was seen in ninth week of fourth pregnancy. She had been treated for three weeks by every method, including the Apostoli galvanization. Brief applications of Faradic current with the positive pole over the cervical vagus, or over the back of the neck and the negative over the epigastrium stopped nausea and vomiting after nine days. A relapse was successfully treated in the same way. The writer urged that electrotherapeusis be considered as rational and not empirical.

Dr. L. Perrilliat reported a case of "Probable Intraligamentary Hæmatoma Following Tubal Rupture." The object of the paper was to bring out the importance of a careful history of the case, together with the signs of ruptured extrauterine pregnancy, in establishing the diagnosis. The treatment of these cases differs from that of other forms of ruptured extrauterine pregnancy on account of the anatomical conditions circumscribing the hemorrhage. Dr. Perrilliat's case, a multipara twenty-seven years of age, presented herself at his clinic with a history of a five weeks' tubal pregnancy terminating in rupture three weeks previously. On examination hæmatoma of the broad ligament was diagnosed. Patient recovered after two weeks' rest in bed, with colonic flushings to prevent possible infection of the clot. Tumor had almost disappeared.

College of Physicians of Philadelphia.

At a stated meeting, held April 6, Dr. Joseph Sailer read a paper entitled "Aortic Regurgitation," presenting a critical summary of the recent developments in the symptomatology and diagnosis of this disorder, supplemented by a record of personal observations.

Dr. W. W. Keen read a paper entitled "Report of a Case of Enormous Mixed Tumor of the Parotid Region, with Presentation of the Patient." The tumor had been present for more than twenty years, only recently increasing rapidly in size, in the sequence of manipulation on the part of the physician. The mass became so large and so heavy, reaching down to the clavicle, as to be almost unbearable by reason of its weight, and the patient, who was more than sixty years old, remained in bed a good deal to avoid the resulting annoyance. In going about he was compelled to support the growth in a sling. On one occasion rupture took place, and about two pints of bloody fluid escaped. The patient finally consented to have the new growth removed, and its dissection and ablation were accomplished with some little difficulty. The wound became infected through the saliva, despite the utmost precautions, and healing was, as a result, retarded, but perfect union eventually took place. Histologically, the tumor was found to include several different varieties of tissue.

Dr. John B. Deaver read a paper entitled "The Surgery of the Prostate," reviewing first the history of the subject and considering in detail the various procedures that have been recommended in the treatment of the condition named. His own preference, based upon personal experience, as well as that of others, is for suprapubic cystotomy, followed by enucleation of the enlarged organ.

A resolution was adopted providing for the appointment of a committee to secure plans, specifications, and bids for the contemplated new building to be erected on the lot purchased by the college, and to make a report in the coming autumn.

College of Physicians of Philadelphia, Section on General Medicine.

At a stated meeting, held April 11, Dr. Albert P. Francine exhibited "A Case of Phthisis of the Base of the Lung." The patient was a man who had passed through the hands of a number of practitioners without thorough

examination and a failure to detect the physical signs, namely, dulness of percussion, blowing breathing, with crackling râles and increased vocal resonance. The symptoms were distinctive and the sputum contained tubercle-bacilli.

Dr. Charles B. Worden made "A Preliminary Report upon Some Experimental Nutritive Enemata." He made studies, with the aid of the *x*-rays, of the distance to which nutrient enemata, to which bismuth was added for purposes of demonstration, advanced in the bowel, and found that they did not pass beyond the ileocæcal valve.

Dr. Joseph Sailer made a report of "Some Cases Showing Lesions of the Cardiac End of the Stomach."

Dr. Charles H. Weber made "A Preliminary Report of a Case of Splenomyelogenous Leukæmia Showing Marked Improvement under the use of the *X*-ray."

Dr. J. Alison Scott made some remarks upon a case of similar character.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending May 21, 1904:

	Cases.	Deaths.
Measles	1482	39
Diphtheria and croup	400	49
Scarlet fever	392	26
Smallpox	...	...
Varicella	88	...
Tuberculosis	475	187
Typhoid fever	45	8
Cerebrospinal meningitis	...	82

Appendicitis in the China Fleet.—F. H. A. Clayton states that, from information obtained from other medical officers as well as from his own observation, it would appear that quite an unusual number of appendicitis cases come under treatment on the China station. The usual developmental and anatomical peculiarities predisposing to attacks are no doubt present in these cases as they are in others, but the writer adds that in seeking to discover special factors, one is struck by the fact that the China station is that chiefly productive of digestive and intestinal disturbances, and probably also that more men of this station are affected by intestinal parasites than any other. The frequency with which Europeans resident in tropical countries act as hosts of ascaris and trichocephalus is a matter of common knowledge, but as far as the navy is concerned, this station seems to be especially responsible, as is borne out by the most recent health returns. The association of these parasites with dyspeptic disturbances and with catarrhal processes in the intestines, is, in the writer's experience, quite common among men on this station, and it is interesting to note that with appendicitis here diarrhœa rather than constipation is the rule. Several observers have suggested putrefying frozen food as a factor of appendicitis by the production of intestinal catarrh. There has been, for the last two years, a sort of epidemic prevalent in the height of the summer. At this time far more vegetable food, and especially fruit, is eaten by the men, and animal foods run more risk of decomposition. Consequently, digestive troubles are far more frequent. The presence of the common intestinal parasite quite possibly plays a part in producing a catarrhal condition, thus lowering the natural resistance and increasing the virulence of Bacillus coli and the other organisms in the canal, so predisposing to inflammatory processes. The wandering habits of ascarides must be kept in mind, with the consequent mechanical effects. The parasites may also convey other organisms. Finally, the small erosions produced by the parasites might readily act as the portal of entry of organisms. The writer notes some interesting cases.—*Journal of Tropical Medicine.*

A New Method for the Operative Treatment of Nephritis.—Bakes describes two possible modifications of the Edobohls' operations intended to secure a better blood supply to the decorticated organ. One procedure is to incise the peritoneum vertically and draw omentum into the wound. The kidney is wrapped in this as completely as possible and fixed with sutures. The second plan is that of dislocating the kidney intraperitoneally through a peritoneal slit and anchoring it after friction of the contiguous serous surfaces. The author has performed the first operation on a patient with satisfactory results.—*Zentralblatt für Chirurgie*, No. 14, April 9, 1904.

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service during the week ended May 21, 1904:

SMALLPOX—UNITED STATES.

			Cases.	Deaths.
California, Los Angeles	Apr.	30–May 7	1	..
San Francisco	Apr.	24–May 1	1	..
District of Columbia, Washington	Apr.	30–May 14	8	..
Florida, Jacksonville	May	7–14	1	..
Illinois, Chicago	May	7–14	11	..
Danville	Apr.	30–May 7	2	..
Indiana, South Bend	May	7–14	8	..
Kentucky, Covington	May	7–14	3	..
Louisiana, New Orleans	May	7–14	16	Eight imported
Maine, Jonesport	May	16	Present	
Maryland, Baltimore	May	7–14	1	1
Michigan, Detroit	May	7–14	5	..
Grand Rapids	May	7–14	5	..
Missouri, St. Louis	May	7–14	14	4
Nebraska, Omaha	May	7–14	3	..
New Hampshire, Manchester	May	7–14	4	..
New York, Buffalo	May	7–14	2	..
New York	May	7–14	2	..
Ohio, Cincinnati	May	6–13	7	..
Cleveland	May	6–13	2	1
Dayton	May	7–14	12	..
Pennsylvania, Norristown	May	7–14	1	..
Philadelphia	May	7–14	27	5
Pittsburgh	May	7–14	..	2
South Carolina, Charleston	May	7–14	1	..
Tennessee, Memphis	May	7–14	16	..
Nashville	May	7–14	4	..
Wisconsin, Milwaukee	May	7–14	8	..

SMALLPOX—INSULAR.

Phliippine Islands, Manila	Apr.	2–9	2	2

SMALLPOX—FOREIGN.

Austria, Prague	Apr.	23–30	7	..
Belgium, Antwerp	Apr.	23–30	13	8
Brazil Bahia	Apr.	8–23	6	..
Canada, Sydney	May	7–14	17	To date
Winnipeg	May	7–14	1	..
Colombia, Barranquilla	Apr.	24–30	..	2
France, Paris	Apr.	16–30	27	2
Rheims	Apr.	24–May 1	..	1
Germany, Barmen	Apr.	22–29	4	On S.S. Wittekind
Great Britain, Birmingham	Apr.	30–May 7	1	..
Glasgow	Apr.	29–May 6	22	1
Hull	Apr.	23–30	3	..
Liverpool	Apr.	23–30	7	..
London	Apr.	16–30	35	2
Manchester	Apr.	16–30	10	1
New Castle-on-Tyne	Apr.	16–30	18	1
Nottingham	Apr.	16–30	9	1
Sheffield	Apr.	16–30	10	..
South Shields	Apr.	16–30	14	..
India, Bombay	Apr.	5–19	..	36
Calcutta	Apr.	3–10	..	1
Karachi	Apr.	10–17	11	1
Italy, Catania	Apr.	8–May 5	2	1
Japan, Kobe	Apr.	2–16	3	..
Nagasaki	Apr.	10–20	249	42
Java, Batavia	Mar.	26–Apr. 9	20	2
Mexico, City of Mexico	Mar.	27–Apr. 3	4	2
	Apr.	16–May 8	14	2
Tampico	Apr.	23–30	..	1
Torreon	Apr.	24–May 7	27	15
Vera Cruz	Apr.	23–30	1	..
Netherlands, Rotterdam	Apr.	23–May 7	9	1
Russia, Moscow	Apr.	8–23	9	1
Odessa	Apr.	23–30	1	..
St. Peterburg	Apr.	16–23	7	4
Spain, Barcelona	Apr.	1–30	..	9
Turkey, Beirut	Apr.	21–28	Present	

YELLOW FEVER.

Ecuador, Guayaquil	Apr.	16–23	..	6
Mexico, Talleres	May	11	1	..
Tehuantepec	May	11	1	..

CHOLERA.

India, Madras	Apr.	9–15	..	1
Turkey, Basra	Apr.	1–10	37	28

PLAGUE—INSULAR.

Phlippine Islands, Manila	Apr.	2–9	3	2

PLAGUE—FOREIGN.

Africa, Cape Colony	Apr.	8–16	1	1
Egypt	Apr.	8–16	59	36
Port Said	Apr.	8–16	1	1
India, Bombay	Apr.	12–19	..	633
Karachi	Apr.	10–17	365	285
Madras	Apr.	9–15	..	1
Formosa	Mar.	31–Apr. 9	229	167
New Zealand, Auckland	Apr.	29	2	1
Peru, Callao	Apr.	10–24	2	2
Lima	Apr.	16–23	9	11

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Original Articles.

ME THOUGHTS SUGGESTED BY THE STATISTICS OF THE HEALTH DEPARTMENT, ESPECIALLY CONCERNING TYPHOID FEVER AND SMALLPOX.*

BY GEORGE L. PEABODY, M.D.,
NEW YORK.

the annual tabular statement of the total number of deaths by principal causes in 1903 there is ich food for reflection, as there always is in these blications of the Health Department.

The first in the list of diseases is *typhoid fever.* e total number of cases of this disease reported for e year in the entire city was 3,671, and the total mber of deaths ascribed to this cause was 653,or out 18 per cent. The mortality in Brooklyn was .62 per cent., and that in Manhattan was only .54 per cent.

It is probable that this death rate is higher for th boroughs than it should be, owing to the fact at many cases of the disease are not reported at l—a fact to which I shall have occasion to recur—t I know of no reason to doubt its *relative* accuracy.

For purposes of comparison it may be interesting note in passing that in the New York Hospital, in 903, we treated 144 cases, many of whom came nder treatment late in the disease, with a mortality f 10 per cent.

While the figures above given show that the ratio f mortality to cases in Brooklyn was practically ouble that in Manhattan, it is very significant that he proportion of cases to population is very much igher in Manhattan than in Brooklyn. Thus in Manattan there were 13.35 cases per 10,000 of population, and in Brooklyn only 7.69 in the same number the year 1902; in the year 1903 the figures for the me two boroughs were 12.21 and 7.76 respectively er 10,000. Thus it appears that the ratio of cases of yphoid fever to population is almost twice as great in anhattan as in Brooklyn. While this showing rgues very badly for Brooklyn's therapeutics it is rtainly of very sinister significance in regard to ur own hygiene.

It is not unlikely that many of the ninety deaths ttributed in another column to malaria also belong mong the typhoids.

It is well known, too, that many of the lighter cases of typhoid fever—(both in hospital and in private practice)—cases in which death is at no time feared, are not reported to the Department at all. Only last year attention was called by the Department to the fact that one of our largest general hospitals was not in the habit of reporting any but fatal cases of this disease, and presumably that hospital was not the only sinner in this direction. For these reasons it is fair to assume that the Department's figures, while as accurate as they can at present be made, nevertheless understate the facts as to the number of cases of this disease that occur in this city. In the previous year the number of cases was nearly two hundred in excess of that recorded for 1903.

*Read at a meeting of the Practitioners' Society on Friday, May 6, 1904.

If, now, there occur in Manhattan every year between three and four thousand cases, which is probably not a high estimate, ought we not to pause and ask ourselves where they come from? What is likely to be the source or sources of infection in this large number of cases? Aside from occasional small epidemics in given houses or closely defined localities these are probably for the most part isolated cases of unknown origin. It is usually impossible to trace the origin of isolated cases.

Doubtless some of them originate elsewhere and come here during the period of incubation; and some are deliberately brought here for treatment, as was the case when the epidemic occurred last year at Ithaca.

Many of them, probably most of them, however, originate here, occurring, as many of them do, in people who have not recently been away and have had no known contact with others who have been ill.

It seems to the writer that the only common factor in the matter of possible etiology is the drinking water. You all know that Brooklyn's water supply is totally different and is in great part subjected to natural filtration through a sandy soil.

Of late years, for some reason which has not been explained officially, although it is probably owing to the increased consumption of water, we have been deprived of the benefits of our excellent storage system, to which sanitarians have always believed that we owed much in the way of immunity from typhoid fever. Instead, it has become obvious to all of us that surface-water from the water-shed is delivered in our houses without any such salutary intermediary. It is only of late years that a heavy rain to-day was pretty sure to be expressed in terms of mud in our bath-tubs tomorrow morning or the day after. The only explanation of this unpleasant circumstance is the direct transmission and immediate delivery of surface-water from the Croton water-shed. This water-shed is extensive, inhabited and not therefore guarded against pollution at every point, nor can it be.

Now, whether the present large number of cases of typhoid fever in Manhattan is traceable to the Croton water or not, we must admit its possibility as things now are, and the farther possibility of epidemics of great magnitude, if the present condition be allowed to continue.

It is absolutely inadmissible and unsafe to use as drinking water the surface-water that comes from an inhabited region without the intervention of a system of storage or filtration, or both.

It is small consolation to us to know that Philadelphia and other cities and towns of Pennsylvania and of this State are worse off even than we in this regard.

Prior to consolidation the statistics of Manhattan and the Bronx were not kept separately. For the eleven years prior to 1904 the number of cases varied very widely, *i.e.* between 792 in 1894, as a minimum, and 2,629 in 1902, as a maximum; but it is obvious

on referring to the statistics of the last ten years that there has usually been a very marked increase in the annual number. These are the figures for the years from 1894 to 1903 inclusive, for Manhattan and the Bronx: 792, 965, 1,002, 1,004, 1,535, 1,290, 1,759, 1,915, 2,629, 2,642.

It is proper to state that during these years these figures also include the disease reported as typho-malarial fever, which can fairly be assumed to be really typhoid fever, I presume.

During these years the population also increased, of course, but not in proportion to the increase in the fever rate.

The following table shows the number of cases per ten thousand of population reported in Manhattan and Bronx from 1894 to 1903, inclusive, with the exception of 1901, for which year I have no record of the population:

YEAR.	CASES.	POPULATION.	CASES PER 10,000
1894	792	1,809,353	4.37
1895	965	1,873,201	5.15
1896	1,002	1,906,139	5.25
1897	1,004	1,940,553	5.12
1898	1,535	1,976,572	7.76
1899	1,290	2,014,330	6.40
1900	1,759	2,053,879	8.56
1901	1,915	.....	....
1902	2,629	2,139,632	12.29
1903	2,462	2,186,017	11.26

While these figures do not show a uniform annual increase in the ratio of cases to population, they do seem to show in a general way an increase which is highly significant, and for which there must be some explanation. It has occurred to me that the larger amount of surface water that has come to us of late years, the very obvious failure of our storage system, to which allusion has already been made, may be responsible for this very marked increase in the ratio of cases to population.

The next column in the death-causes is *malarial fever*, to which were assigned, in 1903, 27 deaths in Manhattan, 36 in Brooklyn, and 90 in the entire city.

These numbers seem to me to be impossible, and they suggest inevitably errors in diagnosis on a large scale. They are not susceptible of any other explanation.

How many of us see deaths in ordinary times, due to malaria? Some may have occurred here during the Spanish war, and, years ago, during the period of the construction of the Panama railway we did occasionally see such a death; but at present I venture to believe that death from this cause in this city must be a great rarity.

Smallpox is the next disease to which a column is devoted. Our showing for 1903 in this regard is most satisfactory, namely, 43 cases reported and 5 deaths.

In connection with smallpox, forcible removal of the patient by the Health Department is of more than scientific interest.

It has long been my desire to ask for a discussion of this subject. There could be no better place for such a discussion than this society, which contains so many upon whom the Department depends for advice; and there could be no better time for it than the present, when smallpox is not prevailing.

If a patient can be suitably isolated in his home, so that neither he nor those in attendance upon him come in contact with those who are not protected by vaccination, the necessity for such a procedure is not apparent. The fact that it is still insisted upon in this city is naturally taken to indicate that vaccination is not considered to be protective here.

If such a practice were carried out with reference to almost any of the other infectious fevers it would be at least logically defensible, however it might be open to criticism from other points of view; but the selection by the Health Department of the only one of all the list of acute infections, which we all believe to be absolutely preventable by the easy establishment of artificial immunity tends to bring obloquy on sanitary science, and seems harsh and arbitrary and, in some cases, cruel.

If reasonable isolation is not practicable in the patient's home the case becomes different, of course. I am now referring to cases in private houses, so situated as not to be in contact with any but the necessary doctors and other attendants, and when these attendants may be counted upon to abstain from contact with the unvaccinated, or, as in the case of the doctors, to reduce that contact to a minimum.

Suppose, for example, that a member of your own family should develop smallpox. It should amply satisfy all the requirements of hygiene if the upper part of the house were to be surrendered to the patient's uses, and if none but those protected by vaccination were allowed in the part of the house reserved for him, and if those in attendance upon him kept apart from the unvaccinated as far as practicable and adopted all the usual means to prevent the spread of the infection. All of this might properly enough be supervised by the Department as a condition of leaving the patient in his home under the circumstances, and it might be somewhat expensive, but probably no more so than the present method of dealing with the condition.

It is probably not far from the truth to suppose that many of us, under present circumstances, would deliberately conceal the existence of this disease in our own families and take the risk of consequences, punitive and other; and from this it is but a short step to believing that we would do the same thing for a relation or a friend.

There can be no doubt that dread of the enforcement of this regulation *has* led to concealment and flight, and thus to much greater exposure than would occur under circumstances that I am advocating.

Although exceptions to this rule of forcible removal are occasionally made in the other boroughs, no exception is ever made in Manhattan.

It is within the recollection of many of us that smallpox was treated in the general medical wards of the Paris hospitals; and in France, Germany, Austria, and England such patients were treated in their own homes some years ago when I had occasion to be familiar with the facts in those countries.

This was the case in these continental countries where no one family occupied an entire house, but where many families lived together under one roof and used the stairs and waterclosets in common.

Twenty years ago this was the practice here; it would be interesting to know what causes led to so radical a change of plan.

In England, Section 124 of the Poor Law Act* tells us that under some circumstances a patient may be removed by the authorities to a hospital, but the circumstances are very different from those that we are supposing. Let me quote to you the section of the Poor Law Act so far as it relates to this subject:

"Where any suitable hospital or place for the reception of the sick is provided within the district of a sanitary authority, or within a convenient distance from such district, any person who is suffering from any dangerous infectious disorder, and is without proper lodging or accommodation, or lodged in a room occupied by more than one family, or is on board any ship or vessel, may, on a certificate signed by a legally qualified medical practitioner, and with the consent of the superintending body of such hospital or place, be removed by the order of any

* "Treatise on Hygiene," Stevens and Murphy, Vol. III, p. 164.

ıstice to such hospital or place at the cost of the ınitary authority; and any person so suffering who lodged in any common lodging-house may, with ıe like consent and on a like certificate, be so re-ıoved by the order of the sanitary authority."

The possibility of removing patients as a con-ıquence of erroneous diagnosis is a serious aspect f the case; and the unwillingness of practitioners to ıbject their diagnoses to official review, is in part ased upon a fear of this possibility.

Some years ago I saw a case of pustular eruption ıe to local use of croton oil which had been sent) the Health Department and kept over night as a ɔssible case of smallpox.

It has often happened to me to share the re-ɔnsibility with another doctor of making the ıagnosis between variola and varicella, and then) remind him of his duty to report the case to the lealth Department. Very commonly he says that e prefers not to do so, lest the family should be eedlessly alarmed if the case be one of varicella. lore than once he has told me that even if I believed to be variola he would not be willing to take any ıep which would tend to its forcible removal to ıe smallpox hospital.

This is probably not an unusual occurrence, and ; is likely to be repeated as long as the present ractice prevails; and thus the ends of hygiene and rophylaxis are likely to be defeated.

To revert for a moment to the possibilities and onsequences of erroneous diagnoses. As high an uthority as there is among us has told this society f the difficulty of making the differential diagnosis, nd of its actual impossibility in some cases; and re all know that the father of modern dermatology naintained till his death that the two diseases were dentical to the extent that either one might give rigin to the other.

During the past winter a dermatologist of inter-ıational reputation endeavored to persuade me that ı case of varicella which occurred in the person of ı doctor who was convalescing from a relapse of yphoid fever was one of smallpox, being misled by he height of the fever.

It is certainly possible for any of us to mistake he one for the other. I have known several ɔhysicians of large experience unable to distinguish ɐetween erythema multiforme and smallpox.

Moreover it is within the memory of most of us hat a mistaken diagnosis led to grave public ıcandal and to a successful suit at law in which sub-ıtantial damages were recovered from a reputable ɔractitioner whose sole offense was that he had ɐported a doubtful case to the Health Department, nd had thus become the unwilling cause of the patient's forcible removal, after diagnosis by one or more of the officers of the Department.

Thus the risk incurred by the practitioner in re-porting a case that he believes to be smallpox is not trivial; and his temptation to conceal it becomes proportionately great.

We are all so proud of the work which our health department has done in the multifarious spheres of its activity in the prevention and cure of disease, that we must be forgiven if we appear to be unduly sensitive when it lays itself open to attack, as it seems to the writer to do in this instance.

The next subject in the list to which I shall ask your attention is *diphtheria* and *croup*. By croup I understand laryngeal diphtheria to be meant. Of 18,317 cases reported for the entire city the total mortality is 2,190, or between 11 and 12 per cent. We may hope that the early and adequate employ-ment of antitoxin may reduce this death rate. A year earlier the mortality from this same cause was over 13 per cent.

It seems very strange that *hernia* and *intestinal obstruction* together should be responsible for nearly 500 deaths a year in the entire city. To be exact, it is recorded at 485 for 1903, and at 490 for the previous year.

It is very shocking to note that there occurred 4,068 deaths by *violence* in the entire city. In this category Manhattan leads all the other boroughs with 2,355, and is followed by Brooklyn with 1,144. The risk of a violent death is nearly twice as great in Manhattan as in Brooklyn, allowance being made for the difference in population; but in both of these boroughs the death rate from this cause seems shamefully high. It does not take much experience in the streets of this city to teach one the barbarously low value that is placed on human life here, and the utter recklessness with which danger to life is disregarded.

This very instructive publication supplies much food for discussion, but I will not increase this evening the tax that has already been imposed upon your patience.

57 WEST THIRTY-EIGHTH STREET.

PATHOLOGICAL DISTINCTIONS DISCERNIBLE IN THE RADIOGRAPH IN CERTAIN DISEASES OF THE LONG BONES.

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CORRECT interpretation of the radiograph or the skiagraphic plate supplies an aid in the differential diagnosis of certain diseases of long bones to which

FIG. 1.—Carcinoma of humerus, metastatic, with four weeks of local symptoms.

insufficient attention has been paid. I do not mean to imply that the exact nature of the bone lesion is invariably determinable from a study of the

radiograph, but, together with a consideration of the clinical symptoms, the radiograph often furnishes corroborative evidence. Beyond this, and often in cases in which the diagnosis is shrouded in obscurity, a good radiograph, properly interpreted, will surprisingly often throw the weight of evidence one way or the other.

It is my desire here to set forth a few points of difference that are readily discernible in the radio-

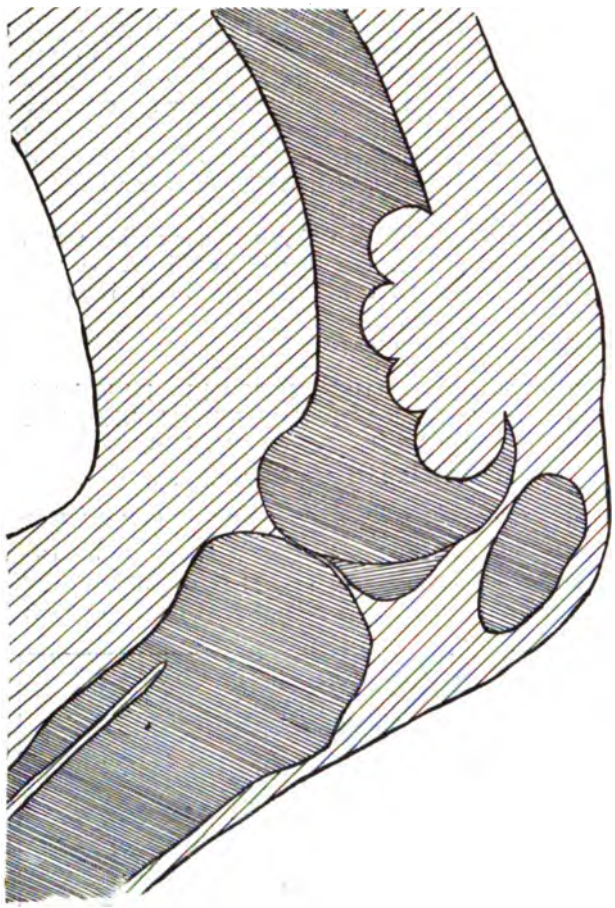

FIG. 2. Tracing of radiograph of a myeloid or giant-cell sarcoma.

graph and which seem to characterize, at least in a measure, certain types of bone disease, and with a large degree of probability suggest a difference between neoplastic and inflammatory processes.

The morbid processes that can enter into this differential discussion are limited. In this communication I have confined myself to a study of inflammatory and neoplastic conditions of bone.

In general, it is to be remembered that when periosteum becomes irritated its osteoplastic function becomes stimulated and new periosteal bone is formed upon its osteal surface. When periosteum becomes disturbed to the point of destruction or approaching that point, no such change occurs. A good radiograph will present various phases of periosteal alteration in certain bone lesions, and I believe permit of deductions that throw light not only upon the kind of irritation but often also upon the period of time that irritant has been active. The information furnished by the radiographic picture of the bone itself seems also to be more or less distinctive in accordance with the lesion.

A hemorrhage into periosteum or between it and bone, will be recognizable or not in the radiograph according to the age of the lesion, that factor determining the extent of new periosteal bone formation. A subperiosteal collection of pus may present the identical picture, but this point the clinical symptoms must determine.

The aim of this article is, however, to bring out points in differentiation between osteoperiosteal neoplasms and osteomyelitis, and for this purpose in treating of bone neoplasms, I am able to treat only of the two large groups of carcinoma and sarcoma without entering further into varieties, and in a general way to point out their radiographic characters.

The radiograph of carcinoma in bone shows an area of rarefaction which is circumscribed and rather sharply demarcated from neighboring bone. The area of carcinomatous rarefaction is homogeneous and does not give the mottled appearance to be detected in osteomyelitis. The area of rarefaction is medullary and not cortical. The size of the area of rarefaction is commensurate with the length of time of the clinical symptoms. The periosteum shows no evidence of new bone proliferation. The entire thickness of bone soon becomes involved in the process of rarefaction, and even spontaneous fracture occurs before there is much gross involvement of the other structures. Fig. 1 demonstrates these characters. The subject was a woman, thirty-eight years of age, suffering from carcinoma of the breast. The bone lesion is metastatic. The radiograph corresponds to four weeks' duration of local symptoms.

Of sarcoma of bone there seems to be two distinct groups from the radiographic standpoint. The one

FIG. 3. Spindle-celled osteosarcoma of tibia, showing fusiform dilatation of the shaft of the bone and widening of the medullary canal.

entirely characteristic, and from my experience always myeloid or giant-celled sarcoma, the other permitting perhaps of less certainty of diagnosis. The giant-celled sarcoma produces in radiograph a picture as represented schematically in Fig. 2. The radiograph shows an area of erosion of bone and periosteum, an area not of rarefaction, as in the case of carcinoma, but of bone resorption. The demarcation between the bone and area of absorption is

entirely clean cut and gives the appearance of having been accomplished with a gouge.

Unfortunately I am unable to furnish a radiograph of this type of tumor; such a radiograph is entirely characteristic of this group, and from it the diagnosis can be made with a great degree of certainty.

Spindle and round-celled osteosarcomata occurring in the length of long bones, present pictures different from the foregoing. These tumors usually cause a gradual fusiform dilatation of the shaft of the bone. In a good radiograph the medullary canal can perhaps be seen for the greater length of the bone, in which case it will be seen to widen out at the level of the growth. The periosteum can be seen very much thickened and of a different density than the soft tissues, but showing no proliferation of new bone. The bone itself is homogeneous, or at all events does not show the sudden transition of light and shade to be seen in radiographs of osteomyelitis (Fig. 3).

A study of the radiographs of osteomyelitis also shows features more or less distinctive. Osteomyelitis, accompanied by subacute or chronic symptoms, is the only variety that need be taken up in this relation.

The features characterizing osteomyelitis in the

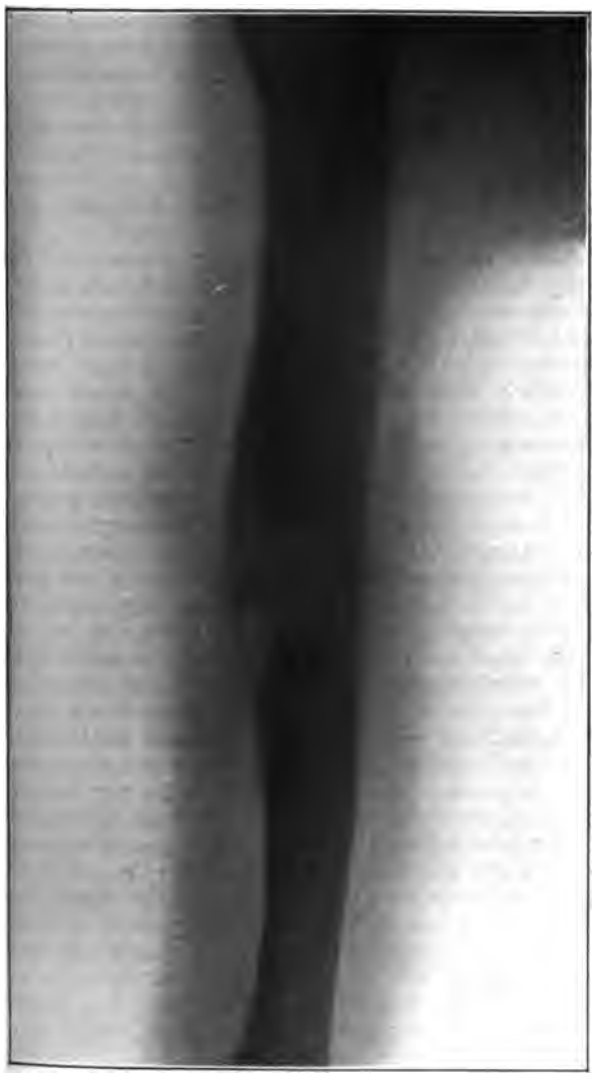

Fig. 4. Subacute osteomyelitis of humerus, showing mottled area of diseased bone.

radiograph are, a bone swelling occupying a segment of the bone or perhaps the entire length, irregularly fusiform, or else the tumor may be limited to one aspect. The area of disease presents a mottled appearance, the result of irregular translucency caused by liquified areas and small areas of density where bone has become thickened. Cloaca and sequestra can sometimes be seen.

Periosteal involucrum will stand out prominently when present, or else the periosteum will show evidences of thickening and often of bone proliferation.

Fig. 5. Subacute osteomyelitis of ulna with thickened involucrum.

The appearance of the periosteum will often suggest the length of time the disease has been in progress and furnish an important factor in the clinical data (Figs. 4 and 5).

In the foregoing I do not wish to imply that the radiograph offers an infallible guide to a differential diagnosis of the several bone conditions discussed. If, however, the radiograph be properly interpreted, it will often cast a flood of light upon the pathological condition, even though other diagnostic methods fail utterly to disclose the true nature of the lesion.

18 East Sixtieth Street.

Medicopsychological Association.—The sixtieth annual meeting of this society (formerly known as the "Association of Medical Superintendents of American Institutions for the Insane") will be held at the Planters' Hotel, St. Louis, on May 30 and 31, and June 1, under the presidency of Dr. A. E. Macdonald of New York City. The secretary is Dr. C. B. Burr of Flint, Mich. The program announces the titles of twenty papers promised for the meeting.

THE TREATMENT OF EPIDEMIC CEREBRO-SPINAL MENINGITIS BY INTRASPINAL ANTISEPTIC INJECTIONS.

By CHARLES E. NAMMACK, M.D.,
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THE first twenty-seven cases of cerebrospinal meningitis admitted to Bellevue Hospital during the present epidemic yielded twenty-four deaths, or 90 per cent. mortality. This appalling death rate made the visiting physicians anxious to try any method of treatment which promised better results. In the *Lancet* of November 1, 1902, Seager published an account of what he had witnessed in Lisbon during an epidemic there. In the beginning of the Lisbon epidemic, treatment by hot baths and ice to the head gave a mortality of 60 per cent. Then simple puncture of the spinal canal was tried in twenty cases. Of these, nine patients died. Of the eleven who recovered, one was deaf, one had persistent paralysis of the left arm, and four had bed-sores. The next seven cases were treated by puncture and removal of the fluid and an injection of oxycyanide of mercury. Of these seven, four died. The treatment by lumbar puncture, aspiration of the exudate, and injection of lysol in 1 per cent. solution was then adopted. Of thirty-one cases submitted to this treatment, thirteen died, and the eighteen who recovered were completely cured.[7]

At a stated meeting of the Section on Medicine of the New York Academy of Medicine, Dr. Morris Manges gave the detailed histories of three cases which had recovered under the lysol treatment.[8]

Considering that the mortality in different epidemics of cerebrospinal meningitis has varied from 20 per cent. to 75 per cent., it is very difficult to draw conclusions from any treatment. A régime in which we may take great pride during one winter's experience with any infectious disease, may ride us to a bad fall in succeeding years. A post-mortem study of the brain and spinal cord of a fatal case of spotted fever will also make one skeptical of the value of any alleged specific. And when we read[1] of nine consecutive cases of this disease recovering, without defect of special senses, under inunctions with an ointment containing an organic silver salt, "not begun until grave symptoms appeared," we can only regret that the author's delightful therapeutic optimism is not as infectious as the disease under consideration. Netter's[2] seven cases of recovery, only five complete, however, under repeated lumbar punctures and baths at a temperature of 100° to 104° given for twenty or thirty minutes every third or fourth hour, night and day, make a more rational appeal to our understanding. The value of repeated lumbar punctures has also been emphasized by Koplik.[3] Bela Angyan believes Quincke's puncture to be a rational method, but confines his own treatment to the use of the ice-bag and the subcutaneous injections of bichloride of mercury, made daily along the course of the spinal column.[4] He reports 70 per cent. recoveries in twenty-seven cases under this régime. Wentworth is quoted by Osler[5] as never having seen any cases benefited by lumbar punctures, though constantly on the watch for them. Osler[5] himself speaks of benefit as being possible by withdrawal of cerebrospinal fluid, and thinks that in certain severe cases laminectomy and drainage would be justifiable.

In estimating the possibility of beneficial results from intraspinal injections of lysol, we must consider what lysol is, how it may act, and what danger may attend its administration. Lysol, which is obtained by dissolving in fat, and subsequently purifying with the addition of alcohol, the fraction of tar oil which boils between 190° and 200° C., is a brown, oily-looking, clear fluid, with a feebly aromatic, creosote-like odor. It is said to be five times greater in antiseptic power than carbolic acid, and eight times less poisonous. Gerlach[6] of Wiesbaden found that 2½ per cent. solutions of lysol diminished the growth upon gelatin of spores of anthrax bacillus in one hour, up to complete arrest of growth in six hours. Much weaker solutions arrested the growth of staphylococcus pyogenes aureus in fifteen minutes. Five per cent. solutions of lysol reduced the number of colonies in decomposing fluids from about 300 in 30 minutes, to 50 in one hour, and to zero in 6 hours. Lysol might then reasonably be expected to inhibit the growth of pathogenic micro-organisms in the exudate of cerebrospinal meningitis, and the clinical proof of this was furnished by the published report of the results in the Lisbon epidemic.[7]

That lysol is reasonably safe, even in much stronger solutions than had been employed in Lisbon, is also evident from its extensive employment in gynecological and obstetrical practice where the chances for its absorption from broken surfaces are very favorable. G. Burgl, in the *Münchener medizinische Wochenschrift*,[8] gives two cases in which young children were fatally poisoned by teaspoonful doses of lysol, given internally by mistake. Burgl also collects 16 other cases of lysol poisoning from the literature. Of these 18 cases, 13 were produced by internal administration, of which 7 recovered and 6 died; 5 by external application, of which 2 recovered and 3 died. The largest internal dose which was followed by recovery was 60 grams in an adult, and 25 grams in a four-year-old child.

My own experience with the lysol treatment comprises the following cases:

CASE I.—Italian boy, seventeen years old. Admitted April 12 in delirious condition with history of sickness lasting four days and beginning with chill and severe headache. Examination showed marked retraction of the head, thighs and legs flexed, Kernig's sign present, opisthotonus when rolled over, slight nystagmus, herpes on lips, tongue dry, brown, and fissured, teeth covered with sordes, no cardiac murmurs, no pneumonia, superficial and deep reflexes exaggerated, tache cerebrale present, urine shows a trace of albumin, leucocyte count, 38,600, catheter necessary. Lumbar puncture was made and purulent fluid withdrawn, which gave pure cultures of the diplococcus intra-cellularis meningitides. After drainage 15 c.c. of 10 per cent. lysol solution was injected. The strength of this solution was due to an error, but so marked an amelioration of the symptoms followed the injection, and that without any evidences of lysol poisoning, that in subsequent cases the 10 per cent. solution was also employed. It must be remembered that all the cases were in adults. At the end of forty-eight hours the symptoms had again increased in severity, and a second injection of 15 c.c. of 10 per cent. solution was made. Again the symptoms seemed to be held in check, for a period of forty-eight hours, when a third injection of same amount and strength was made, with apparently a similar result. Three days now elapsed before a fourth injection was thought to be necessary, and after this, patient continued to improve steadily and left the hospital on May 5, 1904, well, except for left sciatic neuritis.

Was this a case showing the remissions common to this disease, or did lysol influence the result?

CASE II.—Englishman, forty years old, always a hard drinker, had syphilis sixteen years ago, had lost about thirty-five pounds in last five months. On

pril 16 was taken with sharp, shooting pain in the ft thigh, which radiated down to the ankle. Walked to a hospital three days later with a temperature 104°, pulse 92, respiration 24, leucocyte count ,,200, and pneumonia in left lower lobe. He also id a mitral systolic murmur transmitted to the left, id intense pain on pressure along left sciatic nerve. x days later the pneumonia defervesced. On the nth day there was a recrudescence of fever to)5°, leucocyte count increased to 34,400, patient ecame delirious, neck stiff and tender, eyeballs eviated, Kernig's sign present. Lumbar puncture ithdrew turbid fluid, which yielded pure culture of ie Weichselbaum organism. The puncture was llowed by injection of 15 c.c. of 10 per cent. lysol lution. Patient grew steadily worse and died on ie thirteenth day. Autopsy showed purulent erebrospinal meningitis, recent ulcerative endoarditis, old fibroid endocarditis, and hydronephrosis f right kidney with a few small calculi in the dilated alices. This was manifestly a case in which little ould be hoped for, with any treatment, because of he complications.

Case III.—Canadian machinist, thirty years old, rought in by ambulance April 21, in unconscious ondition, with history of twenty-four hours' illness.)n admission, temperature 105°, pulse 60, respiraion 28, pupils dilated, eyeballs roll from side to side few circular rose-colored spots on trunk and highs, Kernig's sign elicited, no heart murmurs, no neumonia, albuminuria slight, leucocyte count 17,000 and rose to 49,600 in forty-two hours. Lumar puncture withdrew only 5 c.c. of clear fluid, which showed diplococcus meningitis in pure culture. Injection of 15 c.c. of 10 per cent. lysol solution was made. Patient totally unconscious. Next day was able to answer questions when aroused, but relapsed into stupor immediately. Died sixty-seven hours after admission. Autopsy showed no complications, the curator's verdict being "epidemic cerebrospinal meningitis characterized by surprisingly slight indications of general sepsis." No perceptible effect from lysol.

Case IV.—Hungarian stonecutter, twenty-eight years old. Admitted April 28 with temperature of 106°, pulse 120, respirations 40. No previous history obtainable. Examination showed an erythematous mottling on chest and legs, left internal strabismus, heart enlarged with rough, harsh, systolic mitral murmur transmitted to posterior axillary line, pneumonia of right lower lobe, abundant albuminuria and granular casts, leucocyte count 22,600. Lumbar puncture withdrew 22 drachms of slightly turbid fluid, which showed diplococcus meningitides in pure culture; 15 c.c. of 10 per cent. lysol solution was then injected into spinal canal. Patient seemed to rest more easily after lumbar puncture, but temperature next day rose to 107.6°, and patient died thirty-eight hours after admission. Autopsy was refused, but complicating cause of death was probably malignant endocarditis.

Case V.—Irish laborer, twenty-four years old, occasional drinker, epileptic since eleventh year with grand mal attacks about once a week. Admitted April 25, with history of chill, vomiting, progressively increasing headache, and stiff neck for past four days. On admission temperature 100.8°, pulse 100, respirations 24, intense rigidity and retraction of neck, eyes negative, no skin rash, thighs and legs flexed, Kernig's sign on both sides, knee-jerks absent, no heart murmurs, no pneumonia, but abundant coarse moist râles and impaired percussion resonance over both lungs, leucocyte count 15,200, catheter necessary. Lumbar puncture withdrew clear fluid, which did not show characteristic Weichselbaum diplococcus, but an organism which was probably staphylococcus. Ten c.c. of 10 per cent. lysol was injected, after which patient became very restless and noisy for about twenty-four hours, when delirium ceased and he became rational. Second lumbar puncture was made, no fluid obtained, but a second lysol injection of 10 c.c. of 10 per cent. solution was given. Some loss of sensation in both legs at this time and right foot-drop. Catheter was necessary for nineteen days. The epileptic attacks ceased during the course of the cerebrospinal fever. Progress was apparently toward recovery until the thirtieth day in hospital, when he relapsed into coma, and died. Autopsy showed characteristic changes of acute cerebrospinal meningitis, complicated by old gonorrhœal purulent infection of entire genito-urinary tract.

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MYOCARDIAL CHANGE FROM THE CLINICAL SIDE.*

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Myocardial change has been chosen for discussion because it is a subject which has in every way received but an insignificant fraction of the medical thought and teaching to which it is entitled. It is undoubtedly the fact that medical lecturers tend ever toward the subjects that are easy to teach, rather than toward those that are important to learn.

Now, in all medicine there is perhaps no subject so exactly worked out, so susceptible of embodiment in clean-cut, dogmatic statement, as disease of the endocardium, its immediate and remote effects. The subject of endocardial lesions occupies voluminous monographs. Allbutt's excellent system of medicine, covering nearly 10,000 pages, gives to the subject of myocardial change only 23 pages and these 23 are divided among 33 different varieties of myocardial trouble. This tendency of the professor is ingrained in the student until many a practitioner is ready to institute treatment merely because he has heard a murmur; and the statement from his lips—"the heart is normal"—means that he has listened to it and heard no murmur. Now it can be shown that a loud murmur, betokening a considerable defect in the valvular mechanism, may be heard over a heart that is for all the purposes of life and activity an entirely normal heart, and that a valvular defect is chiefly of importance as warning us that either by direct action of the original cases of endocardial trouble, or by the increased work entailed by fault in mechanism, the myocardium is apt to suffer relative or absolute insufficiency.

To illustrate the contention as to the unimportance of valvular lesion in the presence of a normal myocardium, let me cite the following three cases from private practice:

Geo. R., policeman, presiding over a crowded corner with dignified activity, undisturbed by any

*Read at the meeting of the Pittsburg Academy of Medicine, March 8, 1904.

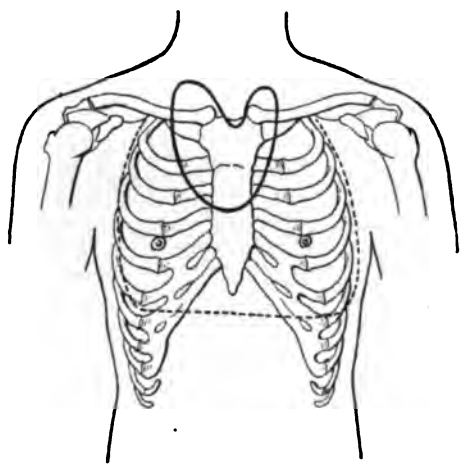
consciousness that he is a pathological curiosity. He has an aortic regurgitant lesion.

C. W. is a lawyer in active practice and strenuous business. A pet family joke is the heart murmur, for which he was rejected by a life insurance company twelve years ago. He does not in the least suspect the truth—namely, that he really has it.

Charlotte W. has in the last four years born three children in absolute defiance of the doctor's orders. After each confinement, she has had an attack of acute endocarditis, temporarily augmenting her pre-existing murmur. No attack has lasted more than a few days—the pain, fever, and detention in bed were such as the old women were quite ready to attribute to "milk fever." Aside from these she has not had a day's sickness; in all the four years she has not had a pain, an ache, or a mild discomfort that could be fairly attributed to her heart lesion. In consultation practice such cases are, of course, absolutely more frequent, though perhaps not relatively so.

Take the case of Walter B., who comes seeking advice (having marriage prospective in his eye) because of the spitting of blood. The blood is easily seen to come from a congested pharynx, which proves readily amenable to local treatment. In the physical examination a considerable mitral regurgitation is found. Of its origin, nothing can be learned. Eleven years ago, when, at the age of seventeen, he applied for appointment to Annapolis, the murmur was loud and plain. It doubtless remained so during the four years he spent at a State university, playing on the foot-ball team with satisfaction to himself and renown to his alma mater, and it will doubtless remain loud and plain until the day he dies—of old age be it hoped.

That these innocuous murmurs are not slight and doubtful ones, that they really arise in an imperfect



endocardium and not in a hyperæsthetic examining ear, let the following case attest:

O. R. seeks advice as to the desirability of continuing a rather strenuous game of tennis. In an examination for life insurance, the tracing of which the illustration is a copy, was made. The dotted line marks out the area of audibility; the solid one, the area of greatest intensity. Of the origin of the murmur, nothing was known. Compensation was perfect. The subject continued through the autumn to play tennis in his usual tournament form.

If it be objected, as it well may, that these are but fragments of cases—that any one of the patients may yet show typical symptoms of loss of compensation, hear the ending of such a case.

H. P. was an aged Jewess. She said she was eighty-three; her grand-nephew with whom she lived, said she had been that age for ten years to his certain knowledge, and her appearance supported his statement. She had at the apex, a harsh systolic murmur—it had all the characteristics of an organic lesion, and I believe that the blood did, in fact, spout backward through the mitral valve at each systole.

First seen in February of 1902, an absolutely unfavorable prognosis was given, two weeks being mentioned as a probable duration of life. The patient died in September of last year. Mark that there was not in any member of this generation the remembrance of the time when this murmur was acquired, or of the date when she first had it. Mark also that her death was without sign of loss of compensation. When her time was come, she died typically of senile dementia, and the omnipotent digitalis could not prolong her life one day.

Such cases might be multiplied indefinitely. The larger life insurance companies see enough of them to calculate an average expectation of life, and to offer insurance on moderate terms.

Let us turn our attention to those conditions that reside in the myocardium itself, destroying its contractile power and allowing the valvular leak to turn the balance of health adversely. Clinical study is necessarily based on broader divisions than is pathological. For the morbid anatomist, each of the thirty or more varieties of cardiac myopathy has its interest, and scientific importance. From the clinical standpoint, it is to be said that most of them are absolutely indistinguishable one from the other; that some produce no visible consequence, while others are so rare that they bear about the same relation to practical medicine that dime-museum freaks do to the progress of civilization. Well for the physician if he can say that there is or is not an organic disease destroying the normal contractile tissue of the heart. The presence of such condition being established, it is usually possible to guess with a certain degree of plausibility whether the condition be one of fatty degeneration, of fibroid heart, or of sclerosis of the coronary arteries. The latter distinction is of some importance in treatment, though scarcely in prognosis.

Acute myocardial change, whether degenerative or inflammatory, seldom appears as a sole cause of death. When it does, it is apt to escape recognition from the anomalous nature of its symptoms. Let me repeat the words in which Latham, first among the moderns, records an observed case.

"A boy, twelve years of age, was in perfect health on Saturday night and dead on the following Tuesday afternoon at two o'clock. He had, in the opinion of all who saw him, the severest inflammation of the brain. The attack was sudden with great heat and frequency of pulse. He had delirium and convulsions, and pointed to his forehead as the seat of the pain. At length he sank into a state of insensibility and died. Upon dissection, not a vestige of disease was found within the cranium, but the heart was the seat of the most intense inflammation, pervading both the pericardium and the muscular substance. When the heart itself was divided, the muscular fibers were dark-colored almost to blackness, loaded with blood, soft and loose of texture, easily separated and easily torn by the fingers; and at the cut edges of both ventricles small quantities of dark-colored pus were seen among the muscular fibers."

Fortunately the majority of cases occur in the course of a few diseases in which, examination of the heart being usually a routine measure, we are less apt to be lead astray by anomalous or referred symptoms. First and foremost stands acute articular rheumatism. If the symptoms be in any direction out of proportion to the joint involvement, attention is at once directed to the heart. When a harsh murmur is heard, showing disease of endo- or pericardial

rface, it masks the sign of myocarditis, but a cer-
in complication with the later condition is always
be assumed. What its proportionate importance
ay be, is one of the most delicate questions our art
esents. Occasionally, in the absence of any mur-
ur, the disturbed rate and the unsatisfactory char-
ter of the pulse, the distance, or the muffling, per-
ps the reduplication, or the galop rhythm of the
art sounds, leads to a diagnosis of uncomplicated
yocarditis, and the end will only too often confirm
r fears.

Along with rheumatism, it is usual to mention
arlatina as a cause of myocardial damage. This I
n disposed to dispute on purely theoretical grounds.
y experience in the pathology of scarlatina is nil.
ut clinical study has shown that if the patient has
ne of the more definitely recognizable complica-
ns, he will recover, save in those instances in which
: is engulfed by an overmastering infection. There
is never been occasion to attribute a fatal ending
an untoward course to any heart complication.
urther, I find that in life insurance examinations,
here we have to do exclusively with innocuous and
nsuspected murmurs, the origin is to be attributed
) scarlatina in a much larger percentage than in
inical work. From which it seems fair to assume
at the scarlet infection touches the heart with
arring finger but superficially, leaving its imprint
n endo- and pericardium, but passing the myo-
rdium by.

Pneumonia also occurs to the mind from its asso-
iation with cardiac insufficiency. Be it noted, how-
ver, that the young and vigorous do not in the
ourse of pneumonia, suffer the much-dreaded heart
ilure. It occurs in the old, in the feeble, in the
issipated. In other words, it is not the develop-
ent of a new acute degeneration, but the manifes-
tion under special stress of an old chronic one.

Before the days of antitoxin, diphtheria gave fre-
uent opportunity of studying an acute degenera-
ive process. The complication was plainly declared
y a slow pulse, soft or even gaseous; on any slight
xertion, becoming very rapid, very small, very
eble. The heart sounds were found muffled and
nequal, fetal in character, or perhaps reduplicated
nto the galop rhythm. Such cases were seldom
verlooked, but often attributed to disturbed inner-
ation rather than to the grave organic cause actu-
lly present.

Such acute conditions are seldom in themselves a
ause of death. They are to be thought of as con-
ributing to the pathology and clinical picture in all
cute infections, but particularly rheumatism, diph-
heria, pneumonia, typhoid fever, and septicæmia.
They are also to be remembered as the usual starting-
oint of chronic conditions. So that in the diagnosis
f the latter, a previous history of any of these infec-
ions is of the utmost importance. Chronic myo-
ardial change, whether it be fatty, fibroid, or ather-
matous in character, is declared to the patient, by
nany varying symptoms. Pain is usually present.
It varies from typical angina pectoris through angi-
oid pain of various degrees to a mere sense of
ppression back of the sternum. Often it is located
ufficiently low in the chest to be mistaken for stom-
ch pain, and numerous sudden deaths are attributed
o acute indigestion. Dyspnœa and palpitation,
ccurring especially on exertion, are common to
these as to all other cardiac affections. The curious
affection first noted by Dr. Stokes of Dublin, consist-
ing of pseudo-apoplectic attacks, is one rather rare
manifestation; Cheyne-Stokes' breathing is another.
Regard to reasonable time limits prevents their con-
sideration to-day.

"Almost as common as pain or dyspnœa is a peculiar loss of vitality and strength [I quote now from Dr. Stengel], which characterizes most of the cases of progressive myocardial degeneration. This is so gradual in its development that it is more often ascribed to increasing cares and to advancing years than to the real cause. Most of the patients suffering with the disease under consideration are above middle age. The more pronounced instances occur in the men who have led active business lives, and who have subjected themselves to repeated or continuous strains. When we see in such persons a falling off in activity, a disposition to be less interested in affairs, a loss of strength of a purely physical kind, especially when the individual shows some loss of color, a premature grayness of the hair, and that peculiar yellowish-whiteness of the face, combined with slight injection of the venules, which is so characteristic of atheroma as to be called the atheromatous facies, we are justified in suspecting a deep-seated, vital, morbid process and should not overlook the heart as a frequent seat."

It is evident that diagnosis will most often involve the discrimination of purely nervous affection. In this regard the personal and family history is often of the utmost value. The question arises in middle life or after. The neuropath will have shown many previous indications of his tendencies. The cardiopath, on the other hand, tells a story of sane and useful, though perhaps excessive, activities. He was an athlete in youth; a man of affairs after maturity. He has suffered from rheumatism in some of its protean forms—from diphtheria, pneumonia, or syphilis. Never a slave to any vicious habit, he has worshipped with right good will in Dr Dacosta's favorite metaphor—at the shrine of Venus, Bacchus, and Vulcan. He comes of a line of men, hard livers perhaps—but always sane and forceful, dying at ripe ages, of apoplexy, interstitial nephritis, gallstones, gout, or possibly enlarged prostrate. The neuropath gives a family history of epilepsy, of insanity, of alcoholic or other drug addiction, and the like. In the common case of mixed, rather than of uniform and consistent heredity, it is often useful to inquire whether the subject most resembles the paternal or the maternal line.

Physical examination is of more absolute value than either symptoms or history. Yet it is always to be read strictly in conjunction with them. No single sign is in itself of final importance, but each acquires force from its association with another. First of all is a certain characteristic physiognomy, exceedingly difficult to describe, and apt in itself to lead to ludicrous error. It has so often suggested the line of investigation that lead to a correct conclusion that its existence cannot be denied. A certain pallor, which is rather low-toned gray than white, an inelastic skin, smooth and soft to the touch, and showing a tendency to remain when pinched up in folds; a look of anxiety and weariness, which the patient endeavors to contradict by tone and manner, seem to me to be elements. Premature grayness of the hair, when not accounted for by heredity or by excessive mental strain, is of some value. In the pulse, size and tension are of more importance than rate or rhythm. Irregularity or intermittence often marks the action of the fibroid heart. Be it remarked in passing that such cases are of relatively favorable prognosis. A very slow pulse of low tension is of great value—which is much increased if it is found that change of position, or slight exertion alter its rate unduly. Inspection of the chest shows the apex impulse broad but feeble. That the beat is seen more readily than felt, is very significant. Percussion

may or may not show the heart enlarged. If the enlargement be great, there is some complicating condition. The heart tones lack quality. The short, firm boom of the normal first sound becomes flat and prolonged. Rhythm is much altered—intermittence, unevenness, doubling of the first sound at the apex, galop rhythm, or the fetal character may be noted. Not infrequently we can gratify our passion for a murmur, even in a purely myocardial case. It is invariably mitral in seat and regurgitant in character. For consider how the closure of the mitral valve is not pure mechanism, as in the aortic, but a matter of complicated physiology. Any seamstress can take of mackintosh cloth what will suffice and construct a very fair set of semi-lunar valves. If they could be set in place, they would prove fairly efficient. In the mitral valve the case is quite different, even if we ignore the doctrine of a sphincteric action of the fibers surrounding the auriculoventricular opening. It is evident that the holding in one flat plane of all portions of the mitral leaflets depends upon a delicate coördination between the papillary muscles, and the general diminution in size of the cavity of the ventricle. So in purely muscular affections we have blood leaking backward into the auricle, with a soft rushing sound. One likes to think that this murmur is distinguishable by the ear alone from one set up by a sclerotic valve. But accurate diagnosis is perhaps better based on a general impression of the totality of the case, rather than any particular character in the murmur.

Finally it is to be said a trace of albumin frequently comes and goes in the urine, most often without the association of tube casts.

All these points may be illustrated in a brief outline of three cases:

W. H. was seen in the winter of 1901. He desired confirmation of a comforting, though uncomplimentary opinion given by his family physician. His complaint was of vague fears, of lack of energy, of irritability when called on for exertion—in short, of laxation of all the fibers of his soul. He attributed his symptoms all to neurasthenia. But he was disturbed by the fact that his physician had, in two examinations out of many, found slight albuminuria without tube casts. On the occasion when I saw him his urine was of average specific gravity, and entirely normal. At forty-eight years of age his hair was quite gray. This he said was contrary to the habit of his family, and had appeared in the last three years. Sharper inquiry brought out the fact that the loss of his accustomed energy had been noted by others before the patient. His personal and family history was that of good nervous balance. Of all of his relatives, I could not hear of one neurotic subject. Nor was there any sufficient cause for neurasthenia. He had indulged in the usual athletic sports of youth vigorously, perhaps excessively. His manhood had been that of a prosperous and busy merchant in a country town. He had been infected with syphilis, had made a good recovery, and had persisted in treatment for a proper period. He had drunk freely, but not constantly, and never to drunkenness. With the physical examination of the chest, we at once touched firm ground. The pulse was 56 to the minute, very low in tension, and dropping a beat at long intervals. After moderate exercise, it jumped to 100 and more, and was very feeble. The heart was enlarged a good two fingers' breadth. The heart tones were distant and feeble, in proportion to the pulse tension, and sounded like the ticking of a watch. This man had already been advised to keep away from the doctor's, to forget his complaints, and to indulge in active out-of-door life. It is conceivable that if he had had the murmur before spoken of, he might have been put on digitalis, and the dose increased with the unfavorable progress of the case.

H. R. an applicant for life insurance, was a Jew of spare frame. His pulse beat about 52 to the minute. Now a very slow pulse is rather frequent among men of his race, and is of itself without pathological significance. But such a slow pulse should be of something more than medium size, and of at least firm tension.

This pulse was smaller than is the pulse of a strong man when fever has lashed it beyond 110; it was notably soft. The heart was not enlarged. The heart sounds were distinct. The first had lost its booming character; it sounded more like a scrape. In three successive urinary examinations the specific gravity was found uniformly low. This I take to be a case of fibroid heart. He positively denied all symptoms. It is probable that a laborious occupation would develop anginoid pains, and perhaps ultimately rupture the heart. In his present sedentary occupation, he is likely to live past middle life, but he would certainly not survive the accident of any acute infection, particularly the pneumonic.

Mary H., was admitted to D ward of the West Penn Hospital in September, 1903, as a case of gastritis, because of vomiting and gastric pain, and as a case of gastritis she was reported to me by the resident physician. An indefinable something in her face led me to say to him, "Examine that heart again, doctor." On my next visit a heart murmur was reported, her pain was said to be located behind the sternum, and I found that the patient had been put on digitalis. Now the woman had none of the symptoms that we associate with loss of compensation. There was no dropsy, and no sign of general passive congestion. She admitted that for two or three years there had been some difficulty about physical exertion, particularly the climbing of stairs, but the difficulty was not dyspnœic in character. She seemed to think that rather the will than the strength was lacking. Her pulse was rapid and excessively soft in character. In spite of some fat and considerable mammary development, it was possible to determine that the heart was enlarged. At the apex and round toward the axilla was a soft systolic murmur. The second pulmonary sound was slightly accentuated. It seemed certain that there was actual leaking through the mitral valve, but the opinion was hazarded that this was a fatty heart, and the murmur one of relaxation. As a matter of fact, with rest in bed, concentrated nourishment, and the administration of strychnine, the tone of the circulation improved—the murmur disappeared. The subsequent history of such a case will not be long. She may reappear in a few years or a few months with a large dilated heart, indistinguishable from the late and hopeless stage of uncompensated valve lesion. She may have again the severe pain at the lower end of the sternum, suggestive of stomach trouble and so die unexpectedly of acute indigestion. A pneumonia would snuff out her life before any strange physician, summoned on the instant, would have time to formulate a diagnosis. If she had wealth enough to command the acme of physical comfort, climate, rest, and attendance, it might purchase for her the doubtful advantage of an idle, worried existence through many years.

Such is cardiac myopathy as we see it at the bedside and in the consulting room. These cases are not rare. While diagnostic principles seem vague, it is possible by attention to the whole aspect of the case to establish an opinion important for treatment and still more so for prognosis. More important still

will exact knowledge of the symptoms and signs of such cases prove when we try to analyze the etiological basis of the circulatory weakness that appears as the most important clinical fact of almost every acute infection.

430 PARK BUILDING.

THE USE OF RUBBER TISSUE AND BORACIC ACID IN THE TREATMENT OF SURFACE GRANULATING WOUNDS AND ESPECIALLY OF THE VARICOSE ULCERS OF THE LEG.

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DURING the last year we have been employing rubber tissue in the surgical work in the Out-door Department at St. Luke's Hospital for a variety of purposes where formerly gauze was used. This more extended use has resulted from observation upon its rather remarkable action in the healing of the ordinary granulating varicose ulcers of the leg, for the treatment of which this method was first suggested to me by Dr. Abbe.

The subject of the treatment of those more or less broad surface granulations and benign ulcers from various causes and in various situations, has occupied space in medical literature from ancient times. It is not the purpose of this paper to extensively review the many methods of treatment

FIG. 1. Showing extent of overlapping of the rubber tissue.

with which nearly every one is familiar. The broad ulcers from a burn, the varicose ulcers of the leg, and the soft flabby granulations in ulcers, resulting from tubercular inflammation, and seen so frequently in the neck and above and below the clavicle, are of every-day experience. The chronicity, pain and discomforts of these conditions are worthy of our best efforts at relief.

We have usually been satisfied to apply a wet dressing with supportive bandage to relieve redness, heat and induration, and later to apply various lotions, powders, ointments, and strapping. Healing finally occurs, but slowly, and skin grafting or more radical procedures are not infrequently called in to complete the cure.

Among the various procedures of the last few years the following are of interest: Levy (*Vratch*, August 26, 1900) reports three cases of leg ulcer

FIG. 2. Application of rubber tissue over area of ulceration.

treated by circular incision, the method of Nussbaum proposed in 1873, consisting of incision around the ulcer to the deep fascia and a finger's breadth from its edges. Brault (*Gazette des hôpitaux*, No. 89, *Centralblatt für Chirurgie*, October 31, 1903), in various leg ulcers, is still using another modification of the method of Moreschi proposed in 1894, and subsequently modified by Mariani, Vince, Mauclaire, and others; an attempt at the radical cure by incisions about the limb above and below the ulcer extending to the deep fascia and cutting all structures, with the object of relieving hydrostatic pressure and stasis in the ulcerated area. Healing in from fifteen to twenty days is claimed. The method has generally been abandoned. Acqua (*Riforma Medica*, October, 1903) reports eight cases treated by this method, and concludes that it does not interrupt communication between the superficial and deep circulation, nor offer impediment to new collateral ways. Recurrence is the rule. Wagner (*Centralblatt für Chirurgie*, December 12, 1903) advocates a plan of treatment by the open method, exposure of granulating areas to the drying influence of the air which checks the exuberant granulation. At night a drying powder is used and the parts bandaged. The method was considered especially useful in unsuccessful or partially successful skin grafting, or where that procedure had been refused. His method appears to be the revival of an older procedure in which the ulcer was exposed to the air under a wire protective netting or basket, a bandage being applied over all. Bukovsky has attempted to use the toxins of various bacteria isolated from leg ulcers in their treatment. Dilutions of the cultures upon compresses were applied to the ulcers two or

three times a day, the patients remaining in bed. Kindler (*Centralblatt für Chirurgie*, No. 10, 1900) has used hot water upon chronic leg ulcers with good results. About three and a half pints of very hot water is allowed to fall on the ulcer from a height of six feet. This is repeated two or three times a day and is followed by dry rubbing with iodoform and dermatal. Meitner (*Frauenarst*, Vol. 18, 1903) lays stress upon bandaging in the ambulatory treatment of leg ulcers. He uses various ointments and powders and speaks of the

FIG. 3. Absorbent gauze in position over tissue—roller bandage securing dressing. The gauze is turned back to show the rubber tissue beneath.

occasional use of dilute alcohol. Schiller (*International Journal of Surgery*, November, 1902) has had good results from the use of europhen and protargol thickly applied to ulcers, which are then covered with Unna's zinc gelatin. Healing resulted in from six to seven weeks. Fischkin (*Medical Standard*, September, 1903) in leg ulcers has recommended the use of gutta percha paper (tissue) for delayed epidermization. He thought that it served the purpose of draining, removing secretion, and also preventing adhesions between dressings and the surface of the ulcer. His suggestion was first to paint the base of the granulating ulcer with a 2 to 4 per cent. solution of silver nitrate, then dust with bismuth, dermatol or ichthyoform and cover with the tissue.

The method of which I wish particularly to speak is as follows: Upon these freely granulating surfaces well-powdered boracic acid is abundantly sprinkled. This is covered smoothly with rubber tissue, overlapping the edges of the ulcer by an inch or two (fig. 1) and held in place by adhesive plaster strapping (fig. 2). Absorbent gauze covers the tissue, again overlapping its edges, and a snug supporting bandage completes the dressing (fig. 3).

A point of much importance is the length of time such dressings should be left undisturbed. They are rarely changed oftener than once in five days, usually once a week, and occasionally the interval is longer. I have been impressed with the really rapid rate of epithelial growth if given a chance. The irregular surface or mesh of the gauze "crocks" the surface, producing hills and dales over which epithelium has to climb. The smooth surface of the tissue insures a smooth surface to the granulations. The boric acid acts as an efficient antiseptic astringent, diminishing and sweetening the discharges and preventing excessive transudation and exuberant granulation, which two factors undoubtedly act as the greatest checks to epithelial growth and covering. These factors, undoubtedly long appreciated, have led to the use of drying powders and various expedients to reduce excessive granulation, but, while doing so to a certain degree, form a crust under which exudation continues as before. It remains to combine the mild antiseptic astringent with a smooth impervious surface to secure the best results.

Often, upon the careful removing of this dressing, very little will appear to have been done, the surface appears generally moist, and the red but flattened granulations seem uncovered. It is wise to refrain from touching this surface, for if we wait a few moments and allow it to dry, which in winter indoors rapidly occurs, a marked and very pretty differentiation of the parts covered and uncovered by epithelium will appear; the covered part appearing dry, smooth, and slightly glazed and paler, the uncovered relatively moist and red, as granulation tissue. Every one is familiar with a somewhat similar phenomenon with skin grafts that appear

FIG. 4. A type of ulcer suitable for treatment with boracic acid and rubber tissue.

to have failed. Several times a wet, perfectly transparent and most delicate epithelial covering has been removed before realizing that the surface of the ulcer could possibly have been so extensively epidermized.

Upon soft, freely granulating surfaces, such as one often sees upon burned areas, and in the varicose ulcers of the leg, this method of combining boric

cid and rubber tissue has given us a rapidity of ealing which in many cases has seemed incredible.

Within the last few months we have extended his method of treatment to a number of ulcers, he result of tuberculous inflammation, with the haracteristic flabby granulations and undermined luish edges, and in which a certain amount of tuberular tissue appears to be present. Here also very ratifying results have been shown. One of these ases, shown in figure 5, presented an area of such a haracter. A noteworthy improvement appeared n this case after the third dressing; granulations were firmer, the edges appeared no longer undernined, and the general area contracted. The transudation being rather more free from these surfaces, hey seem to require a somewhat larger application of the powder and at intervals of but three to four days between dressings.

In second degree burns equal parts of a 10-per-cent. boric-acid ointment and zinc-oxide ointment under rubber tissue is a combination particularly useful and grateful. It may be applied directly to the area uncovered by the removal of blebs and bullæ. I find this use of rubber tissue in burns has

5. Ulcer, the result of tuberculous inflammation (after three s), granulations flattened, edges attached, and epithelium in.

been recommended by Dr. G. Tucker Smith, N. (*American Journal of the Medical Sciences*, , 1903).

e impermeability of the rubber tissue further sted its use as a covering for ointments in- of gauze which absorbs the larger bulk of the , leaving a small dried residue to act upon the . We have had results that indicate a better ion and a superiority of penetration through the unbroken skin.

The use of the 1 in 8 guaiacol, lanolin, and lard preparation, under the tissue, in many cases of tubercular glands of the neck (proven tuberculous by the removal of one or more glands), several tubercular wrists, and one tubercular shoulder (all checked by radiographs), combined, of course, with the usual immobilization in the cases of joints, has led to subsidence of the trouble more frequently, more quickly, and to a greater degree than formerly when we were employing gauze, or the ointment was simply painted on, or very lightly rubbed in. The subsidence of (non-specific) glandular swellings, indurations following inflammation and trauma, etc., has been more rapid and satisfactory with an ichthyol or iodine ointment under rubber tissue than with gauze or absorbable material.

Occasionally mild skin irritation is caused by the guaiacol or too strong ichthyol. A dilution of the ointment or the use of a simple zinc oxide for a few days has always sufficed to remove this, when the treatment can be resumed.

In the use of boracic acid the possibility of absorption and resulting poisoning is to be remembered. So far we have encountered no such results, although it has been used upon surfaces of over thirty square inches. The usual support to the circulation in the shape of a snug bandage seems of advantage, but the reparative process under the tissue appears to run ahead of any help so gained. This appeared in a number of cases in which a start was made by the usual methods and under snug supportive bandaging. After several weeks of slow progress the adoption of the rubber tissue and boracic acid produced such marked results that one could not but ascribe to it a specific action.

When phlebitis, periphlebitis, or broad flat ulcers with green sloughy bases have existed a preliminary treatment with wet dressings, aluminum acetate, 1-100 carbolic acid, creolin, naphthalin, boric, and iodoform gauzes and ointments has been used. (And let me add here that the addition of boracic acid to iodoform gauze or powder in the treatment of abscess and dirty wounds in general, produces results in the cleaning up that iodoform alone is slower in producing.)

Eczemas, after the subsidence of heat and induration under aluminum acetate, have yielded speedily to an ointment composed of $\frac{1}{3}$ or $\frac{1}{4}$ of a 10 per cent. salicylic-acid ointment and $\frac{2}{3}$ or $\frac{3}{4}$ of a zinc oxide ointment.

Careful observation, ingenuity of application and method of securing dressings will, I feel sure, lead to the more extended and general use of rubber tissue and boracic acid in the treatment of certain classes of granulating surfaces, and especially of the varicose ulcers of the leg. Painful and dangerous sores in this latter condition are healed, the cause, of course, is not removed, and circulatory support is necessary.

As with all procedures, different observers will secure different results, but the method herein proposed has given us results that have not been attained with any of the methods heretofore recorded.

The following points are presented for consideration: The combination of boracic acid and rubber tissue is recommended for the rapid epidermization of the broader, exuberantly or freely granulating surfaces.

The dressing is not a dry one, the rubber tissue preventing evaporation. The total wound discharge with the boracic acid is less, but occasionally appears greater, because being somewhat confined it does not, as with the use of gauze, soak the dressings so extensively and become diffused.

The antiseptic, astringent, and sweetening action of boric acid permits of the advantage of infrequent dressings, bacterial growth being inhibited.

Upon flat, firm granulating surfaces this method appears to work well, but not so quickly as with the softer granulating surfaces, but upon either it appears faster than any method other than skin grafting.

It has not been employed as yet upon those ulcers with gangrenous or sloughy bases, or extensively upon those larger indolent ulcers without or with scanty granulating surfaces. Upon some smaller ulcers of this class it has worked very well.

A CASE OF BILHARZIA HÆMATOBIA INFECTION.

By T. N. RAFFERTY M.D.,
AND
H. N. RAFFERTY, M.D.,
ROBINSON, ILL.

In the *Western Medical Reporter* of March 15, 1882, there appeared the report of a case of bilharzia hæmatobia found in southern Illinois, by Dr. David S. Booth, Sr., of Sparta. Up to that time it had been thought that this parasite was to be found only in the Orient, and consequently Dr. Booth's report was the object of much adverse criticism. He described the parasite as bisexual, the male worm showing a distinct gynecophoric canal, which contains the female during copulation. The ova showed a spine from the anterior end; the embryos were flask-shaped and ciliated.

Dr. Booth's patient was a spare woman of twenty-eight years, who complained of vomiting, diarrhœa with pain in the bowels, and difficulty of urination. Her urine was bloody, of acid reaction, of a sp. gr. of 1020, showing a trace of albumin and numerous parasites.

The present observations on bilharzia hæmatobia are based on a case previously reported by Dr. Edwin Walker of Evansville, Ind.* Mrs. R. is of a Jewish family, and was twenty-eight years of age at the beginning of the period of observation, which was from April, 1900, to September, 1901. We will not dwell on her previous history, which was given in Dr. Walker's report, but simply reiterate the fact that the patient's home was in central Illinois, and that she had never lived or journeyed outside of this country, or even in our Southern States.

On April 20, 1900, we examined a specimen of the fluid from a supposed cyst in communication with the urinary bladder, and found a sp. gr. of 1006, a large number of red blood cells, and strings of mucus. In the fresh specimen (Fig. 1) we found one embryo, several ova, and a few parasites. The embryo found was without motion, pear-shaped, and measured 5μ in greatest diameter. Its cilia were distinct but inactive. The ova appeared indefinitely granular and showed amœboid movements. The worms, or parasites proper, were numerous, there being as many as three in the field at one time. They were highly motile, passing among the red blood cells, as a tad-pole among so many pebbles. This motility was retained for twelve hours.

A specimen stained with borax-carmine (Fig. 2) showed numerous ova, ovoid and round in outline, measuring from .16 to .25μ in greatest diameter. They were polynuclear, the nuclei being nicely stained, while the protoplasm was unstained. They were without motion. The parasites did not take the stain, but lost their motility. They showed a distinct canal through their entire length, and were found curled up in various positions, at one place two of them being interlocked. They ranged from 6 to 13μ in length.

A second specimen of this same cystic fluid was examined on April 24, 1900, after the patient had been taking two grains of methylene blue three times a day for three days. A fresh slide showed numerous large embryos with ciliæ inactive. The nuclei were stained with the methylene blue which had been taken internally. A few small ova showing amœboid movements were found. There were numerous parasites stained blue, in all positions but without motion.

Examination of the urine at this date showed a deep indigo-blue color, acid reaction, sp. gr. of 1022, and neither albumin nor sugar.

Journal of the American Medical Association, February 17, 1900.

Microscopically (Fig. 3), numerous embryos and ova were found, the former with flagella and highly motile, the latter showing amœboid movements.

On August 5, 1900, Mrs. R. had an attack of hæmoptysis, followed by a constant hacking cough, with a sputum of blood, mucus, and broken-down lung tissue. On the evening of August 21 she bled to the extent of eight ounces, and about the same on the 22d. These attacks were preceded by a sense of fulness in the chest, with cough and slight dyspnœa. She complained of tenderness over the left lung; and its apex percussion note was somewhat dull. These lung hemorrhages continued in smaller amount almost daily until September 25, and then gradually stopped.

Examination of the blood from the left lung (Fig. 4) showed a large amount of partially disintegrated lung tissue, a beautiful specimen of the alveoli, filled with epithelial débris and exudate, and at some places perfect casts of the medium-sized bronchioles. The distomæ were found, together with their embryos and ova, all three forms corresponding with those previously found in the urine. The parasites were without motion and apparently dead, as were also the embryos; but the ova were very active, at one time appearing round, and at another taking a crescentic shape.

On August 23, 1900, we took blood from the peripheral circulation (finger), stained it with borax-carmine and mounted in balsam (Fig. 5). The red cells were normal in appearance. There was an apparent increase in leucocytes, though no actual

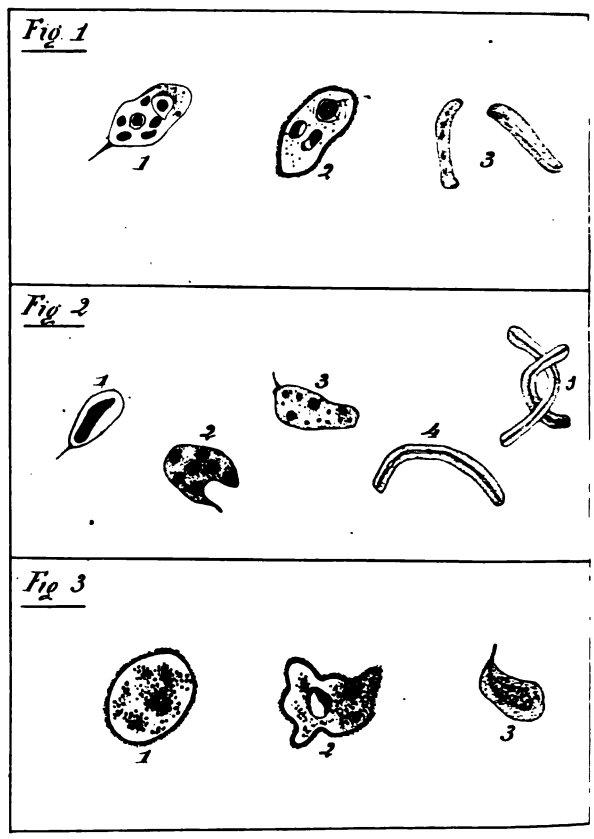


FIG. 1. (Cystic fluid.)
(Fresh specimen.)
(1) Ovum (showed amœboid movements).
(2) Embryo (without motion).
(3) Parasites (were highly motile).

FIG. 2. (Cystic fluid.)
(Specimen stained with borax carmine.)
(1, 2 and 3) Ova—.16 to .25 micro-mm.—nuclei stained.
(4 and 5) Parasites (unstained and without motion: 6 to 13 micro-mm long.)

(FIG 3 (Urine after administration of methylene blue.)
(Nuclei stained, after giving methylene blue internally.)
(1 and 2) Embryos, with flagella—highly motile.
(3) Ovum—showed amœboid movements.

nt was made. A large number of distomæ was nd, lifeless, and of a size and shape previously deibed. Neither embryos nor ova were to be found. September 26, or about the time when the bleedfrom the left lung ceased, Mrs. R. had her first intinal hemorrhage, passing several ounces of ght blood with a few small clots. She comined of severe colicky pains over the lower abdon, tenderness, gurgling, and some gaseous distenn. Following this she had many similar attacks, th ten or twelve stools a day. The blood seemed ver to be retained long, and apparently came from low the ileocæcal valve. The patient also vomd some little blood during this period. These disarges from the bowel showed the distomæ, emyos and ova: also blood and epithelial cells (Fig. 6).

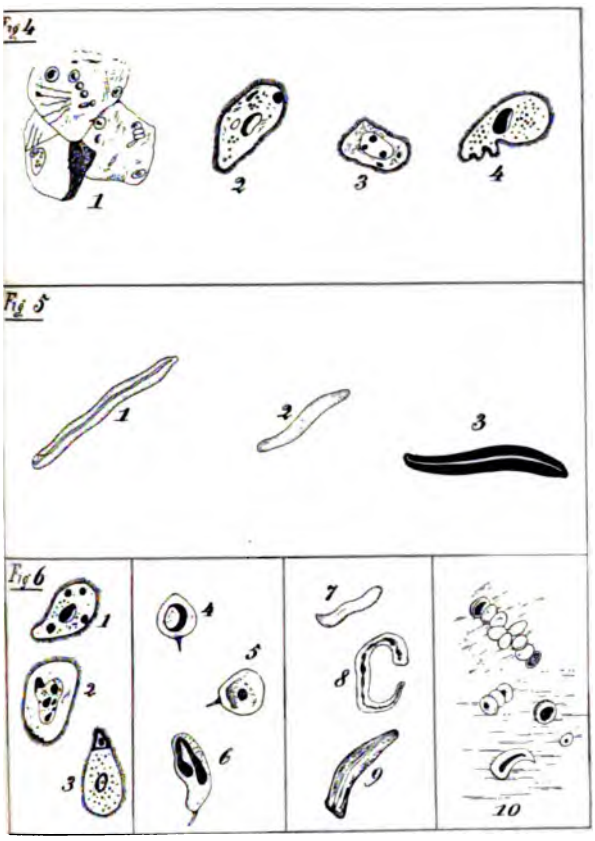


FIG. 4. (Blood from left lung.)
(Fresh specimen.)
(1) Alveoli filled with blood cells and exudate.
(2, 3, and 4) Embryos—without motion.

FIG. 5. (Blood of peripheral circulation.)
(Specimen stained with borax carmine; parasite unstained.)
(1, 2, and 3) Distomæ—7 to 15 micro-mm. long.

FIG. 6. (Blood from the bowel.)
(Fresh specimen.)
(1, 2, and 3) Embryos—showed amœboid movements.
(4, 5, and 6) Ova—amœboid movement and locomotion.
(7, 8, and 9) Parasites—were without motion.
(10) Red blood cells partially disintegrated.

High enemata of a solution of tannic acid seemed to benefit the patient most at this time. On November 1, 1900, we began the hypodermatic administration of phenol. We gave one minim twice a day to begin with, increasing half a minim daily up to three minims twice a day.

At this time our patient was complaining of intense pain caused by the passage of blood clots from left kidney through its ureter into the bladder. Numerous examinations of the infected fluids made during the hypodermatic administration of phenol showed no change in the form, number, or life duration of the organism.

On February 14, 1901, Mrs. R. had her first severe attack of hæmatemesis. Vomitus consisted of blood, food particles, mucus, and epithelial cells; and contained the parasites in forms previously described.

Mrs. R. left our care in September, 1901, and judging from reports which have reached us indirectly at different times, she has at least held her own, and is probably better in some respects.

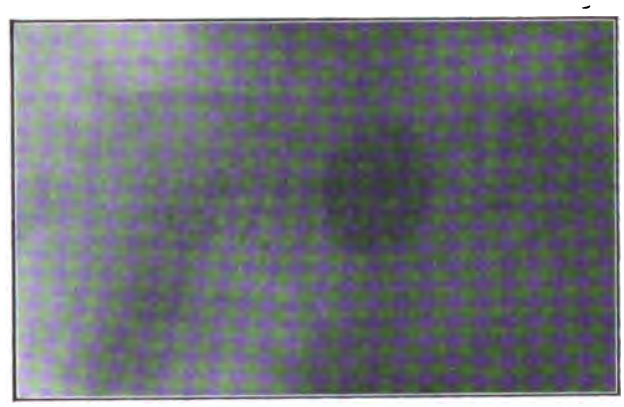
The peculiarities of the case may be summed up as follows, viz., (1) the occurrence of a case at all in this country, when there has been no residence abroad; (2) the almost universal distribution of the organism throughout the patient's body, it being accurately demonstrated in blood from the left lung, from the stomach, from the lower bowel, probably from the pelvis of the left kidney, from the peripheral circulation (finger), and in the urine and fluid from a cyst in communication with the urinary bladder; (3) the excessive hemorrhages over a long period of time (more than a year) and (4) the wonderful resistance of the patient—a woman weighing but 90 pounds, who had undergone two successful abdominal operations, and had been a semi-invalid for ten years.

X-RAY DIAGNOSIS OF AN INTERESTING CASE.

By L. D. WEISS, M.D.,
NEW YORK.

A WOMAN, Mrs. S., brought her child, ten weeks old, for treatment for a cold which the baby had for about ten days. Examination of the child revealed nothing in the chest, although it plainly showed distress in breathing; the mother also said that for ten days the baby had continually held its head in a marked degree of extension; if the head became flexed dyspnœa ensued. The child rarely nursed and was much emaciated. The mother said that about ten days before another one of her children told her that she had put a copper cent into the infant's mouth and that the baby had swallowed it.

Thinking that there might perhaps be some truth in the child's story and also that it might offer some explanation for the extension of the baby's head,



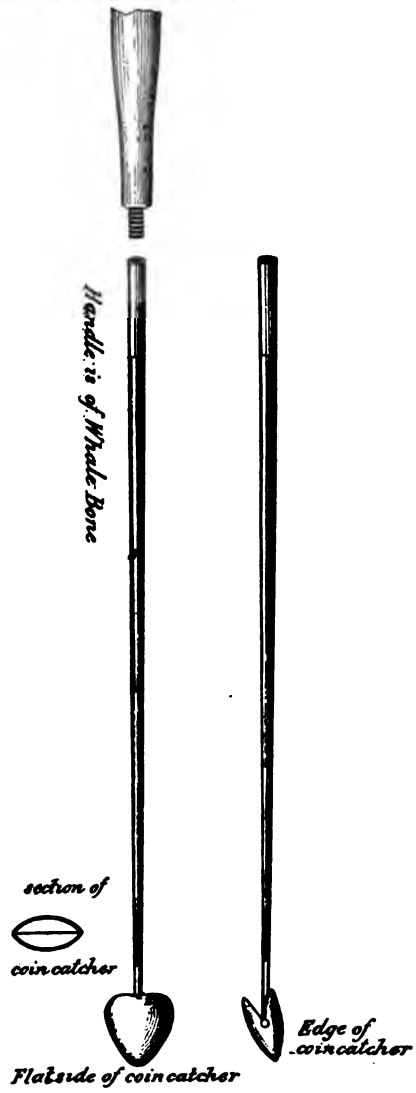
its dyspnœa, and its refusal to eat, I used the *x*-ray and found by fluoroscopic examination that the swallowed coin was imbedded in the œsophagus about on a level with the three upper ribs, as is shown in the accompanying illustration.

The question now arose as to how this coin could be removed; we had two alternatives: (1) grasping it through the mouth by forceps or other instrument; (2) by an incision into the œsophagus. The first was the more logical and tempting one.

The infant was given a few whiffs of chloroform and placed before the *x*-ray, so that, with the aid of the fluoroscope, the forceps (which was in the hands of Dr. W. E. Spicer) could be directed to the coin. The instrument would slip by, back or in front of the coin or fail to grasp it firmly, so we had to aban-

don it and use an instrument known as the coin-catcher.

This instrument resembles a hollow heart with the base cut off and a V section cut out of its thin edges. The receptacle is of silver (so it can easily be seen with the fluoroscope); the handle is of whalebone; the catcher is smooth, so it easily slips past the coin



which becomes engaged in it, and when once engaged the more one pulls the firmer is the grasp on the coin.

When the fluoroscope showed the coin engaged by the coin-catcher, a pull on the handle at once dislodged the cent, and in a few seconds it was drawn through the œsophagus and out of the mouth.

157 West One Hundred and Eleventh Street.

Elasticity of the Skin.—From experiments on frogs, E. Lodholz deduces the following conclusions: (1) The curve of elasticity of skin resembles that produced by a muscle. (2) Supplemental extensibility is greater than that found in muscle, arteries, or elastic tissue. (3) Supplemental extensibility is greater as the number of weights applied to the skin preparation are increased. (4) This phenomenon continues increasing for an indefinite period—in fact, so long as the weight is applied, if the preparation is kept in good condition. (5) Supplemental elasticity is less marked than that found in muscle, arteries, or yellow elastic tissue. (6) The intermittent action of an equal weight produces a curve which usually describes a hyperbole. (7) Supplemental extensibility is inconstant and prevents the production of a constant mathematical curve when heavier weights are added. (8) The higher the temperature the greater the extensibility and the less perfect is elasticity. (9) Alkalies increase and acids decrease elasticity.—*University of Pennsylvania Medical Bulletin.*

Some Points in the Prognosis of Typhoid Fever.—R. E. Sedgwick concludes his paper as follows: The younger the patient, the more favorable the prognosis, as mild cases are commonest in the young, while fatal complications are apt to occur in the old. If the onset of the disease be gradual, it is likely to prove a mild case; but if the onset be sudden, then a severe case must be looked for. If the case be one occurring in an outbreak of typhoid fever, then the general character of the outbreak may be of value in prognosis, the age and constitution of the patient being taken into account. The amount of pyrexia *per se* is not to be regarded as unfavorable in a patient of strong bodily health. The pulse rate is a good indication of the severity of the attack. Sudden changes in its rate are important guides to the onset of complications. Constipation is a favorable symptom contrasted with diarrhœa, which is unfavorable. Meteorism is an unfavorable symptom, because it favors perforation. Where perforation occurs, operative measures hold out the best chance. The dryness of the tongue is a valuable guide to prognosis. Hemorrhage occurs chiefly in serious cases. The earlier it occurs in the disease, the more serious it is. Early nervous symptoms must be regarded seriously, for they are an indication either of the severity of the attack or the lack of resistance in the patient. Most of the complications tend to recovery, serious complications being perforation, peritonitis, and pneumonia. When perforation occurs, laparotomy is the only treatment. Hospital-treated patients have a better chance of recovery than home-treated patients.—*The Birmingham Medical Review.*

The Value of a Fecal Fistula in the Treatment of Typhoid Perforation.—Willard Bartlett says that we are accustomed to think of typhoid perforation as something uncommon and far away, and it is more than gratifying to note how the results attained are gradually improved, and how the most skeptical have been gradually won over to an appreciation of the value of prompt surgical intervention in these cases. The writer gives a number of interesting statistics. Until 1903 it had been the universal practice to close the perforation carefully by sutures, and large statistics have shown that one-fifth to one-fourth of the patients had been saved in this manner. Then it occurred to Escher that the matter of closing the perforation might have something to do with the mortality. He found by searching the literature that one-half of the cases in which the opening had not been found and so was not closed, had recovered, after the abdomen had been drained and a fecal fistula allowed to form. To test the truth of this deduction, he treated four cases by simply bringing the affected loop of intestine up to the parietes, leaving it open and allowing a fistula to form. Three of these cases recovered, a ratio of 75 per cent., which has hardly been equalled in all the history of the subject, no matter what the form of treatment. The fistula in Escher's cases all closed promptly, one spontaneously, and the other two after secondary suture of the abdominal wall. The explanation of his success is very simple. The operation can be performed very quickly, two stitches being all that are required. The bowel can rapidly empty itself. The closure of a large perforation is always attended by the danger of producing an impermeable constriction. The writer gives the history of a case of perforation which he treated in the manner just described. As to the time of operation, the writer would be inclined not to delay longer than is necessary to prepare the patient and the instruments. He believes in the use of a general anæsthetic when a patient is in fair general condition. He calls attention to the necessity for rapid operation. As to the site of the incision, he says that since we can find the lesion in the small intestine most easily by beginning at the ileocolic junction as a fixed point, he can grasp only the lateral incision as the proper routine method, unless there be distinct localized symptoms elsewhere.—*The Medical Fortnightly.*

MEDICAL RECORD:

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THE PROGRESS OF CANCER RESEARCH IN GREAT BRITAIN.

THE progress of certain investigations conducted under the immediate direction of the Executive Committee and Pathological Sub-Committee of the British Cancer Research Fund has recently been reported. The investigations made at the Central laboratory were by Dr. E. F. Bashford and Mr. J. A. Murray. The report just published deals with the zoological distribution, the limitations in the transmissibility, and the comparative histological and cytological characters of malignant new growths. The plan of campaign pursued by the British Cancer Research Fund is to follow different lines of inquiry simultaneously. In this manner a multitude of isolated observations have been coördinated by the willing coöperation of many workers in very diverse fields of activity.

The first chapter of the report treats of the investigation of cancer in domesticated mammals, a matter which has received the attention of many observers in the past. The fact is pointed out that even in recent times statements as to the occurrence of malignant new growths in savage races of mankind, and in domestic and wild animals have been occasionally received with skepticism by members of the medical profession, or have been met with the assertion that the disease had possibly been derived from civilized man.

"Within the past year malignant new growths have accumulated," states the report, "from all the domestic animals, and from other vertebrates in captivity and living in a state of nature." In the case of animals a large proportion of the specimens have been removed from those portions of the body which most readily come under observation. In the case of the cow, however, in which the carcases are subject to meat inspection, a larger proportion of the cases have occurred internally, The relative higher incidence of cancer in old age in animals was also shown by the investigations. During the year, 1,500 tame mice were examined, and among these three cases of adenocarcinoma were found. Through the courtesy of other observers, specimens were examined of all the cases of malignant new growths in tame mice which have been described. These include examples of epithelioma, adenocarcinoma, and lymphosarcoma. The report states that the data which have been obtained on the occurrence of cancer in domesticated mammals do not as yet justify any conclusions as to the relative incidence of cancer in these animals.

Respecting the occurrence of malignant new growths in wild animals living in captivity and in state of nature, the following data are given: Among investigations of workers in this field, Professor Scott, Mr. Gilruth (New Zealand), and Dr. M. Plehn (Munich) have decribed carcinoma in the trout. Dr. L. Pick of Berlin has placed on record cases of squamous-cell carcinoma in the hen and malignant cystoma in cryptobranchus. Among wild animals living in captivity only a small number of malignant new growths so far have been placed on record. Two examples of similar growths in marine fish living in a state of nature have been obtained—in a gurnard and in a codfish. A wild mouse was found to be suffering from a spheroidal-celled carcinoma.

Referring to the nature of the malignant new growths of man and animals, the report says: "The histological characters of the malignant new growths of animals are identical with those found in man in all essential features, although the animals themselves are drawn from the different classes of the vertebrate phylum. Squamous-celled carcinoma, adenocarcinoma, and sarcoma can be recognized as readily in them as in man. It is a matter of moment that the malignant new growths in fishes fall into two categories of sarcoma and carcinoma. The unequivocal nature of the microscopical preparations of adenocarcinoma in fish obviates completely the objection that might be raised were sarcoma (so often with difficulty distinguished from infective granulomata) alone recorded in this class. The result of the examinations of various tumors convince the investigators that carcinoma is widely distributed and identical in character, proving that cancer is primarily based on the few conditions which are common to the forms in which it occurs, and only incidentally a problem of human pathology. Thus the essential factors in the causation of cancer must be sought in the potentialities residing in the cells which constitute the living body. Furthermore, the great diversity of the habitat, food, and conditions of life, generally of the forms in which malignant new growths are found, relegates such external agencies to a subsidiary rôle, if they play any part whatsoever, in determining the incidence of the disease."

The zoological distribution of cancer has an important bearing on many current hypothetical theses as to its etiology in man. In connection with this assertion the report says: "The occurrence of cancer in marine fishes living in a state of nature makes it obvious that the conditions of human life peculiar to our modern civilization have not called cancer into being. It remains to be decided whether they have even led to a higher incidence of the disease. In any case those conditions can at the most have a mediate relation to the occurrence of cancer, and the essential preliminaries which lie between them and the initiation of cancer cycle cannot be regarded as their specific reactions. Even in the case of what is known as paraffine cancer, arsenic cancer, etc., the same seems to hold good." The report also treats of the transmissibility of cancer from one animal to another and the comparative cytological characters of malignant new growths which will be considered in another issue of the MEDICAL RECORD.

THE ITALIAN AND PUBLIC HEALTH.

In the MEDICAL RECORD, April 30, some comments were made in the editorial columns on observations of Dr. J. M. Eager with regard to the types of Italian immigrants seen by him at the ports of Naples and Palermo. Dr. Eager said that there were frequently seen at the inspection of immigrants those who deviated slightly from the normal physique, but not sufficiently so as to warrant rejection. Such individuals, though not necessarily effective delinquents, possess moral qualities that under suitable environments develop into criminality, while their lack of physical stamina means proneness to disease. The writer, therefore, was of the opinion that persons possessing these physical and mental characteristics were not desirable as immigrants, and in this view the MEDICAL RECORD coincided.

The May 7 number of *Charities* is devoted wholly to the consideration of the Italian as an immigrant, and in general combats the view that people of this nation are undesirable immigrants. The case for the Italian is ably argued, and in the discussion, by Dr. Brindisi of Boston and Dr. Stella of New York, of the health problems of the Italians in America, the contention is made that the Italian immigrant, upon arrival in this country, is possessed of health and strength. The major part of Italian immigration is, according to the first-named writer, made up of sturdy mountaineers of the Southern Appenines, inured to the most laborious agricultural work. Consequently Italian laborers in this country show a small percentage of disease and a still smaller one of mortality. In 1902 there were 641 deaths among the Italians in Boston. Of the deceased, 175 were born in Italy, and 466 were born in America of Italian parents. The total figures represent 6 per cent. of the total number of deaths in the city of Boston and 11.43 per thousand of the population. This rate of mortality is lower than that of any other nationality except the Russians. Dr. Brindisi presses the point that the physical condition of the Italian immigrants is good, but that their mode of living after arriving in America is contrary to the laws of health, and gives rise to a considerable amount of sickness and to physical deterioration. A very large proportion of Italians settle in the large cities, and herd together in a most unhygienic manner. The women in particular suffer from this change in their habits. Accustomed to a rural out-of-door life, they are suddenly plunged into one of relative inactivity and seclusion, and suffer in health accordingly. Their weakened and impaired physical condition has an injurious effect on the children. The way in which they live in the cities, too, in crowded tenements insufficiently lighted and ventilated, bears heavily upon the health of the young. In short, the morbidity, like the mortality, is larger among the children of the immigrants than among the immigrants themselves. The writer rightly says: "The problem that confronts the student of the hygienic and sanitary conditions of Italians living in the large cities of the United States is threefold, and involves the consideration of the dwelling-houses, the food, and the race conditions." With regard to dwelling-houses, there are two features that attract Italian immigrants in searching for a dwelling—cheapness of rent, and its situation in a locality inhabited by his countrymen. They will flock together in a fashion inconceivable to Americans, and under conditions most prejudicial to the conservation of good health. As to food, Dr. Brindisi states that the American idea with respect to Italians feeding poorly, because they do not eat a sufficient quantity of meat, is a mistaken one. The Italians in the large cities of this country eat much more meat than they used to consume in the old country and still suffer immensely more from stomach troubles here than they did in Italy. Last but not least in the matter of dietetics, the Italians, as a rule, are essentially a temperate race.

Tuberculosis is extremely rife among Italian immigrants. Dr. Antonio Stella says that the extent of its prevalence is not generally known, but that, as a matter of fact, more Italians die of pulmonary tuberculosis in New York City than members of any other nationality, negroes alone excepted. The causes of this proneness to consumption are not far to seek. The Italian immigrant exhibits no inherent susceptibility to the disease, but is rendered disposed to contract the germs easily by the devitalizing influence of the conditions in which he lives. Sleeping in overcrowded dwellings and working in sweatshops and factories quickly undermines the health of a race used to an out-of-door life, and prepares the soil for the bacillus tuberculosis.

There can be but little doubt that immigration is to a certain extent a menace to the public health. As stated in the MEDICAL RECORD, April 30, Dr. Eager says that many Italians are permitted to come to this coutry who are of a primitive type and who are thus specially liable to disease. Even if this number be very small, the Italians are a source of danger to the public health by their habit of herding together in large cities. In New York City alone the total Italian population is estimated at 382,775, an increase of nearly 130,000 since the year 1900. The rational solution of the problem would seem to be that agricultural colonies should be founded, under the ægis of the Italian Government, in which Italian immigrants might lead a life in conformity with their accustomed habits. It is evident that the class of immigrant now flocking into this country is entirely different from that of some years ago, and of course not nearly so desirable. The majority, perhaps, are poor, ignorant, and illiterate to a degree, and by staying in the cities tend to make worse the conditions of already overcrowded districts. In this way at least, if in no other, the Italian immigrants, as well as the Russian, Polish, and Hungarian immigrants, are a distinct menace to the public health.

THE UTILITY OF THE PHONENDOSCOPE.

DR. SEHRWALD (*Deutsches Archiv für klinische Medizin*, Vol. 79, Nos. 5 and 6) reports the results of tests made for a year with an improved phonendoscope, for the purpose of determining whether the instrument possesses any advantages, especially in military service. The instrument consists of a small metallic stethoscope, with a central bore and having interpolated in its shaft a disk-shaped air-chamber 6 cm. in diameter and 2 cm. thick. From the chamber pass two rubber tubes provided with glass or

ard rubber tips for introduction into the ears. The xtremity of the instrument to be applied to the sur-ace to be auscultated has a diameter of 1 cm. The esults of the observations made are summarized as ollows: The phonendoscope is an exceedingly small inaural stethoscope, with an interpolated air-cham-er that acts as a resonator. The instrument can, herefore, intensify and render audible only a defi-ite note, while it enfeebles or suppresses all other otes simultaneously present. Accordingly, it trans-nits murmurs but imperfectly, and, as a rule, it nodifies their character materially. By means of a liding arrangement the air-chamber of the instru-ent can be partially opened and the resonator thus djusted to a higher note. The defects, however, ersist, as the instrument does not transmit deep otes, and it is limited to a narrow range of sound, ielding feebler notes as the opening is increased and hus losing its property as a resonator. When the indow of the air-chamber is open, the sounds from he outside reverberate loudly within the resonator, hile when the window is closed the sound often is ccompanied by a disturbing buzzing or roaring. f the air-chamber is applied directly to the body, he presence of moisture or of hair may be respon-ible for disturbing sounds, which neutralize the ncreased intensity of the note. By the method of ercutory transsonance, the phonendoscope being pplied over an organ and the skin being stroked with a brush in a centrifugal or a centripetal direc-ion from the point of application, the limits can be listinctly determined where the friction-sound becomes fainter or modified in character. The out-lines thus obtained are mostly oval or circular and depend, apart from the vigor of the friction, in the first place upon the character of the superficies of the skin, its dryness or moistness and the amount of fat present, as the intensity of the friction is pri-marily dependent upon these factors; and in the sec-ond place upon the tension of the skin, as the skin conducts the friction-sound the further the more it is stretched in a given direction; and in the third place upon the possibility of freedom of vibration on the part of the skin. If solid, and especially mas-sive, bodies are pressed against the skin from without or within the friction-figures become smaller as the facility of vibration grows less. A portion of the sound-vibrations pass from the skin to the parts immediately underlying. If these are capable of associated vibration, as, for example, the rigid tho-racic wall, friction-figures develop also in them, varying in size and shape in accordance with the same factors as influence the figures on the skin. On the chest sound-conduction is good in the course of the ribs, but distinctly less good at right angles to them. The friction-figures, which are round on the freely vibrating skin, become oval in this situation, the long axis being parallel with the ribs. The same effect is produced when further viscera are situated beneath such a second stratum of tissue. Soft and massive organs are ill adapted to associated vibra-tion and they therefore yield but small figures. The friction-figure upon the skin is a combination of the friction-figures of all parts situated at this point, but not the picture of a single part arbitrarily selected, for example the heart. The figures for the heart can be demonstrated on the chest after removal of the heart. The heart apparently does not influence the friction-sound as a resonator. The friction cannot yield an adequate picture of the heart upon the skin, since the chest, as a projection-surface, has an irregular curvature, and the distance of the several parts of the heart from this surface varies widely. The friction-figures change their position in many situations with displacement of the point of auscultation. Thus, the figure of the heart can be obtained also on the right side of the chest, that of the spleen below the usual situation of this organ, etc. The results, therefore, are often arbi-trary. While the ordinary stethoscope is less con-veniently manipulated in some examinations and yields feebler notes, these are undiminished in ful-ness and unaltered in character, and they are far more reliable and more useful in diagnosis, so that for practical purposes the simple solid stethoscope cannot be replaced by the more complicated and more delicate phonendoscope, which is more bulky and more difficult to put together.

House Infection of Tuberculosis.

Among the most valuable papers read at the Tuber-culosis Exposition in Baltimore in the beginning of this year was that by Dr. Lawrence F. Flick, Director of the Phipps Institute, Philadelphia, on house infection of tuberculosis. The house is the most important factor in the origin and spread of pulmonary tuberculosis. According to Dr. Flick, "The most striking feature about the communicability of tuberculosis is that it depends almost entirely upon the house." "The house is the granary of the tubercle bacillus out-side of its host. Were it not for the house the tubercle bacillus would soon have to perish from the face of the earth. It could not be preserved. Sun-light, air and water are its natural enemies. The water dissolves it out of its cache, and the sunlight and air destroy it."

The house also prepares the soil for the germ of consumption; the system, through living in unheal-thy surroundings and through insufficient nourish-ment, becomes devitalized and harbors and develops the germ with great readiness. Malnutrition is one of the most predisposing causes of tuberculosis. Next to the house, the workshop is chiefly respon-sible for the spread of consumption. The writer asserts that some people work with the contagious stage of tuberculosis for the greater part of a work-ing lifetime, occasionally being thrown out of em-ployment for a few weeks or months on account of an exacerbation, and again returning with as much vigor as before. Owing to the spitting habits of men and women in workshops, a few consump-tives can contaminate an entire shop. The house is the *fons et origo* of tuberculosis, and is also the most potent means of its dissemination.

Dr. Flick summarizes his views on the matter as follows: (1) Tuberculosis is a disease due to the parasitic growth of a microorganism on the tissues of a human being or animal. Being due to organic life, it is communicable. (2) Tuberculosis is con tagious. The contagion of tuberculosis is different from the contagion of acute contagious diseases, however. It is slow and can be avoided easily in the presence of a consumptive, whilst that of acutely contagious diseases is rapid and cannot be avoided in the presence of those who have such diseases. (3) The contagion of tuberculosis is closely asso-ciated with the house. An enclosure of some kind is necessary to make it effective. (4) The house is the granary of the tubercle bacillus. It is the place in which tuberculous matter is kept vital until the bacillus can find a new host. (5) Out of doors tubercular matter becomes devitalized in a short time through water, light, and air. Enough cannot

accumulate in a vital state to create a contagious environment. (6) Everyone has some resisting power to tuberculosis. Some have more than others. Practically all have sufficient resisting power to withstand occasional exposure to tuberculosis and exposure out of doors. (7) For an implantation of tuberculosis prolonged intimate exposure and an intensely contagious environment is necessary to overcome resisting power. This is had in the home and the workshop. (8) The house prepares soil for the tubercle bacillus.

As as been preached persistently in the MEDICAL RECORD, in order to check the inroads of tuberculosis to any great extent, and perhaps in time to wholly eradicate the disease, it must be attacked at its fountain head. Prevention is the only way to conduct a successful campaign against consumption. The only thorough means of prevention are constructing the homes and workshops so that they are well lighted, efficiently ventilated and sanitary in all respects. So long as the wretched rookeries which disfigure all large modern cities, and which are especially a feature of New York, are permitted to exist, just so long will tuberculosis increase and multiply in our midst. The remedy lies to a greater or less degree in the hands of the city authorities; if to the dwellings of the poor were given the attention which is paid to other and more pecuniarily profitable affairs, rapid progress would soon be made in staying the spread of tuberculosis.

PLANS TO FIGHT MALARIA ALONG THE ROUTE OF PANAMA CANAL.

Views with respect to the unhealthiness of the Panama Canal route differ considerably. Some say that Panama and neighborhood is one of the most pestilential districts in the world, and that to fight successfully the insanitary conditions there, will tax to the utmost the resources and ingenuity of American sanitarians and engineers. On the other hand, there are others who aver that the state of affairs from the standpoint of disease has been greatly exaggerated, and that Panama and vicinity, in spite of its evil reputation, can be rendered healthy without the expenditure of a great deal of money or energy. It is likely that the truth lies between these two extreme statements. The canal route is decidedly unhealthy, but is not the veritable death trap that it is popularly supposed to be. However, there is no doubt that the work of purification will test somewhat severely the abilities of those into whose hands the task is placed.

Col. William C. Gorgas of the Medical Department of the United States Army contributes to the New York *Sun*, May 15, an interview in which he sketches a scheme of the plan of campaign which will be followed in the efforts to minimize, as far as possible, the insalubrious qualities of the Isthmus. Colonel Gorgas says in part: "Including the two cities of Colon and Panama, we have at the present time a population of about 40,000 people along the canal strip. The great majority of these people have malaria, and should a large force of foreign laborers be sent to the Isthmus at this time, they would eventually be infected, just as were the French. To correct these conditions we will probably have a year alloted to us before any large force of laborers is thrown into the Isthmus." The speaker has no fear of yellow fever. The same principles will be applied to the Isthmus of Panama that were so successful in extirpating the disease in Havana. Quinine will be used universally among the infected population, and to attain this result a system of hospitals will be established capable of accommodating in the neighborhood of 7,000 patients. All mosquito-breeding places will have to be destroyed, necessitating the employment of a competent inspecting force. Two hundred doctors will be needed along the line of the canal to care for the sick. The sanitation problem, such as street cleaning, sewerage, and water works, will be solved in the same way as in American cities, and there should be very little doubt of its success. At present there is no system at all on the Isthmus.

It may be thought that the opinions of Colonel Gorgas respecting the sanitary regeneration of the canal route are too rosy, but he expresses the views of an experienced authority. He was largely responsible for making Havana a comparatively healthy city. No better man could have been chosen for the position of head of the medical force in connection with the canal construction, and provided that he is given a free hand, he may be relied upon to remove the ill name which has so long attached itself to the Isthmus, and to alter the insanitary conditions prevailing there to such an extent, that Europeans, taking proper precautions, may live in as good health as in the majority of tropical countries.

HIGH BUILDINGS AND PHYSICAL DEGENERATION.

That extremely high buildings are not conducive to the good health of the inhabitants of a city has been often asserted. The arguments in support of this contention are plausible and even more or less convincing. The buildings known as skyscrapers, indigenous to America and conspicuous in all its cities, exclude to a great extent light and air from the streets on which they are situated. Human beings need all the light and air possible, and when these are lacking they suffer in health, therefore high buildings are a menace to health. An inquiry is proceeding in Great Britain at the present time with regard to the physical degeneracy of the British race. Dr. Warner has recently examined 100,000 London children, and reports that one sign of degeneracy is that the heads of children are growing smaller, especially those of females. Dr. Warner says that this is due chiefly to the erection of high buildings. He offers no explanation of his theory, but states that where residences are of great height and size a larger proportion of small heads are found. In Kensington, where high buildings are numerous, the state of affairs in this respect is worse than in Whitechapel and Bethnal Green. In fact, it is bad in all districts in which lofty buildings are common. Dr. Warner suggests that in certain localities want of light and air shut out by high buildings may account for small heads.

The craze in the United States for erecting twenty and thirty-story buildings has, in the majority of instances, little in its favor. In New York there is some excuse for the custom owing to the narrow and cramped area of the city proper. In other cities, however, the erection of skyscrapers is to be condemned. They are not beautiful or æsthetic, some of them, indeed, offend all the canons of art and are hideous in the extreme, while they are obviously prejudicial to the public health by reason of the manner in which they exclude light and air. In the crusade against consumption now being waged in America, the subject of high buildings as a cause might be taken up. Plenty of light and air is a necessity in the preservation of good health, and where these are not available physical degeneration will take place.

News of the Week.

The Fifteenth International Medical Congress.—n common with many others we have had grave oubts regarding the wisdom displayed in the selec- ion of Lisbon as the place of meeting of the next nternational Congress, but we have to confess that he first official bulletin, just issued, has weakened hese doubts. There is certainly no sign of pro- rastination—no mañana—in what has thus far been ccomplished. The committee on organization has lready held two meetings and the executive com- ittee four. The officers of the congress have been ppointed, the statutes adopted, the various sections rganized, and the foreign and national committees re being constituted. The organizer of the United tates committee is Dr. John H. Musser of Phila- lelphia, President of the American Medical Associa- ion for 1904. The congress will be held at Lisbon n April 19-26, 1906. The congress will be divided nto seventeen sections, as follows: (1) Anatomy descriptive and comparative anatomy, anthropol- gy, embryology, histology); (2) Physiology; (3) General pathology, bacteriology, and pathological natomy; (4) Therapy and pharmacology; (5) Medi- ine; (6) Pediatrics; (7) Neurology, psychiatry, and riminal anthropology; (8) Dermatology and syphilog- raphy; (9) Surgery; (10) Medicine and surgery of the urinary organs; (11) Ophthalmology; (12) Laryn- gology, rhinology, and stomatology; (13) Obstetrics and gynecology; (14) Hygiene and epidemiology; (15) Military medicine; (16) Legal medicine; (17) Colonial and naval medicine. The official language is French, but in the general and sectional meetings English and German are permissible. Portuguese is excluded, the committee explaining that this has been done to reduce the babel of tongues, others, whose national speech may seem slighted, being estopped from complaining "when the legislator sacrifices himself." The membership fee is 25 francs ($5). The president of the Committee of Organization is Dr. M. da Costa Alemão; the general secretary is Dr. Miguel Bombarda (Hospital de Rilhafolles, Lisbon), to whom all communications should be addressed.

Peace.—Dr. Frederic C. Curtis, Secretary of the Medical Society of the State of New York, writes that an invitation has been extended to the Presi- dent, Dr. H. D. Wey of Elmira, and members of the Medical Society of the State of New York by Dr. John H. Musser, President of the American Medical Association, to attend the meeting of the association at Atlantic City, June 7 to 10, and take to part in the scientific proceedings. Notice of this is given to the members of the society who may desire to attend and avail themselves of the invitation as well as to the members of the country medical societies.

The International Tuberculosis Congress was opened in Copenhagen on May 27, Prof. Brouardel of Paris presiding. Crown Prince Frederick, the Ministers, and Members of the Diplomatic Corps, in- cluding United States Minister Swenson, were among those in attendance. Delegates from twenty countries, among them Dr. Pottenger of Los Angeles, Cal., and E. L. Trudeau of Saranac Lake, N. Y., were present. Premier Deuntzer welcomed the delegates.

The Hospital Graduates' Club.—The nineteenth anniversary of the foundation of this society was celebrated by a dinner at the Hotel Manhattan on the evening of May 26, a large proportion of the members and many invited guests being present. The presi- dent, Dr. Arthur L. Fisk, was toastmaster, and speeches were made by Professor Canfield of Co- lumbia, ex-Dock Commissioner McDougall Hawkes, Mr. H. G. Carlton, Rev. Dr. Hyde, and Drs. D. B. St. John Roosa and John W. Brannan of New York, and Hobart A. Hare of Philadelphia.

American Association of Life Insurance Exam- iners.—The annual meeting of this association will be held at Atlantic City, N. J., on Monday, June 6, the day preceding that of the American Medical Association. The program contains the titles of fifteen papers to be read. There will be a morn- ing and afternoon session on the pier and an evening session at the Hotel Islesworth, which will be the headquarters of the association. Dr. Chas. Lyman Greene of St. Paul is president, Dr. J. J. Morrissey secretary, and Dr. Denslow Lewis chairman of the Executive Committee.

Dr. George M. Lefferts.—At a meeting of the Faculty of Medicine of Columbia University, held May 23, 1904, it was voted that the following minute be entered in the records of the meeting and that a copy thereof be sent to Dr. Lefferts: "Upon the acceptance of the resignation of George Morewood Lefferts, M.D., M.Sc., Clinical Professor of Laryngol- ogy and Rhinology at the College of Physicians and Surgeons, the Medical Department of Columbia Uni- versity in the city of New York, the faculty of the college desires to express its high appreciation of the distinguished services which through three decades he has rendered to the institution. The organiza- tion and maintenance of an important practical clin- ical department in the college, eagerly sought by the students of successive generations, and a model of efficient administration, we recognize as a large achievement in the career of a busy practitioner. This long and faithful service and the generous gift to the college of a valuable collection of illustrative specimens and charts are held in high appreciation by his colleagues. A wise and successful teacher, an eminent practitioner, and a genial associate, the faculty acquiesces in Dr. Lefferts' retirement with reluctance and regret."

A New Dysentery Bacillus?—A despatch to the *Sun* from Colombo says that Professor Castellani, who occupies the chair of pathology and bacteriology at the Colombo Medical College, announces that he has discovered the bacillus of dysentery. He is experimenting with preventive serums and a cura- tive vaccine.

Prof. Wilhelm His died at Leipsic on May 1 after a long and painful illness. He was born in Basle July 9, 1831, and had therefore nearly com- pleted his seventy-third year at the time of his death. He studied medicine in Basle, Berne, Berlin, Würzburg, Prague, Vienna, and Paris. In 1857 he was appointed professor of anatomy at Basle, suc- ceeding Meissner, who had received a call to Göttin- gen. In 1872 he was called to Leipsic to take the newly established chair of anatomy. Carl Ludwig taking hat of physiology, and both succeeding Weber, who had held the united professorship in these two subjects. The scientific contributions of His exceed one hundred and embrace a great variety of subjects, including the anatomy of the cornua, the structure of adenoid tissue, and the lymphatic sys- tem. But it was as an embryologist that His won his greatest renown, his *magnum opus* being "Über den Bau des Säugethiereierstocks." In an appreci- ation of His in *The Lancet* of May 21, 1904, to which we are indebted for the facts above stated, Dr. Wil- liam Stirling of Manchester says that "when we survey the immense amount of original work which His accomplished we can well say that 'prodigious' was his energy and his application and untiring was his zeal. When we remember that all th s was accomplished along with the active performance of the duties of a professor of anatomy in a great school

of medicine, we can only wonder how it was done. His was a clear and explicit lecturer, a draughtsman of the highest ability, and marvelously beautiful were the pictures which he built up before his audience in the lecture theater. All the drawings—and they were legion—for his various papers and monographs were drawn by his own hand either directly or by means of his embryograph. Many are the anatomists who studied under him. In our own country we may mention Symington and Gemmill and across the pond Hall, Clark, Flint, and MacCallum. Endowed with a charming personality and a manner at once suave and inviting, His attracted round him groups of young investigators eager to work under him. He was always ready to help the beginner and to guide him by his wise counsels."

Reception Hospital for the Insane.—About two weeks ago Governor Odell announced his approval of Senator Foley's bill authorizing the city of New York to acquire a site and to lease it to the State for the establishment thereon of a reception hospital for the insane, and authorizing the State Commission in Lunacy to erect such a hospital.

Annex for St. Vincent's Hospital.—Plans have been filed with the Bureau of Buildings for the new six-story fire-proof annex for St. Vincent Hospital, to be erected at the northeast corner of Seventh avenue and Eleventh street, and to be known as the West Wing. It is to adjoin the new main building on Eleventh street and will have a frontage of 90.4 feet and a depth of 94½ feet with a façade of brick and stone harmonizing with the main edifice. There will be a solarium on the sixth floor and quarters for the Sisters on the fifth floor.

The Lenox Medical and Surgical Society.—In place of the annual meeting of this society, on the evening of May 28, a dinner was given by the members at the New York Athletic Club in honor of their fellow member, Dr. William Kelly Simpson. Dr. Charles W. Allen presided, and all of those present, members and guests, to the number of about thirty, made brief addresses of congratulation to the guest of honor on his appointment to the chair of laryngology at Columbia University.

Missouri State Medical Association.—The following officers were elected at the annual meeting of the Missouri State Medical Association held at St. Louis May 17 to 20 inclusive: *President*, Dr. Jabez N. Jackson of Kansas City; *Vice-President*, Dr. S. M. Brown of Monroe City; *Secretary*, Dr. C. M. Nicholson of St. Louis; *Assistant Secretary*, Dr. E. J. Goodwin of St. Louis; *Treasurer*, Dr. J. Franklin Welch of Salisbury. The next annual meeting will be held at Excelsior Springs.

Typhoid Fever Declining in Philadelphia—For the week ended May 28 there were reported to the Philadelphia Bureau of Health 120 cases of typhoid fever, as compared with 182 for the week ended May 21, and 295 for the week ended May 14. The number of deaths from the same cause was, for the respective weeks, 22, 30, and 25. The total number of deaths during the three weeks indicated were 494, 477 and 520 respectively.

Dr. John E. Greiwe has been appointed adjunct professor of the practice of medicine at the Medical College of Ohio.

Medical College of Ohio.—On May 25 this institution, which comprises the Medical Department of the University of Cincinnati, held its eighty-fifth annual commencement. Addresses were made by the dean, Prof. P. S. Conner, the acting president of the University; Prof. Joseph Edward Harry, and Prof. Allyn C. Poole. The class consisted of forty-six graduates, and members secured nineteen out of twenty-two hospital appointments in Cincinnati as well as several in other cities.

Covington (Ky.) Board of Health.—Dr. Orrin Lyle Reynolds, Dr. E. S. Stuard, and Dr. M. Behrman have been elected by the City Council as members of the Covington Board of Health to fill vacancies left by Dr. W. W. Ranshaw, George O'Maley, and Dr. C. T. Mooffet.

Reciprocity Convention.—The third annual convention of the American Confederation of Reciprocating, Examining, and Licensing Medical Boards was held in Chicago May 24. The Examining or Licensing Boards of the States of Illinois, Indiana, Wisconsin, Michigan, Iowa, Nebraska, Kentucky, and Maryland were represented. The address of the President, Dr. W. A. Spurgeon of Muncie, Ind., dwelt on the insufficiency of the courses in the colleges and the lack of proper relation between the various branches. He advocated regulation of the medical college curricula and of State Board questions as a basis for reciprocity and uniformity.

Medical College of Ohio Alumni held their annual banquet on May 25 at the Alms Hotel, Walnut Hill. One hundred and fifty members were present. Dr. J. H. Landis of 1890 acted as toastmaster, and toasts were responded to by Dr. Oscar Berghausen of the graduating class; Dr. A. H. Freiberg, 1890; Dr. David P. Gillian, 1871; Dr. E. G. Reynard, 1884, and Dr. P. S. Conner.

Baby Incubator at the World's Fair.—This building is located on the Pike and was opened to the public on May 27. The building is a spacious one, well lighted and ventilated, and contains fourteen incubators. They are square with metal frames and glass sides. The air which the baby breathes is carefully screened and purified before it reaches the little occupant of the glass box. A temperature of 90° F. is maintained without variation of more than half a degree. At present there are ten babies under the care of the physicians. Among these are two little babies, twins, whose combined weight is but seven and one-half pounds. Dr. Joseph B. Hardy is in charge of the exhibit, and a staff of consulting physicians will be appointed next week.

Identity of Human and Bovine Tuberculosis.—The British Royal Commission, appointed in 1901 to investigate the theory adopted by Koch that human and bovine tuberculosis are not intercommunicable, has made a preliminary report in which this view is condemned. The commissioners say that they "have most carefully compared the tuberculosis set up in bovine animals by material of human orig n with that set up in bovine animals by material of bovine origin, and so far have found the one, both in its broad general features and in its finer histological details, identical with the other," and they conclude that "it would be very unwise to frame or modify legislative measures in accordance with the view that human and bovine tubercle bacilli are specifically different and that the disease caused by one is wholly different from the disease caused by the other."

New Hospital Building Dedicated at Dayton, Ohio.—The new operating building at the Miami Valley Hospital, given by Mrs. Frank J. Patterson in memory of her husband, was dedicated May 26. Mrs. Patterson made a short address, which was responded to by Dr. H. F. Colby.

University of Illinois Commencement Exercises.—A class of 219 was graduated from the college of Physicians and Surgeons, the Medical Department of the University of Illinois, May 24. Prof. Thomas J. Burrill, Vice-President of the University, con-

ferred the degrees, and Rev. A. R. Lambert delivered the doctorate address.

Dr. J. T. Halsey of Montreal, Assistant Professor of Pharmacology and Therapeutics of McGill University, has been elected to the corresponding professorship in the medical department of Tulane University, New Orleans. He is a graduate of the College of Physicians and Surgeons of New York and has been devoting himself entirely to laboratory and didactic work.

Railway Surgeons Elect Officers.—The C. H. & D. Railroad surgeons, at their meeting at Dayton, Ohio, elected officers as follows: *President*, Dr. M. F. Hussey, Sidney; *Vice-President*, Dr. C. E. Beardsley, Ottawa; *Secretary*, Dr. Mark Millikin; Hamilton; *Treasurer*, Dr. W. E. Phesing, Cincinnati.

Obituary Notes.—Dr. EDWIN GAILLARD MASON of New York died at the home of his father, Dr. A. S. Mason, in Hagerstown, Md., on May 24. He was thirty-nine years old, and was a graduate of the Bellevue Hospital Medical College in the class of 1887. He was assistant professor of nervous diseases at the New York Polyclinic for several years. He was editor of *Gaillard's Medical Journal* for eight years. He was also a vice-president of the Southern Society of New York, and was a member of the Medical Society of the County of New York and of the Alumni Association of St. Mary's Hospital. His wife and two children survive.

Dr. RALPH M. ISHAM of Chicago died at Lake Forest, Ill., on May 28, of cancer of the stomach. He was a graduate of the New York University Medical School in the class of 1854. He served as a member of the Sanitary Commission during the Civil War, and later had charge for a time of the U. S. Marine Hospital at Chicago.

Dr. ARTHUR MAXWELL LINE died suddenly at Wilmington, Del., on May 29, at the age of thirty-three years. He was a graduate of Harvard and the College of Physicians and Surgeons, New York. He served as a private in Troop A of New York in the Spanish War, and later was post surgeon at Fort Riley, Kan.

Dr. THOMAS MURRAY DRYSDALE died in Philadelphia from pneumonia on May 26 at the age of seventy-two years. He was graduated from the Philadelphia Medical College in 1852, and in 1855 became professor of chemistry in the Wagner Free Institute of Science. In 1863 he was appointed surgeon in the First Pennsylvania Infantry, serving in this capacity until the close of the Civil War. Later he confined himself largely to the practice of gynecology, attaining a distinguished position in this field of medicine. He was at one time president of the Philadelphia Country Medical Society and at another time president of the Philadelphia Obstetrical Society. He was also a vice-president of the American Academy of Medicine. His widow was a daughter of the late Dr. Washington Atlee.

Dr. FRANK SAVARY PEARCE of Philadelphia died at his father's home in Steubenville, Ohio, on May 27, after a brief illness, at the age of thirty-six years. He was graduated from the medical department of the University of Pennsylvania in the class of 1891, and was subsequently a resident physician in the Presbyterian and Orthopedic Hospitals of Philadelphia. Later he was elected Professor of Neurology in the Medico-Chirurgical College, neurologist to Howard Hospital, and neurologist to the Philadelphia Hospital. He was a frequent contributor to medical literature, and he was the author of a text-book on nervous diseases but recently published, and he was at work on a companion book on mental diseases.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

ABDOMINAL SURGERY—DANGER OF LEAVING SPONGES, ETC., IN THE CAVITY—MEDICAL SOCIETY—MEDICAL AND CHIRURGICAL MEETING—SIR H. THOMPSON'S WILL—THE LATE AUSTIN MELDON.

LONDON, May 14, 1904.

THE medical talk of the week has been chiefly concerning a lamentable occurrence at the West London Hospital. A women was admitted with internal hemorrhage from a ruptured Fallopian tube and the abdomen had to be opened to give her a chance of life. It was done successfully in spite of the profound collapse and she rallied. But rigors of peritonitis set in and later a second operation was performed, when it was found that a small pair of forceps had been left in the cavity at the first operation. The patient succumbed and at the inquest the jury returned a verdict of "Death from misadventure due to peritonitis following an operation accelerated by the presence of the forceps." To this they added a recommendation that all instruments should be counted before and after operations. Of course, this is the general practice. In this it appears that the most obvious precaution was unaccountably omitted, as although the sponges used were carefully counted, the instruments were not. This seems to give rise to some difference of opinion, or rather I should say that explanations have been put forward, but I fear the public will not regard them as satisfactory One of these seems to be that the present practice is very rarely to put on forceps out of sight. But even so the precaution of counting may well be taken lest a pair should slip out of sight, which is likely to happen in these operations. Nor is it instruments only that are concerned. Sponges, swabs, gauze, and so on, may be easily overlooked. In fact, this has happened in many other cases. Spencer Wells himself recorded how this accident occurred to him twice. He was, of course, in a position to tell the circumstances and doing so is to his credit. But if so careful and experienced an operator thus suffered it is not surprising that now and then the same sad occurrence is reported

I believe at least 200 such instances have been published, and probably others have taken place but have not been recorded.

There are those among us who believe that no method can insure absolute immunity from occasional mishap, and this may be the case so far as the method involves the necessity of human attention.

The operator cannot always be in a condition at the close of an emergency operation demanding his utmost mental efforts to supervise the count or still less to count himself, and it seems obvious that the care of all the things used and their number should be intrusted to one person who should be responsible for that duty and that alone, just as the anæsthetist is expected to devote all his attention to his own work and take no notice of anything else. As the danger of overlooking something used has long been an ever-present one to the surgeon, various methods of diminishing it have been employed. I do not propose to discuss them here, but may remark that Spencer Wells at one time used the simple plan of letting a long piece of silk hang from each instrument and sponge outside the abdomen. This is no doubt at times inconvenient but I believe has usually been successful.

Ireland has just lost one of her foremost surgeons, Mr Austin Meldon, who died very suddenly on April 28, while in the act of dictating a letter to his wife. The deceased gentleman, who had a most distinguished collegiate career, occupied pretty well every position of importance open to a member of his profession in his native city. He was an ex-president of the Royal College of Surgeons, Ireland, and three times president of the Irish Medical Asscciation. Soon after becoming a Licentiate of his college, Mr. Meldon was appointed surgeon to the Jervis Street Hospital, a position which he relinquished about a year ago, when he was elected to the consulting staff of the same institution, where much of his life-work was done. Always busy, in a professional sense, the deceased surgeon yet found time to write valuable contributions to medical literature on a variety of subjects, for instance on "Operative and Conservative Surgery," which he contributed to the *Dublin Quarterly Journal of Medical Science*; "Gunshot wounds"; the "Treatment of Tetanus" (read before the British Medical Association in 1887), etc.

At the time of Mr. Meldon's lamented death he was on the commission of the peace for Dublin, and was generally beloved and respected by his fellow-townsmen, both lay and professional, an immense concourse of whom followed him to his resting place in Glasnevin Cemetery,

where he was laid on Monday, May 2, in the sixtieth year of his age and the thirty-ninth of his distinguished professional career.

Notwithstanding his unusual size (28 stone), the late Mr. Meldon was a very active man, and an expert player of cricket and lawn-tennis, he was also well known as a cyclist, and, speaking generally, was passionately attached to, and excelled in, all athletic sports.

The late Sir Henry Thompson has left an estate valued at £226,000. He has also left a manuscript work which is sure to be of interest to the public as it is a record of his "Personal Recollections." But the public must wait, for he has directed his trustees to retain it for ten years and not to divulge the contents or any part thereof during that period, and then to cause it to be printed and published, taking steps to secure the copyright.

OUR VIENNA LETTER.

(From Our Special Correspondent.)

ANTISTREPTOCOCCUS SERUM IN PUERPERAL SEPSIS—NASAL TUBERCULOSIS—TREATMENT OF LUPUS—EPIDEMIC OF MEASLES—ATTENDANCE AT THE UNIVERSITY—OPENING OF THE PHYSIOLOGICAL INSTITUTE—DEATH OF ADOLF SCHERMANN.

VIENNA, May 4, 1904.

It was at Vienna that the genial Semmelweiss aroused a storm of protest and antagonism by his announcement of the discovery of the etiology of puerperal fever. It was not until after the death which released this unfortunate observer from the insanity with which he became afflicted that the truth of his claims was established, and the immediate result was the rapid decline in the number of cases of this disease in the hospitals. But even with the most careful asepsis and antisepsis, the number of cases occurring in Austria is still very large. In 1899, 1,661 cases of puerperal fever were reported in the Empire, of which 937 ended fatally. In Germany, France, and England the conditions are not much better.

And now another discovery apparently emanates from this same Vienna, with which it is hoped to combat successfully this dread scourge of young mothers. A short time ago, at the meeting of the Association of Physicians, Dr. Poham presented the results of his experiments carried out in Chrobak's clinic, with the antistreptococcus serum produced by Professor Paltauf. As compared with Marmorek's, this serum has been found to be particularly efficient, and the results thus far obtained point to a very hopeful outlook. Twenty-six patients in Chrobak's clinic with severe puerperal infection were put under treatment, and it was possible to save a considerable number which would have been regarded as hopeless when previous therapeutic measures were in vogue. The serum, however, is only effective in those cases in which the infection has been caused by streptococci. It is a specific streptococcus antitoxin and has no influence where the infection is due to other pyogenic bacteria. The serum is secured from horses which have been inoculated with streptococci derived from women affected with puerperal sepsis. The patients receive from 100 to 250 c.cm. by injection—at least this quantity being required to secure any results. An interesting thing is the fact that the serum from different horses varies greatly in its efficiency.

A case of localized nasal tuberculosis, which is an exceedingly rare condition, was presented by Dr. Fein at the same meeting. The patient was a nurse twenty-five years of age. At the anterior end of the right lower turbinate there was present a tuberculous infiltration, without any involvement of the septum or the external skin. Aside from an enlargement of the submaxillary and cervical lymph nodes, there were no evidences of tuberculous foci elsewhere. The histological examination showed numerous tubercles, with isolated giant cells, but as there were no evidences of cheesy degeneration, the clinical picture was rather that of lupus. The differentiation of lupus and tuberculosis of the mucosa, however, is a very difficult matter.

Nasal tuberculosis is a very rare condition, especially the localized variety, and finding the same on one of the turbinates without any involvement of the septum may be considered without precedent. The patient's calling warrants the assumption that a primary infection in this case is not unthinkable. The woman had no suspicion of the true nature of her disease, and had submitted to an examination in order to ascertain the cause of the enlarged lymph nodes. The consequent discovery of the lesion and the fact that an auricle accommodates the disease, should lead one to make a careful examination of the upper air passages in cases in which a chronic enlargement of the lymph nodes of the neck is present, for which no other cause is apparent. Caries of the teeth, also, must not alone be considered as a sufficient cause for the adenitis, although in this instance this was also found.

Professor Ehrmann presented two cases of lupus which had been treated by a combination of two methods. The one patient was a girl of eighteen, with lupus of both cheeks; the other a man of forty, with a lupus tumidus of the nose. The former has been treated since the 22d of January, the latter since the 2d of February. Resorcin paste (33 per cent.) was first applied until the upper layers were removed, then the *x*-rays were directed on the deeper parts of the growth. As the rays do not penetrate very far into the tissues, the method accomplished a considerable reduction in the time required for treatment. In the girl every trace of the lupus had disappeared after the third radiation, and in the man seven exposures had eradicated all the disease with the exception of a very small nodule.

Vienna is just at present being visited by a very extended epidemic of measles, although the individual cases are all of a very mild character. A short time before the beginning of the epidemic the head physician of the Children's Hospital (Franz Joseph) announced that he had observed a hitherto undescribed infectious disease in four children. Two of these cases had been admitted with the diagnosis of scarlet; the other two were believed to have measles. The disease is marked by a peculiar eruption, which, even on close inspection, can with difficulty be distinguished from the ordiary eruption of measles. Fever is regularly present, but disappears after a few days. The disease is a mild one. One thinks at first of measles, but the further course of the affection shows that an error has been made. The rash disappears very often in a few hours. It exhibits a remarkable localization. Beginning on the trunk in the form of dark red spots, as large as a pea or a bean, it spreads over the face and rather sparsely over the extremities. In some cases severe vomiting was present at the beginning of the attack, and also total loss of appetite. Complete recovery resulted in two or three days without complications. The only after-effect observed was the rather obstinate loss of appetite, which did not disappear for several weeks. It is not unlikely that the rapid increase in the number of measles cases reported in Vienna may be attributed to the presence of this hitherto unknown disease.

The summer session of the university has begun, but the attendance is not so large as usual. The coming generation is evidently not attracted to the medical profession, with its difficult courses of study, for which the present unfavorable social conditions seem to offer little encouragement for the future. The number of medical students in Austria is consequently steadily decreasing, and the professors are first to observe this in their lectures. The clinics have undergone few changes. Professor Hohenegg has taken the clinic of the deceased Gussenbauer, and Professor Finger has been announced as the successor of Neumann, who has given up teaching on account of his advanced years.

On the 2d of May medical circles of Vienna were treated to a mild sensation. In the presence of the Minister of Education, the new physiological institute of the university was opened with appropriate ceremonies. The large auditorium is placed in front of the main building and is semicircular in form. Entrance and exit is gained without going through the institute itself. The unique plan of this auditorium is the idea of the director of the institute, Prof. Sigmund Exner, and may be alluded to as a physiological auditorium and not merely an auditorium for physiology. The sloping ceiling gives it the form of an immense sounding board. The lecturer's platform is at the lowermost point, from which the rows of seats rise in the manner of an amphitheater. Suspended above these seats is a gallery, also provided with seats. The latter will no doubt be in demand, as from them a direct view can be obtained of the pit and the tables for the demonstrations. Abundant side light is provided. The room has been much admired by all foreign physiologists and architects, and it may be of interest to American colleagues to know that the architect, Charles A. Marsh, is planning an auditorium of the same type in Chicago. The institute is a model in every respect, and one is regretfully reminded of the founder of the Austrian School of Physiology, Ernst Brücke, who labored here for forty years in miserable quarters, and yet submitted to the world a series of the most important discoveries.

In Budapest there died a few days ago Dr. Adolf Schermann to whose laborious efforts are due the improved sanitary conditions and the decrease in the death rate of the Hungarian capital. Only a short time ago he made a most original suggestion to the municipal authorities which is deserving of mention. Schermann considered it essential that the cardinal rules of hygiene should be thoroughly impregnated in the mind of the people, and suggested a unique method for attaining this end.

all these primary regulations can be versified in such a form that they will readily become impressed on the ear and mind, and may then be taught to the school children. The suggestion will soon be adopted in Hungary, and will no doubt meet with success.

OUR PARIS LETTER.

(From Our Special Correspondent.)

DR. NETTER AN ACADEMICIAN—MINERS' ANÆMIA—INTERMITTENT HYDRONEPHROSIS—HOSPITAL GRADUATES' SOCIETY OF PARIS—THE FRENCH CONGRESS OF OBSTETRICS, GYNECOLOGY, AND PEDIATRICS—THERAPEUTICS OF HORSE SERUM—DEATH OF PROFESSOR DUCLEAUX.

PARIS, May 8, 1904.

At the Académie de Médecine, Dr. Netter has been elected titular member in the section of Public Hygiene, to fill the place of Professor Proust, deceased.

The Académie is at present interested in the question of miners' anæmia, which is due principally to ankylostomiasis. Manouvriez has shown the mechanism of anæmia due to ankylostomiasis. This anæmia is produced sometimes by repeated hemorrhages from the intestinal mucosa due to ankylostoma; it is sometimes due to the phenomena of intoxication. On account of the ravages made by ankylostoma in the mines of France and Belgium, a committee proposed by Professor Blanchard, was nominated by the Académie to study the question.

The Société de Chirurgie of Paris has been listening to an interesting discussion on the pathogenesis and diagnosis of intermittent hydronephrosis. Concerning the pathogeny, Bazy thinks that hydronephrosis is due principally to a particular formation of the pelvis characterized by a congenitally abnormal anastomosis of this reservoir with the ureter. On account of an abnormal bend of the ureter at its origin, there results a retention of urine in the pelvis, which dilates mechanically, and under the influence of the increase of weight and volume of the kidney, there result ptosis and abnormal mobility of the organ. The overlapping, the bend of the ureter over the renal artery, that is generally considered as the cause of hydronephrosis, is in reality only secondary; for the renal artery is relatively fixed, and it is the lower part of the renal pelvis which in its distension, sinks further and further below it, till the ureter forms a cross which embraces the artery. This phenomenon, which is very frequently observed, is only the consequence and not the cause of hydronephrosis.

In connection with the diagnosis of intermittent hydronephrosis, much was said at the meeting of the Société de Chirurgie of April 27, 1904, concerning the great superiority of the Luy's separator for the intravesical separation of urine, over ureteral catheterism. The separator shows exactly the condition of the function of ureter and kidney, by proving that when there is a bend in the ureter, not a drop of urine is received into the corresponding tube. But it is sufficient, while the separator rests in place in the bladder, to raise up the diseased kidney toward the diaphragm, simply by means of placing the two hands in the flank, in order to cause the urine to flow into the empty tube.

Ureteral catheterism, on the contrary, which always forcibly straightened out the ureteral curve, and thus gives an exit to the urine retained in the pelvis is misleading as to the function of the ureter, since it tends to make one believe that there is a natural permeability of the canal when there is only an artificial permeability created by the sound.

The first scientific reunion of the internes and ex-internes of the hospitals of Paris, took place on April 28. Doctor Fernand Widal gave a remarkable address on a subject in which he is much interested—"Déchloruration," its indications and therapeutic results. Dr. Widal clearly showed the important rôle that the complete exclusion of salt from food plays in the course, for example, of nephritis. It has also been proved by many observations, how superior to the strict milk regime are the results furnished by food consisting of meat and the other ordinary articles of diet, but completely deprived of salt as a seasoning.

Finally at Rouen, from April 5 to 10, 1904, there was held the fourth session of the "Congrès National d'Obstétrique, de Gynécologie, et de Pédiatrie," with Dr. Richelot as president.

In the section of Pediatrics, Barlow's Disease was discussed, Drs. Ausset (of Lille), Oui, Guinon, and Deroque taking part. The subject of the "Gouttes de Lait" also came up for discussion. Finally, Dr. Grisel presented a report on Intestinal Invagination in Children.

In the section of Orthopedics, Drs. Broca and Deroque reported the remote results of the tendinous transplantation in infantile paralysis, and Dr. Gourdon (of Bordeaux) gave the results of his studies of the bloodless treatment of congenital dislocation of the hip.

In the section of Gynecology and Obstetrics, the question of the day was Pyelonephritis in its relations to pregnancy. This subject was discussed by Drs. Leguen (of Paris), Audebert (of Toulouse), Martin (of Rouen), Potocki, Bender, Wallich, and Pinard (of Paris). Their conclusions were as follows: In bilateral pyelonephritis, when the disorder was severe enough to necessitate intervention, the induction of premature labor was justifiable. In unilateral pyelonephritis, on the contrary, nephrotomy was justifiable in the seventh or eighth month of pregnancy, and it was only in the last period that this affection justified the induction of premature labor.

Dr. Oui (of Lille) presented a report on hysteropexy looked at from the viewpoint of its influence on future pregnancies.

Dr. Raymond Petit (of Paris) discussed the property of horse's serum to cause a local accumulation of polynuclears which play the part of phagocytes to the microbes of infection. This writer recommended the employment of this serum in affections in the course of which cellular tissue is infiltrated with pus when it is impossible to evacuate it by the usual methods.

The public has been much concerned about the health of Dr. Waldeck Rousseau, ancien président du Conseil des Ministres de France. The disease from which he has long suffered finally came to the surgical stage. Several days ago, Professors Ferrier and Poirier operated in order to reëstablish the free access of the biliary passages. A cholecystenterostomy was performed with successful results. The patient is now in full convalescence.

Among the severe losses to the intellectual world, was the death of Professor Duclaux, director of the Pasteur Institute, and Professor at the Sorbonne. As collaborator of Pasteur, Duclaux had made famous the doctrine of his master. The "Traité de Microbiologie" was his most important work. Duclaux was also the founder and the director of the "Annales de l'Institut Pasteur," a publication which quickly became famous throughout the entire world.

THE ATTENDING PHYSICIAN AND CONSULTANTS.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: Some remarks on the above subject, made by me from the Chair at the Sloane dinner, have occasioned much debate among my immediate associates. In order to stimulate a much wider discussion which may be profitable I offer them to the numerous readers of the MEDICAL RECORD:

"As this Chair grows in importance it will grow in influence. And what should be he influence of the Chair of an association such this? For the benefit of the members; for the standing of the profession. . . . Thus, it benefits the man, it benefits the community, to get together in cordial coöperation. For what is the highest aim of the medical man but the greatest good for his patient? And how shall he get the greatest good for his patient? By using the best abilities he can get hold of to focus on a difficult point. . . . The greatest man in medicine is not the specialist, but the synthesist—the man who can put several specialists to work, if need be, and use their result.

"Compare the safety of a patient under such charge with the same case under the charge of the little chap who, in an emergency, is bustling about principally to keep a stranger out of his sick-room. . . . This, perhaps, would never occur were not a misty idea on he ubject of consultants in the minds of the laity and profession. I should like to see the prevalent idea modified a bit. Next to the question as to who shall be the consultant, is the question, who shall use the consultant. Shall the family use him to check up the work of the attending physician, or shall the attending physician use this eminent or special ability as he needs it at his weak points? The captain may need a pilot, but it is the captain who needs him, and not the passenger, to inquire if the captain is right. . . .

". . . To get all the credit for pulling a case through is only a subordinate aim of the profession. There is one high, primary aim, the good of the patient. There must necessarily be several collateral aims such as our reputation, our financial return. Sometimes the aims conflict. But, in such cases, it is not only Scripture, but good professional policy, that he who would lose his own life shall find it." . . .

Commenting on the above, I would add: There are about the following attitudes in the community regarding consultations: Physicians who desire consultations and physicians who do not; patients who desire them and patients who do not.

A physician may not desire a consultation because (1) he wishes all the credit for restoring his case; (2) because

he fears a revision of his mismanagement or ignorance; (3) because he fears the unfairness or dishonesty, or overshadowing, of the consultant; (4) or because he wishes to save his patient unnecessary or useless expense.

A physician may desire a consultation (1) because he needs help; (2) because he wishes to divide responsibility; (3) because, in very exceptional cases, he wishes to throw work to a consultant for past or future favors.

A patient, or his friends, may not desire a consultation, (1) because of the expense; (2) because of the prevalent idea of professional ethics whereby one doctor is supposed to be compelled to "back up" another doctor—"and it's just twenty-five dollars thrown away;" (3) and because of the fancied reflection upon the trusted attending physician.

A patient, or friends, may desire a consultation (1) because of a just appreciation of the situation and a wise desire to extend to physician and patient all available help; (2) because of a "foxy" desire to set opinion against opinion; (3) because of a pride, or a hope, or a fear, or a general panic, which would have at the bedside names which—like the leading hatter's label in a hat—proclaim that the best has been had.

All rightly thinking people know the great help of a properly conducted consultation. And it is poor policy for a physician to allow himself to remain without help continuously in charge of a long case, especially if chronic. Continual gazing at so fixed and definite a thing as a primary color will finally give the complementary aspect of that color. Therefore the seeming tireless devotion of the attending physician, on vigil day and night, is simply slowly divesting him of his power to discern and take prompt initiative.

Professional efficiency will surely be raised by giving the attending physician use of the abilities of the consulting faculty; by giving him a medical night-watcher when required; by expecting and requiring him to obey in his own person the laws of mental health and sanity. An intelligent layman—one running a railroad, for example—is quick enough to understand the kind of service he is getting in his family, when the attending physician says: "I want a fresh mind to see this case—a consultant's, my lieutenant's—or my own after twenty-four hours of rest." He may then be expected to discern yellow from blue or green.

EUGENE COLEMAN SAVIDGE, M.D.

INTRASPINAL INJECTIONS; THE MAKING OF A PERMANENT WAY THROUGH THE BONY WALL OF THE VERTEBRÆ TO FACILITATE THEIR REPETITION — SPINAL ANÆSTHESIA PRODUCED IN THIS WAY.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: While the making of a single injection into the spinal canal, whether intra- or extradural, is a relatively simple undertaking, the frequent repetition of the operation is, to the physician, inconvenient, to the patient more or less distressful. For some time I have had in mind to remove this objection by some little effort of contrivance; and, presently, the idea assuming a workable shape, I awaited for the appearance of a suitable case to apply the principle. The opportunity to do this was recently afforded me. One day—scarcely a week ago—I was summoned in consultation by Dr. T. J. McLaughlin of Jersey City to the bedside of a young man who, having sustained a compound fracture of one leg, had subsequently developed severe tetanus. I found the patient who, immediately after the accident, had been conveyed to St. Francis' Hospital, lying upon his back, the jaws firm set, cervical muscles rigid, and the limbs already stiffening. The temperature, 101½° in the mouth, was slowly rising. It was felt on all sides that something radical should be attempted. We decided, therefore, to inject antitoxin into the spinal cord, depositing the medicament beneath the membranes upon the cauda equina.

Realizing that in all probability we should be obliged to repeat the injection, I proposed the following modification of technique:

1. To make a narrow incision along the side of the spinous process of the fourth lumbar vertebræ, letting a narrow bistoury descend through the soft tissue till its point is halted by the posterior arch (lamina).

2. Profiting by this narrow way, to go down with a long, fine drill and penetrate through the posterior arch to the spinal canal.

3. To insert a small silver tube, provided at its upper end with a round, flat disk, the latter to rest upon the skin, and prevent the protrusion of the lower end of the tube beyond the inferior edge of the opening in the bone, into the spinal canal. This tube to remain permanently in place—for days or weeks, if required.

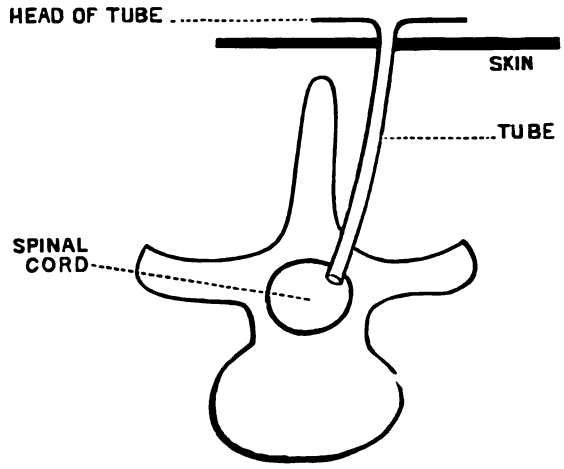
4. By passing a fine, hollow needle, armed with a glass syringe, down through the silver tube, to penetrate the membranes and make the necessary injection. Owing to the fine opening in the membranes, which closes in a few hours, the injections may be made as frequently as desired.

These proposals, received with approbation by Dr. McLaughlin, who coöperated with much zeal, we went forwardly as rapidly as possible.

The patient was quickly etherized, the incision made, the vertebral arch penetrated with the drill, and the silver tube thrust down till its inferor end was about on a level with the posterior wall of the vertebral canal. A long, fine needle, armed with a glass syringe, was then passed down the silver tube, and its point thrust through the membranes—the dura and the arachnoid. In this way about 140 minims of antitoxin were thrown into the subarachnoid space, directly upon the cauda equina.

The hollow needle was now withdrawn from the silver tube, and, in its stead, a stylette with a broad, flat head was immediately inserted. Iodoform gauze—a layer or two—was then interposed between the skin and the flat head of the tube, and between the latter and the head of the stylette. Then more gauze and dressings over all, bands of adhesive plaster passed around the body to keep all in place, and the procedure, which had occupied something over an hour, was completed.

From the ether the patient emerged without incident, and on the following day was able to open his mouth, extend his tongne, and take fluid nourishment. Unfortunately his temper, despite the use of antipyretics, still continued to rise. In fact by the afternoon it lacked



but little of 103° F. It was decided to make another injection. Accordingly about 3.50 P.M. this was done, the amount injected being the same as on the previous day. Despite these heroic measures, supplemented by morphine, chloral, and a liberal use of antipyretics, the temperature still continued to increase, and twenty-four hours later, the mercury standing at 108°, the patient died.

So far as the efficacy of antitoxin in tetanus is concerned, this case is indecisive, the symptoms at the time its services were invoked being so developed as to render any interference little more than a forlorn hope. In recording this brief synopsis of the case, I have desired to make a permanent note of the novel technique employed—of the establishment of a permanent way to the vertebral canal through its bony wall, whereby the repeated introduction of anæsthetics and other agents is made possible without painful searching and prodding between the vertebræ.

A single practical point which I have omitted to touch upon, and I have done. How—and this question will immediately occur to anyone—how shall the length of the silver tube be determined? First, and approximately, by measurements on the skeleton; secondly, and precisely, by inserting into the aperture in the lamina a slender wire armed with a minute blunt hook; the latter, when caught by the lower rim of the orifice, enables one accurately to measure off upon the wire the distance from the posterior aspect of the vertebral canal to the outer surface of the integument. The tube may then be cut off with a file and its edges rounded with a whetstone in a few moments. It is self-evident that antiseptic precautions of the most rigid sort should at all times be observed.

Since the above was written I have produced spinal anæsthesia in this manner.

J. LEONARD CORNING, M.D.

53 WEST THIRTY-EIGHTH STREET, May 31, 1904.

Progress of Medical Science.

Boston Medical and Surgical Journal, May 26, 1904.

Sulphurous Acid and Its Salts as Food Preservatives, as Aids to Fraud, and as Possible Causes of Lesions of the Kidneys.—Charles Harrington describes the effect of sulphurous acid and its salts on vegetables and meat. It bleaches corn and asparagus, while by its use meats are made to acquire the redness of arterial blood. In the treatment of meat, the sodium salt is the compound most commonly employed. Its chief field of usefulness is in the preparation of "Hamburg steak." It acts as a deodorant. Thus, although apparently fresh to the eye and nose, the prepared mass may be well advanced in decay and teeming with bacteria. Sodium sulphite as a preservative is not powerful. The bacterial content of a specimen bears no relation to the amount of added preservative, because much of the material used in manufacture may be swarming with a rich bacterial flora before it is introduced into the hashing machine. For the production of the desired effects, the presence of at least 0.1 per cent. of the salt is necessary, but the addition of 0.2 per cent. is generally recommended. In the stomach, sulphites are attacked by the gastric juice, with liberation of sulphur dioxide. Many animal experiments have been performed with these salts. Nephritis seems to be the common result of its administration.

Notes on Radium.—Francis H. Williams states that physicists now consider that the beta rays from radium correspond to the cathode rays and the gamma to the *x*-rays. The beta rays seem likely to prove a convenient and useful remedy in certain diseases of the eye, particularly those which have not yielded to other methods of treatment. Among these are trachoma, opacity of the cornea, and inflammatory conditions of the neighboring parts. The writer has observed good results follow promptly from exposures of two or three minutes to 50 mgm. of pure radium bromide, given at first once a week and later twice a week. The radium was held about ½ cm. from the everted lid, or was placed even nearer to the closed lid opposite the diseased area. The advantages of radium over the *x*-rays are apparent. The output of the rays from radium is uniform, and the rays may be easily applied. The greatest care should be employed when diseases of the lids or eyes are treated with this powerful agent. Radium is also an excellent test for determining whether or not the eyes of the practitioner are in a suitable condition for making fluoroscopic examinations. The spinthariscope containing a bit of radium is employed. If the scintillations appear bright to the practitioner, his eyes are ready for use; if dull, he must wait for a while longer in the dark room before attempting to make a fluoroscopic examination.

Journal of the American Medical Association, May 28, 1904.

The Cultivation of the Surra Trypanosome of the Philippines.—From the laboratory work at the University of Michigan by F. G. Novy, W. J. McNeal, and C. B. Hare, the following conclusions are drawn: (1) The trypanosome present in the Philippine surra can be cultivated artificially. (2) Attenuated cultures of this organism can be obtained as in the case of *Tr. brucei*. (3) This trypanosome is differentiated by its cultural characteristics from *Tr. lewisi* and from *Tr. brucei*. (4) The Philippine surra is, therefore, a distinct disease, different from nagana, and this observation confirms the work of Laveran and Mesnil on the non-identity of nagana and the surra of Mauritius. (5) The morphological differences between the Mauritian and Philippine trypanosomes suggest the probability that these organisms are distinct species, and hence that the term "surra" covers a group of closely allied diseases.

A Consideration of Speech Defects—J. M. Brown finds that heredity plays little part in this condition. Among primary causes are fear, timidity, ill-treatment, and accident. Imitation lies at the bottom of many cases. All of the various diseases of childhood, especially the infections, and a hereditary history of tuberculosis and insanity may act as causative factors. Modern authors lay particular stress upon the necessity of normal upper air passages. Continuous voice production is the essential of speech. To accomplish this, a strong, unbroken stream of sound is necessary, and no mouth action should be allowed to interfere with the throat sound. There is no trick or particular method that is applicable for the treatment of all cases. If possible, the cause should be first ascertained, and then treatment instituted for ultimate relief. In many cases, the main point to be remembered is the easy passage of air, with attention to the proper placing of the voice, that being the material of speech, and should not be impeded in any way. Training for continuous production gradually enables one to become familiar with all vocal elements. Self observation and control, eradication of the spasmodic actions, together with patience and perseverance, will, in many instances, permanently overcome the distressful, embarassing impediment in speech.

The Prevention of Typhoid Fever.—R. I. Cole declares that to stamp out the disease we must first learn to recognize all cases, and second, must destroy all typhoid bacilli as soon as they leave the patient. A clean water supply is absolutely essential. Typhoid fever often passes unrecognized in children. Notification laws must be rigidly enforced. Many physicians who recognize the necessity of disinfecting the stools are still careless regarding the disposal of the urine. Especially is there carelessness in handling urine in the laboratories where it is being tested. In the dead-house much carelessness still exists. Pathological material is freely handled, but the hands are not disinfected as they ought to be. If the patient is raising sputa the same precautions ought to be observed. For urinary disinfection the author prefers carbolic solution 1–20, or bichloride 1–1000 If the latter is used we should add common salt in the proportion of 0.5 parts to 1,000. Finally, we do not do our whole duty unless we disinfect the bath-water in which the patient may have been tubbed. He occasionally voids in the bath, and there is always danger that small fecal particles may be washed from the anus into the water. This contaminated water is generally thrown into the sewers. Where portable tubs are used the water is often splashed over the floor. Lack of precaution in this respect invites the spread of the disease among attendants, and is undoubtedly the cause of much of the disease arising in hospitals among nurses and orderlies.

Medical News, May 28, 1904.

Results in Diffuse Septic Peritonitis Treated by the Elevated Head and Trunk Position—Russell S. Fowler presents the following salient points in the treatment of these cases: A small incision and the avoidance of eventration; thorough cleansing of the primary focus of infection and removal of the appendix; evacuation and cleansing of all accessory abscess cavities and the pelvis before washing out the peritoneal cavity; a rapid systematic flushing of the peritoneal cavity with peroxide soda solution followed by hot saline; the continuance of the saline flushing until the sutures are placed, and for the most part tied; the provision for proper drainage for the pelvis, either by means of a large glass tube containing a capillary drainage strip emerging through the lower angle of the wound, or, in females, by a large caliber rubber tube filled with wicking passed through a posterior colpotomy incision; the drainage of accessory abscess cavities with gauze or wicking; the elevation of the head of the bed to accelerate the drainage of septic fluid into the pelvis, where it can be removed through the glass tube, or, in case of vaginal drainage, find a ready exit.

A Case of Gastric Cancer.—G. W. McCaskey gives the history of this case. The patient was a man of forty who was suffering from "stomach trouble" of one year's duration. The first symptom was pain after eating, in the region of the stomach, also in the back between the shoulders, especially in the right side. A few weeks later there developed excessive gas formation in the stomach, both this and the pain being most aggravated almost immediately after eating. He had vomited only a few times. Lying down at night gave relief. There was a tendency to constipation, but never any sign of melæna. There was much intestinal gas. The patient had lost about forty-five pounds. The liver was slightly enlarged, but the stomach was not. There was absence of free hydrochloric acid but strong biuret reaction. Lactic acid was present, but no Oppler-Boas bacillus. The blood was concentrated with 6,000,000 red cells at the first examination and 5,500,000 at the second, and about 110 per cent. of the normal amount of hæmoglobin. There were 15,000 leaucocytes at the first examination and 10,000 later. Under treatment the stomach conditions improved somewhat. A few weeks later the stomach symptoms suddenly ceased, the appetite became voracious, and the weight increased thirty-five pounds. But there was not a corresponding approach toward appearance of health. Stomach symptoms returned, however, in three or four weeks. A little later marked jaundice developed and about four weeks before death general dropsy developed. Necropsy revealed neoplasms of both liver and stomach. Anatomical and physiological considerations tend to support the view that gastric cancer was primary though very slow in its evolution, and that the liver was the last organ implicated, since the movement of fluids by which metastatic processes occur does not take place from the liver to the stomach but from the stomach to the liver. The neoplastic formation in the stomach was in the pyloric and cardiac regions, while otherwise the organ was ap-

parently normal. This is a rare distribution. And the disappearance of stomach disturbance, the voracious appetite, and the rapid increase in weight are remarkable phenomena in the case of a patient who died of cancer about three months later.

New York Medical Journal, May 28, 1904.

The Prevention of Blood Aspiration During Operations on the Mouth.—The method of A. W. Herzog consists in intubating the patient and connecting the intubation tube by means of a tightly fitting end-piece with a rubber tube which is passed through the patient's nose, so that the inspired air or anæsthetic is taken into the lungs through the tube passed through the nose. The detailed directions are these: After intubating insert the plug into the end-piece, so as to occlude it and prevent it from becoming clogged with nasal mucus. Pass the rubber tubing, to which the end-piece, is firmly wired, end-piece first, through the nose, and when it shows behind the soft palate, take hold of it by means of a forceps and extract the plug. Then take hold of the end-piece by means of a laryngeal forceps and insert firmly into the opening of the intubation cannula. Thus the larynx is occluded as safely as can be desired. The patient will breathe through the rubber tube and the anæsthetic can be administered in this way as easily as through the tracheotomy tube.

Examination of the Bladder in Twenty Cases of Ventral Suspension.—The case histories are given in abstract by S. Chandler, whose conclusions are as follows: (1) In all cases requiring ventral suspension the bladder should be thoroughly examined by a cystoscope. (2) In no cases reported among this number was there any trouble with frequent micturition after the operation of ventral suspension, except when there was some evidence found which would cause such disturbance. (3) The new position of the bladder after ventral suspension aided and relieved, rather than caused, frequent micturition. (4) The said operation may have caused this relief by removing pressure from the neck of the bladder, which pressure undoubtedly helps to cause frequent micturition. (5) The left ureter opening and surrounding parts were often affected, but the cases are too few to state positively why this existed in these cases. (6) Immediate and prompt treatment saves much suffering and adds much to the surgeon's reputation, and to that of the operation. (7) By examining the bladder and surrounding parts we may find cases in which suffering may be relieved, when for some reason an operation for uterine disease cannot be performed. (8) To make such examination eliminates errors, and is more scientific; and the more exact we become, the firmer ground we tread.

What the General Practitioner Should Know of Ophthalmology.—H. H. Seabrook believes that a general practitioner should be able to handle cases of external inflammatory nature, but he should remember that photophobia, pain, circumcorneal injection, and diminished vision belong not to conjunctivitis but to disease of the eyeball. So, too, a careful watch must be made for iritis or glaucoma. An eyeball harder than normal is glaucomatous, and the increased tension is estimated by feeling the ball through the upper eyelid with the tips of both forefingers, while the patient looks downward. The prognosis is regularly bad without proper treatment, and the best treatment in general is an iridectomy early in the disease. Of the disturbances of motility the squints are evident deformities, the paralyses have double visions or pupillary disturbances, and their study belongs more properly to the department of neurology; muscular insufficiencies belong to cases of eyestrain, soon to be considered. The vision in all cases had better be tested, but for the external inflammatory cases, the diagnosis may often be made easily without this. For internal diseases a test of vision should always be made. The usual methods are described by the author. The use of the ophthalmoscope is difficult and tedious for the general practitioner, and to depend too much on its findings may lead to error. It confirms suspicions rather than establishes a diagnosis. To sum up, the general practitioner should know how to evert an upper lid, because he sometimes ought to know what is upon the conjunctival surface. He should also know that poor sight, double vision, photophobia pain, circumcorneal injection, unnatural pupils, or hard eyeballs are danger signs, in order to be able properly to advise his patients.

American Medicine, May 28, 1904.

Empyema.—De Forest Willard concludes that early diagnosis of pleurisy and early operation are the prime elements in the avoidance of empyema. The general practitioner is the one who needs to be on the alert. A test for fluid should be made with the aspirating needle, not a hypodermic, as the latter is too small and short. Liquid, if present, should be immediately withdrawn; if purulent, further operation within a day or two is advisable as soon as the lung expands and the heart moves toward its normal position. Aspiration should be limited to diagnostic purposes, to the withdrawal of serum, and as a preliminary operation in empyema. In all cases of pyothorax, free drainage, not aspiration, should be the rule. The larger the openings the quicker will cure be effected. Resection of ribs is imperative for exploration by the finger and for removal of fibrinous masses. Washings are counterindicated, except in fetor, and even then more perfect drainage is indicated rather than irrigation. In old chronic cases with contracted lung and degenerated pleura, more or less excision of the chest wall and pleura should be performed, even to the excision of the entire extent of all the ribs. Even in tuberculous empyema, benefit is derived from thorough drainage.

The Santa Cruz Mountains of Jamaica, West Indies, for the Tuberculous.—Logan Russell and Leslie Alexander call attention to the climatology of the Santa Cruz mountains. The best spot for tuberculous patients in the island of Jamaica is Malvern, situated in the Santa Cruz mountains, at a height of 2,350 feet above sea-level. Many patients have gone to the higher ranges of the island, and by abstaining from alcoholic drinks and by leading proper lives, they have recovered and lived to old age. At Kingston the heat is tropical and the dust sometimes excessive, so that that city is not at all suited to patients with impaired pulmonary tissues. But the climate of Malvern is such that the open-air treatment of pulmonary tuberculosis can be pursued without interruption during the whole year. For a distance of over sixteen miles the Santa Cruz range runs parallel to the sea, ending abruptly in the Southfield district with a cliff 1,550 feet high and less than half a mile from the seashore. In no part of its entire extent does the range diverge landward further than eight miles from the sea. "Malvern Heights" is the most central part of the range and offers an ideal climate in which there is a mixture of mountain and ozone-laden air, very dry, and with a most equable temperature. Over a period of ten years, the average minimum temperature has been 63⅓°, the average maximum temperature, 72⅔°, while the average range has been 99°. The average rainfall during the past four years has been only fifty-five inches. During the past ten years, only once did rain fall for three and one-half whole consecutive days—and this was in a year of floods. The rainy months are May and October, though October is rather a month of showers than of rain. Owing to the limestone formation of the range, and consequently perfect drainage, one can enjoy weeks along the well-kept mountain roads within an hour of the heaviest rains. There is no forest land in and around Malvern. The entire range of mountains is a pimento region, a product which grows in open, common pasture where there is absence of shade and humidity. In all throat and lung troubles the climate produces marvels.

Neuritis as a Complication of Some Portion of the Child-bearing Process.—William R. Nicholson, in the discussion of this subject, declares his preference, as far as the etiologic classification is concerned, to be as follows: (1) Those cases supposedly due to some toxæmia. (2) Those cases arising from a septic process. (3) Those cases resulting from some mechanical agent operative during labor or in the early puerperium. These three cases include all cases which can in any way depend upon pregnancy as the causative factor. Myelitis or other diseases of the nervous system may show the first signs during pregnancy, and in such cases the influence of pregnancy is not to be considered as causative except as any other marked strain. Little is known about the toxic group. A number of reported cases are difficult to explain on any other supposition. Sepsis is more often operative during the puerperium than in pregnancy. The principal cause which explains a neuritis in the puerperium with consequent palsy of one leg is a combination of a medium grade of contracted pelvis, usually of the generally contracted variety, together with a presenting part which either with difficulty passes or is unable to be delivered without instrumental aid. As to prognosis, in all probability in a considerable number of mild cases of peripheral neuritis, the patients recover without any diagnosis of the condition having been made, as the period usually spent in bed after delivery would be amply sufficient for this in such cases. In the severer forms, the prognosis is doubtful or good, according to whether the reactions of degeneration are present or not. The symptoms vary according to the severity of the lesion. They vary from a transient pain, often ascribed to rheumatism, to a symptom-complex resembling "Landry's paralysis" or myelitis. The usual type presents some pain, loss of power, perhaps some sensory disturbances as paræsthesia and atrophic changes. The nerves involved are in less

ere cases the median or ulnar, or if the leg be affected, sciatic. the gluteal, and especially the external popal, the peculiar symptom of the latter being the soled foot-drop.

The Lancet, May 21, 1904.

Ankylostomiasis.—J. Chronnell notes that when this ease is once introduced into collieries it is very difficult eradicate. The symptoms are those of a severe form anæmia. In addition, in Cornwall the author's district, irritable pustular skin eruption known as the "bunches" not uncommon. The common tenicide used has been ymol. The author makes a plea for better sanitation collieries.

The Value of Hot-water Injections as a Substitute for trient Enemata in the Treatment of Gastric Ulcer.—Pasteur says that by substituting ten-ounce enemata plain water at 100° F. for the smaller nutrient enemata is possible to prevent thirst altogether and to do away ith the unpleasant taste in the mouth which so often llows enemata containing beef-tea. He begins with x ounces of water as stated and gradually increases ten. Of course this is in addition to the moderate emloyment of the usual substances for rectal nutrition in astric ulcer and is intended only for the relief of roublesome thirst.

Some Experiences in the Surgical Treatment of Suppurave Lesions of the Nasal Accessory Sinuses.—Herbert illey gives the histories of nine cases, describing the arious operations performed and illustrating some of his leas with diagrams. The great questions coming up in ases calling for surgery are what is the danger to life if, rst, nothing is done and, second, if operation is perormed? Danger to life depends on the focal seat of the nflammation. Many cases of meningitis are on record ollowing frontal, ethmoidal, and sphenoidal disease. Retention of inflammatory products in any case leads to epsis with all its dangers. The risk to life from operation lepends on the sinus involved and the surgeon's familiarty with the region on which he is working. Tilley believes hat only obliteration or destruction of the fronto-ethnoidal cells alone offers any prospect of radical cure in his locality. In all this and similar work, the surgeon's notto must be "free, unhindered, and spontaneous drainage." There is no mystery in work in these regions. We merely apply the principles of general surgery to a special region.

Deutsche medizinische Wochenschrift, May 14, 1904.

Immediate Reaction after the Use of the X-Rays.—H. E Schmidt claims that there is an immediate effect from the action of the *x*-rays, which must be distinguished from the ordinary dermatitis which is apt to follow their application after an incubation period varying from one to four weeks. He terms this early reaction, and describes it as an erythema. not uncommon, which is evident in a few hours or less after effective radiation. The phenomenon is independent at the age of the tubes. It appears only in isolated cases, and in these, invariably after every exposure. Apparently the condition is due to some peculiar sensitiveness of the circulatory system for the *x*-rays, in a similar manner as has been shown for psychic, toxic, and thermic influences.

Chronic Diphtheria.—L. Neufeld discusses this condition, which has been recognized as an entity for many years, but to which very few references are found in the literature. The disease takes the form of pharyngeal ulcerations, but their obscure situation often renders them hard to distinguish, or when found they are considered as tuberculous or specific. He believes that the affection is not so rare as seems warranted by the slight attention bestowed by the textbooks. A case is reported in a girl of twenty-one, in whom an apparently uncomplicated angina was followed by an ulcerative process in the pharynx which took five months to heal. A specific diphtheritic process was not observed either during the angina or later. Fever was present only during the angina, which was apparently well in two days. Neufeld includes his case in the group designated by Behring as diphtheroids, which differ from true diphtheria in their clinical course, but are nevertheless due to infection with the diphtheria bacillus. There are probably many cases in which an aborted diphtheritic infection leads to one of these chronic conditions, in which the true diagnosis is not evident until the presence of the Klebs-Loeffler bacillus is demonstrated. A bacteriological examination was also made of a number of cases of atrophic rhinitis and ozæna. It was found that if Loeffler's serum plates were inoculated with the nasal secretion from these cases, other colonies were present under the diffuse growth of the ozæna bacillus. Endeavors to grow the former in pure culture showed that they belonged to the diphtheria group. He does not consider these observations sufficiently extensive, however, to warrant any conclusions as to the etiology of these chronic nasal conditions.

Antethoracic Œsophago-jejunostomy. — L. Wullstein describes a series of operations which he has carried out on the cadaver, and on dogs, but which have not as yet been attempted in the human subject. The first of these, mentioned in the title, is intended especially for benign stenoses of the intra-thoracic segments of the œsophagus, or possibly for carcinoma of the gullet in the region of the bronchus. For the portion of the œsophagus involved in the lesion, it is proposed to employ a section of the gut. This is carried out from the abdominal cavity over the bony thorax and affixed to the chest. The œsophagus is then exposed in the neck, cut through as far down as possible and also attached to the anterior aspect of the chest wall. The space which intervenes between the gut and the end of the gullet is then filled up with a tube made of a skin flap. The most suitable section of the gut for this purpose was found to be that part of the jejunum lying about 30 cm. below the plica duodeno-jejunalis. It is possible to displace the jejunum as far as the fourth cartilage without subjecting it to any marked degree of tension. The plastic flap is taken from in front of the sternum and the right series of costal cartilages. It is inverted so as to make a tube with the skin turned in, and may then be united to the gut below and the œsophagus above. The operation was attempted on dogs, but the hairy lining of the tube, and the difficulty in nourishing the animals, interfered greatly with the success of the procedure. He describes the operation in three stages, in the first of which the jejunum is delivered from the abdominal cavity and fixed to the anterior thoracic wall. In the second the skin tube is formed from the plastic skin flap, and the third comprises the isolation of the œsophagus and its union with the plastic tube. The first and second stages may be done together, but an interval of ten days should elapse between the second and third. Another operation on the same principle is suggested which he calls retropelvic colorectostomy. In this the rectum is brought into direct communication outside the pelvis with the descending colon in the region of the left iliac bone. The indications are not, however, stated.

Berliner klinische Wochenschrift, May 9, 1904.

Two Cases of Gonococcus Sepsis.—P. Krause reports two cases in which it was possible to demonstrate the gonococcus in the blood during life. Only a few are noted in the literature. In the first the diagnosis at autopsy was as follows: Fibrinous pericarditis, endocarditis with ulcerations of the aortic valves, fatty degeneration of the myocardium, pleurisy with effusion, pneumonia, and ascites. Pure cultures of the gonococci were secured from the lungs. Five weeks after infection, symptoms of a general involvement prompted examination of the blood. Twenty c.cm. were secured by puncture from a vein and mixed with glycerin agar. In forty-four hours the characteristic colonies were observed and the diagnosis conformed. Subsequently similar results were obtained. In the second case, a general infection had occurred, as evidenced by the enlarged spleen, pain and swelling in the knee and along some of the ribs on the right side. The infection took place through a perineal tear, sustained during labor, and evidently dated from adouble gonorrhœal pyosalpinx. This patient made a complete recovery, although the gonococci were demonstrated as free in the blood. The author believes that it is possible to find the diplococcus in the blood in all cases in which a metastasis has taken place, but the planting must be done as soon as the fever sets in, and at least 20-40 c.cm. of blood must be abstracted from a vein. The agar should be cooled down to about 40° C., as the gonococci were found to be very sensitive to heat. The colonies are not often even as large as the head of a pin, and care must therefore be taken not to overlook them.

Congenital Absence of the Patella.—O. Heine, in reporting a case of this rather rare condition, finds from a study of the literature that the instances in which the deformity has occurred may be divided into: (1) those in which a patellar deficiency is accompanied by other deformities in the knee-joint. This class also includes those cases in which the patella is absent or very small during early life, but develops more or less in later years. (2) Cases of congenital or hereditary absence of both patellæ, without any other abnormalities in the knee-joint. The author's case belongs in the second group, of which but three instances have been reported. The patient stated that his father and sister had the same deformity. The condition gave him very little inconvenience and he was able to follow his usual occupation. When he attempted to extend or flex his leg at the knee, the quadriceps tendon was seen to slip toward the outer side and gained support in its action from the outer condyle of the humerus, which

was remarkably well developed. This lever action was evidently essential to the quadriceps to enable it to act strongly. Closer study of the cases in this group showed that the deformity in all was hereditary, that the knee-joint was otherwise normal and that its function was undisturbed, and finally, that the quadriceps tendon was extremely well developed, with a corresponding enlargement of the tuberosity of the tibia. The author thinks that the latter may act as substitute for the lack of a patella. It seems, therefore, that the patella is essential to the proper functionating of the extension apparatus of the leg. In the same patient there was also present a congenital luxation, in the right arm, of the head of the radius backward.

Münchener medizinische Wochenschrift, May 10, 1904.

Researches in Hæmoglobin in Chronic Heart Disease.—Schott has made a series of experiments for the purpose of supporting his claim that the treatment of cardiac disease by balneological-gymnastic methods has a tonic effect not only on the heart, but also on the entire organism. The observations were made with Dare's hemoglobinometer, which among others, has the advantage of requiring only a drop of undiluted blood. In order to secure uniformity in the results, the diet was kept unchanged during the observation period, and the readings were always made a certain time after meals. Altogether 120 patients were under continuous observation, in a number of which the results are described in detail. It was conclusively shown that in the most varied cases of heart disease, the employment of these therapeutic measures was followed by an increase in the previously diminished hæmoglobin content of the blood. Schoott finds that the increase takes place much more readily in young and middle-aged persons than in those of advanced years. There is also a group of very interesting cases, in which, during the course of the treatment, there is found a diminution in the hæmoglobin content. This was proved to be the result of too vigorous bodily exertion or severe mental disturbances, but especially in intercurrent diseases accompanied by fever. For the sake of completeness it is proper that hæmoglobin estimates also be supplemented by counts of both the red and the white blood cells. This takes a great deal of time, however, and is difficult to carry out in everyday practice.

Light Treatment by Tappeiner's Method.—Jesionek discusses the therapeutic applications of fluorescent substances in various diseased conditions. The method in general consisted in painting the skin with solutions previously demonstrated in the laboratory to be fluorescent, and then exposing the patient to the sunlight, in the open air, or a specially constructed room. The electric arc was also employed, but was very inefficient when compared with the other. The reacton was found to be entirely dependent on the intensity of the light, so that it became advisable to resort to lenses in order to concentrate the light. In order to avoid the heat rays hollow lenses were used which could be filled with fluids of such a character as to permit only those rays to filter through which were known to be effective in producing fluoresence in the substances employed in the treatment. Thus in a case of solution eosin was used, the lenses were filled with a solution of copper sulphate and picric acid. Eosin was mostly used, and in a watery solution, varying in concentration from 0.01 to 5 per cent., the weaker being found the best. When the crusts became impregnated with the stronger solutions the action of the rays was found to be inhibited, and it seemed, moreover, that the growth of healthy granulation tissue and the production of scars was interefred with. In addition to repeated applications of the eosin solution externally, parenchymatous injections of 0.1 to 0.01 per cent. solutions were employed in carcinomatous growths. The latter method did not seem to possess any special advantages, however, and possibly the injected solution may form a barrier in the deeper layers to the passage of the light rays. During the time when the patients are not exposed to the light, the skin areas should be covered up with boric acid compresses or xeroform powder or ointment. No clinical results are mentioned in this paper, which is merely devoted to technique.

French and Italian Journals.

Occipital Neuralgia in Ordinary Angina.—H. Vincent declares that occipital neuralgia is relatively frequent in the course of catarrhal, ulcerative, or phlegmonous angina. The writer has made a careful study of the nerves of the part and states that there exists in a certain number of subjects an abnormal connection between the pharyngeal nerve and the second posterior root, of which the occipital nerve of Arnold is only the immediate prolongation. This anastomosis, more or less complete, explains the solidity that is sometimes noted between the two branches emanating from the second posterior cervical nerve: the occipital nerve and the nerves of the pharynx. This peculiarity is not constant. The painful radiations sometimes observed at the level of the temple and the neck, are due to the anastomosis of the occipital nerve with the mastoid nerve.—*La Presse Médicale*, April 30, 1904.

Treatment of Carcinoma of the Stomach.—Docq declares that there is no specific treatment for cancer of the stomach. The only treatment for cancer, at least during the first period, and even the second, is surgical intervention. The difficulty in the beginning is to make the diagnosis of the growth. Nevertheless, the blood examination, a test-breakfast, anorexia, pain, constipation, loathing for meat, and sometimes the color of the skin, offer serious indications. It is often too late, when the patient seeks the physician, for any kind of treatment. Soft food, together with the administration of chlorate of soda, is indicated. The chlorate of soda is made up in a quantity of 40 grams to 600 grams of distilled water. The patient takes four or five teaspoonfuls in soup, daily. In the last stage, morphine offers relief, even if the patient is doomed to certain death.—*Gazette de Gynécologie*, May 1, 1904.

Subcutaneous Painful Tubercle in the Region of McBurney's Point.—Félix Mathieu reports two cases of this nature. The first patient was a woman of thirty-five years, the second a man of thirty-nine The woman, three months after an attack of appendicitis which lasted a week, discovered in the right flank a subcutaneous tumor. It was the size of a kidney-bean, round, non-adherent to the skin, and extremely painful to pressure. The writer diagnosed it a subcutaneous tubercle, in a state of irritability. The man had felt dull, intermittent pains in the right iliac fossa for eighteen months, and at long intervals severe griping. It had been diagnosed as chronic appendicitis. One day he discovered a subcutaneous tumor at McBurney's point. The tumor was the size of a pea. Pressure caused extreme pain, compared by the patient to that of a dental nerve hit by a probe. This patient had suffered from chronic lumbago with pains in the abdominal walls, hemorrhoids, and habitual constipation.—*Gazette des Hôpitaux Civils et Militaires*, March 24, 1904.

Axillary Adenitis and Mammary Adenoma.—Jeanne of Rouen has made a study of axillary adenitis associated with adenoma of the breast. After specifying that he attaches to the word adenoma only a purely clinical significance—an encapsulated benign tumor—he reports two cases in which adenoma of the breast was accompanied by axillary adenitis, a symptom habitually regarded as pathognomonic of cancer of the breast. The ganglia, nevertheless, were not very hard, and were freely movable. They were, besides, painful. In one of the patients the evolution of the adenoma was particularly interesting, developing in the midst of inflammatory phenomena (painful swelling, tension, and redness of the skin, voluminous adenitis), lending credence to the belief that the lesion was an abscess. Jeanne recalls the theory, upheld by Delbet among others, that adenofibroma of the breast is of an inflammatory nature This theory depends solely upon his biological and bacteriological proofs. These cases here reported give the clinical sanction.—*Archives Provinciales de Chirurgie*, May 1, 1904.

Contribution to the Study of the Cystitis Caused by the Colon Bacillus in Infants.—Carlo Comba states that this disease is far from rare in infants and children, especially in early infancy. In older children, from five to eleven years, it is less serious; the fever is slight, there is uneasiness over the bladder, and a light cloud in the urine, the reaction of the urine is acid, albumin is scarce or absent; microscopically there are present bladder cells, polynucleated leucocytes, and many short, mobile bacilli, in small masses, which correspond to the colon bacilli. The course of the disease is short and the recovery good. From birth to three years the disease is much more serious; the fever is high, up to 40° C., remittent or intermittent in type; there is thirst, anorexia, vomiting, and general failure of health. Intense pallor may be present, and somnolence alternating with great irritability. The urine is frequent and painful, contains albumin, cells from the urinary passages, and colon bacilli. The course of the disease is long and severe, and there may be extension to the kidneys. The question comes up as to how the bacilli enter the bladder. There are three modes of entrance; hæmatic, which is very rare; intestinal; ureteral, which is most frequent. The author describes a case that was very severe in its manifestations, treated successfully with the Celli-Volenti anticolic serum by hypodermic injection. Injections of protargol into the bladder were also used. Comba thinks that in this case resistance was weakened by the presence of too much uric acid, which produced a mild cystitis, and this was aggravated by the presence of the bacillus coli in the urine. After the use of the serum he found by microscopical examination of the urine that many of the bacilli had lost their motility.—*Revista di Clinica Pediatrica*, April, 1904.

Contribution to the Influence of Altitude upon Diseases of the Heart.—Giovanni Galii has observed several cases of heart disease which have done well at high altitudes, quite contrary to the ordinary opinion. One of these had arteriosclerosis and myocarditis, with an old hemiplegia and aphasia resulting from an apoplectic attack of two years' standing. This gentleman insisted on going over a pass in Switzerland having an altitude of 2,341 meters, and remaining some time in the mountains. No ill effects were observed from the altitude. Later the writer observed six other cases, two of irritable heart, two of aortic insufficiency, one of arteriosclerosis, and one of myocarditis. These were all able to remain some time at an altitude of 1,168 meters. The transitory ill effects of the ascent soon passed off, and the patients seemed rather benefited than otherwise by the altitude.—*La Riforma Medica*, March 23, 1904.

Pathogenic and Clinical Study of Hydrosalpinx.—Jacques Delage states that primary hydrosalpinx often accompanies fibroma of the uterus. The coexistency of a secondary hydrosalpinx, coincident with a catarrhal or suppurative salpingitis of the opposite tube would lead to the hypothesis that it is developed under the influence of a hyperæmia of the mucosa. Experimentally, in tying the tube at two points distant from each other there will be produced a purely serous hydrosalpinx. As to the treatment of this affection, laparotomy is advised. The vaginal route should be systematically rejected. The treatment may be conservative or radical. Resection of the tube may be practised when the hydrosalpinx is limited to the most internal part. Salpingostomy followed by salpingoplasty may also be used. Supravaginal abdominal hysterectomy may be performed, leaving the ovaries in place if they are in good condition, removing them if they are diseased. The writer believes that in these cases the uterus should be sacrificed.—*Archivés Générales de Médecine*, April 19, 1904.

A Case of Pneumococcic Peritonitis.—G. Panzacchi reports a case of peritonitis in which the pneumococcus figured as the cause. Such cases are rare. The patient, a girl of twelve years, was taken suddenly with violent pains in the abdomen. This sudden onset is characteristic of pneumococcus peritonitis. She had severe vomiting and high fever, with irregularity of the bowels. After fifteen days the vomiting ceased and the symptoms lessened. There still remained tenderness over the abdomen, and a swelling below the umbilicus, with evening rise of temperature. A laparotomy was done, and the swelling was found to be due to a large collection of fetid, greenish pus, four litres in amount, which was walled off from the abdominal cavity by adhesions. Examination of the pus showed Frënkel's pneumococcus. This was also found in the blood and in the peritoneum. The pneumococcus must enter by means of the circulation. It cannot enter by the lymphatics, for the lesion is usually situated in the lower part of the abdomen, below the umbilicus. It does not enter through a normal intestine, for the acid gastric juice would destroy the cocci. Hence the author believes that it usually enters by the blood. The mortality is great, 76 per cent. It is more frequent in women than in men.—*La Riforma Medica*, April 13, 1904.

A Case of Puerperal Infection in the Country.—L. J. Trudeau gives the history of this case. His patient had been confined twice previously without serious complications. Forceps, however, had to be used. But at the last confinement the patient, who had suffered considerably during the last month of pregnancy, complained of headache and pain in the lower abdomen the second day after labor. As the writer lived at some distance from his patient, he instructed the husband of the woman how to give vaginal douches of boric acid. Two days later, however, the patient was worse. The pulse was 120, the temperature 103, the lochia almost nil and fetid. The writer gave the patient an injection, and her condition became much more hopeful For several days there was the same history—improvement after treatment by the physician, while alarming symptoms followed the douches given by the patient's husband. In spite of the care of the writer, the patient died with all of the apparances of puerperal infection. The cause then came to light. The husband who was a farmer, owned a number of cows. Two of the animals were suffering with puerperal infection, and their owner gave them the same treatment that he gave his wife, using the same instruments without disinfecting them. The writer calls attention to the lamentable ignorance of the very elements of hygiene which exists in the country —*L'Union Médicale du Canada*, May, 1904.

Contribution to the Study of Foreign Bodies in the Respiratory Apparatus.—Camillo Vittorio Pich writes that foreign bodies entering the respiratory apparatus, if angled or pointed, may fix themselves in the mucosa of the upper air passages so that they cannot be easily displaced, when they cause great and urgent dyspnœa. If round, they tend to change their position with respiration and coughing. They may pass the glottis and enter the trachea and bronchi. If loose in the trachea, they may rise with each respiration. Symptoms of suffocation may supervene at once. If they remain in the larynx the symptoms are most urgent; in the trachea they are better tolerated; while in the bronchi the symptoms caused are slight and obscure. He records three cases observed by him. In the first a kidney-bean became lodged below the rima glottidis. In the second he found symptoms of dyspnœa present with no lesion of heart or lungs demonstrable. On auscultation there were vibrations, most intense in the neck, and rhonchi. He could see a small rounded body below the cords, which proved to be a small grain seed. In the third case the dyspnœa was severe, rough respiration over the right lung, rhonchi, the sound as of a valve closing and opening with respiration. After a severe attack of coughing a small, white, solid mass was expelled, the size of a small nut, which had a hard center and proved to contain some whitish cylinders of confectionery. Relief was immediate. He concludes by saying that if symptoms are urgent the method of Dupuy-Lorent should be used. If in the larynx or upper trachea, the foreign body may be extracted by the use of cocaine. If a certain diagnosis cannot be made it is better to wait before using surgical interference.—*La Riforma Medica*, March 30, 1904.

Treatment of Cancer of the Skin by X-rays.—Leredde believes that radiotherapy constitutes an excellent curative method in cases of cancer of the skin—very often preferable to any other. The technique now in use allows the employment of the *x*-rays without danger to the patient, and with the result that in the majority of cases rapid improvement and cure are attained in a few sittings. The forms of this affection which especially succumb to this method are epitheliomata in the adult. They are the serious cases of epitheliomata or those which have a tendency to become serious. The cure is brought about by the disintegration and liquefaction of the diseased tissue, which is eliminated in an integral manner, demonstrating the elective action of the *x*-rays on epitheliomatous tissues. In cases in which there has been pain it often disappears after the first treatment; likewise the foul odor. The æsthetic results are excellent. The cure is definite when the treatment has been sufficiently energetic. The difficult cases are those in which there exists a marked hyperkeratosis. Radiotherapy may be combined with other curative methods. At the present it may be stated that it constitutes the method of choice in cases of destructive epithelioma of the nose, and in the greater number of cases in which the patient refuses surgical excision.—*Archives Générales de Médecine*, April 5, 1904.

Pyelonephritis of Pregnancy.—Léon Kendirdjy declares that the diagnosis of pyelonephritis in pregnancy is easy. The seat of the pain and the presence of pus in the urine are sufficient to attract attention to the condition of the kidney. Frequent and painful micturition may make the physician think of a cystitis, but exploration of the bladder will often show that its normal capacity has scarcely been diminished. Sometimes, however, cystitis may also exist. It may be primary or secondary, making the diagnosis doubtful. It would be necessary then carefully to note the abundance of suppuration, the location of the pain, the results of palpation and, finally, the intermittence of the pyuria. This last factor itself will clear up the diagnosis. The microscopical examination of the pus made from both the cytologic and bacteriologic point of view will clear up the state of the renal parenchyma and the nature of the pathogenic agent. Pyelonephritis in pregnancy is a benign affection. Almost always the pus disappears from the urine either in the course of pregnancy or some days after labor. Suppuration may persist after the expulsion of the fœtus, and it is then that the prognosis ought to be reserved in relation to the future of the affected kidney. The writer has observed death in only two cases out of sixty-two which have come under his notice. The prognosis in regard to the infant is not so happy. In the immense majority of cases pyelonephritis of pregnancy ceases spontaneously after the uterine contents have been expelled. The ureter being no longer compressed by the gravid uterus, recovers its permeability, the drainage of the kidney is assured, and the pyelitis disappears in a few days. Medical treatment consists principally of rest in bed, the milk régime, the use of diuretics, and of urinary antiseptics. The induction of premature labor has been performed in one case. Surgical treatment includes vesical distention, nephrotomy, and nephrectomy.—*Gazette des Hôpitaux Civils et Militaires*, April 16, 1904.

Book Reviews.

PAIN AND ITS INDICATIONS. An Analytical Outline of Diagnosis and Treatment. By EDWARD C. HILL, M.S., M.D., Medical Analyst and Microscopist; Professor of Chemistry in the Medical and Dental Departments of the University of Denver; Attending Physician to St. Anthony's Hospital, Denver; Author of "A Text Book of Medical Chemistry." Chicago: G. P. Engelhard & Company, 1904.

THE consideration of pain according to the region of the body in which it is found, is rather an unusual method of treatment, but it is none the less interesting. The writer in his preface calls attention to the varieties of regional pains and the consequent difficulty of differentiation and of rational causal treatment. The text deals with all sorts of pains, which are arranged systematically for comparison. In the introduction, the writer differentiates local inflammatory pain, general pain, local non-inflammatory pain, referred or reflex pains, neuralgic pain, hysterical pain, traumatic pain, pressure pain. The first chapter deals with headache of various kinds and from various causes, with suggestions concerning treatment. Chest pain, backache, abdominal, pelvic and genito-urinary pain are the topics of various chapters. The book is full of suggestions and will fill a valuable niche on the reference shelf.

AN ESSAY UPON THE GENERAL PRINCIPLES OF PREVENTIVE MEDICINE. By W. WAYNE BABCOCK, M.D., Lecturer on Pathology and Bacteriology, Medico-Chirurgical College, Philadelphia; Pathologist, Kensington Hospital; Assistant Pathologist, Philadelphia Hospital, etc. Awarded the first prize of one thousand dollars in the competition instituted by The Maltine Company. Reprinted from the *Brooklyn Medical Journal*, January–August, 1903.

AN ESSAY UPON THE MEDICAL INSPECTION OF SCHOOLS: A Problem in Preventive Medicine. By LEWIS S. SOMERS, M.D. Awarded the second prize of five hundred dollars in the competition instituted by the Maltine Company. Reprinted from *The Medical News*, January 17 and 24, 1903.

MUCH interest was taken in the outcome of this plan for competitive essays on preventive medicine, and the results have not been disappointing. The paper on the general principles of preventive medicine, considers the subject under three heads: the factors of disease; the diffusion of the parasites of diseases; and the inhibition of the factors in disease. The essay on the medical inspection of schools is much shorter and is not subdivided. Both monographs embody the latest researches in the subjects treated.

ELETTRICITÀ MEDICA, ELETTROTERAPIA—RAGGI RÖNTGEN—RADIOTERAPIA—FOTOTERAPIA—OZONO—ELETTRODIAGNOSTICA. Pel Dr. A. D. BOCCIARDO, Assistente ordinairo all' Instituto di Clinica Medica della R. Università di Pisa. Con 54 incisioni e 9 Tavole. Milano: Ulrico Hoepli, 1904.

THIS little hand-book deals in a clear and simple manner with the various problems of electricity as applied in medicine and discusses the subjects of electrotherapy, the *x*-ray, radiotherapy, phototherapy, ozone, and electrodiagnosis. It is a convenient guide in the practice of electrotherapy. The author has written from a fund of experience, which he has acquired during the practice of many years. The text is embellished with fifty-four cuts, many of them representing the machines in use at the present day. There are also tables with illustrations showing the position of the various muscles and nerves.

LA RACHITIDE E LE DEFORMITÀ DA ESSA PRODOTTE, con 116 Figure intercalate nel Testo. Pel Dr. PAOLO MANCINI. Milano: Ulrico Hoepli, 1904.

THE subjects discussed by the author cannot fail to be of value to physicians in general. So much is included in their consideration that they are of almost universal interest. The etiology and pathogenesis are first discussed with the various theories that have been advanced. The pathological anatomy, chemical alterations in the bones, and anatomical changes in the organs which have been noted in this disease, follow in order. The writer then devotes considerable space to the deformities incident to this malady. The chapter on diagnosis deals mostly with differential diagnoses. After touching on the prognosis of rachitis, the author deals in the last part of his work with the treatment of the various manifestations of this malady. One hundred and sixteen cuts are scattered throughout the text. An elaborate bibliography is appended. The book, though so compact in form, will prove of much value to physicians.

NOUVEAU FORMULAIRE MAGISTRAL. Par A. BOUCHARDAT, Professeur d'Hygiène à la Faculté de Médecine de Paris, Membre de l'Académie de Médecine, Président d'honneur de la Société de Médecine publique et d'Hygiène professionnelle; G. BOUCHARDAT, Membre de l'Académie de Médecine, Professeur à l'Ecole Supérieure de Pharmacie de Paris, Agrégé de la Faculté de Médecine de Paris. Trente-troisième édition. Paris: Félix Alcan, 1904.

THE thirty-third edition of this compact little manual has been brought completely up to date. Many additions have been made. A table giving the principal ones is placed after the preface. The section treating of diet in various diseases is full of valuable suggestions. The indexes both of author's and of contents make the volume a most convenient one for reference.

TECHNIQUE DU MASSAGE. Par le Professeur J. ZABLUDOWSKI, Directeur de l'Institut de Massage de l'Université Royale de Berlin. Traduit sur la deuxième edition allemande par A. Zaguelmann. Avec un atlas de 80 figures. Paris: G. Steinheil, 1904.

THIS volume of 146 pages is divided into three sections: (1) General Technique of Massage; (2) Methods of Massage with Apparatus; (3) Massage of Organs. Appended to the text is a series of 80 illustrations which show the author's methods of work as no description could possibly do. These begin with a cut illustrating the massage of flat-foot. There is a full and clear description below every cut. The various parts of the body are taken up one after the other for discussion. Such practical points as the suitable ointment for massage, the proper temperature for the operating room, position of the physician in relation to the patient, precautions necessary for the avoidance of pain, the duration of the entire treatment, hour of the day for massage and massage of pregnant women are all carefully discussed. The book is most attractive and is a decided addition to the literature on this subject.

LA MÉDICATION SURRÉNALE. Par les Docteurs R. OPPENHEIM and M. LOEPER, Anciens Internes des Hôpitaux de Paris. Paris: J. B. Baillière et Fils, 1904.

THE authors first consider the preparation of the suprarenal extracts used in experimental medicine, their toxicity and physiological effects. The dosage of the different praparations is then discussed. The latter half of the work is devoted to the consideration of the therapeutics of these extracts. Their value as a cardiotonic, hæmostatic, antiphlogistic, and anæsthetic. The concluding chapter deals with suprarenal medication in Addison's disease.

PRÉCIS D'ANATOMIE DENTAIRE. Par J. CHOQUET Chirurgien-Dentiste, D.E.D.P. de la Faculté de Paris Professeur suppléant à l'Ecole dentaire de Paris. Paris: F. R. de Rudeval, 1903.

THE writer in his preface states that his object in presenting this book has not been to offer an absolutely exhaustive treatise on this subject, but rather a volume which will prove useful to the student of dentistry or of medicine, or even to the general practitioner by giving a sufficiently detailed review of this subject. The value of the work is greatly enhanced by the cuts with which it is embellished. These have been made from original drawings, photographs, and photo-micrographs. The volume teems with original work and well fulfils the purpose for which it was written.

FATIGUE. By A. Mosso, Professor of Physiology in the University of Turin. Translated by MARGARET DRUMMOND, M.A., and W. B. DRUMMOND, M.B., C.M., F.R.C.P.E., Extra Physician, Royal Hospital for Sick Children, Edinburgh; author of "The Child, His Nature and Nurture." New York: G. P. Putnam's Sons; London: Swan Sonnenschein & Co., Ltd., 1904.

THE name of the author of this volume is a sufficient guarantee of its value and interest, and the reader is not disappointed in perusing the pages. In the chapter on "Lectures and Examinations" there is a convincing series of experiments demonstrating the relation between cerebral and muscular fatigue. This work is most important in relation to school curricula. An obvious practical conclusion is that games, or any form of athletic exercise should not be forced upon students during any time of special intellectual strain. The writer shows the importance of a quiet situation for schools; he proves experimentally that the time of perception is lengthened by noise. Again the author demonstrates that the best results are obtained by alternating short periods of work with play. Of the many instruments which of recent years have been invented to record and measure the vital and mental processes one of the most important is Mosso's Ergograph or Fatigue Recorder. Most of the writer's conclusions are based upon experiments which he has performed with this apparatus. Among the subjects touched on are The History of the Study of the Movements of Animals, The Origin of the Energy of the Muscles and of the Brain, The General and Special Characteristics of Fatigue, The Law of Exhaustion, Attention and Its Physical Conditions, The Method of Intellectual Work and Overpressure. This volume is a most interesting and valuable addition to educational works.

LES ACTUALITÉS MÉDICALES. TRAITEMENT CHIRURGICAL DES NÉPHRITES MÉDICALES. Par le Dr. A. POUSSON, Professeur agrégé à la Faculté de Médecine de Bordeaux, Chirurgien des Hôpitaux de Bordeaux. Avec 7 figures dans le texte. Paris: J. B. Baillière et Fils, 1904.

THE writer has compiled this little volume, believing that it will be of value to those interested in this subject. The question of the surgical treatment of Nephritis has been so warmly discussed of late years by both its advocates and its opponents that the present work is most timely, as it presents a general résumé of the whole subject.

LES ACTUALITÉS MÉDICALES. DIAGNOSTIC DE L'APPENDICITE. Par le Dr. MAURICE AUVRAY, Professeur agrégé á la Faculté de Médecine de Paris, Chirurgien des Hôpitaux de Paris. Paris: J B. Baillière et Fils, 1904.

THE writer calls attention to the paramount importance attaching to the diagnosis of appendicitis. Much interest has been taken in late years in the treatment of this disease, but the author believes that if more knowledge were possessed by physicians in regard to the diagnosis there would not be so many avoidable errors made by clinicians of the best standing. The book is well written and of much value.

A SYSTEM OF PRACTICAL SURGERY. By Profs. v. BERGMANN, v. BRUNS, and v. MIKULICZ. Translated and edited by Drs. W. T. BULL and WALTON MARTIN. Vol. I, The Surgery of the Head. New York and Philadelphia: Lea Brothers & Co., 1904.

THIS monumental work, conceived and executed by three of the greatest surgeons in Germany has attained the distinction of a second edition in its own land and of a contemplated translation into several other languages. It is in the form of a manual and is intended to occupy a position among German writings on surgery intermediate between the well-known collection of monographs published as the "Deutsche Chirurgie" and the more or less elaborated textbooks. It is intended to serve the general practitioner as well as the surgical specialist with a means of reference which shall be applicable at the bedside and in the study. The herculanean task of bringing out this work in the English language has been entrusted to Dr. Wm. T. Bull, Professor of Surgery at the College of Physicians and Surgeons, New York, and associated with him in the translation of the first volume is Dr. Walton Martin. This volume takes up the surgery of the head, and its various chapters have been written by specialists in their fields—v. Bergmann, Krause, Krönlein, Kummel, Kuttner, Lexer, Schlatter, and Wiesmann—men of acknowledged authority and large clinical experien e. In each subdivision the pathological data, the symptomatology and treatment are very fully considered, and the details of original research and statistics presented by individual authors in connection with the subject assigned to them, give to many of the chapters the character of authoritative monographs. Personal opinions are not insisted upon and the polemical discussions so frequently met with in German books, are wisely omitted, so that the work remains as a practical manual of reference which affords to the reader a trustworthy guide to the best and most recent methods of surgical practice.

The translation is free and literal, but too often the German idiomatic constructions are, unfortunately, very faithfully followed, to the detriment of brevity and clearness. The book is well printed and supplemented by a complete and satisfactory index. The illustrations are numerous and the greater proportion well executed, but many have seen previous service to such an extent that they might well have been retired when this book was printed. The bibliographies which constituted a valuable and important feature of the original German edition, are unfortunately omitted from the American translation. Foreign works are often considered of doubtful value when introduced into this country. This may be true in many instances, but in this case it may well be said that if the remaining volumes round out the promises held forth by this one, the work will occupy a high position as surgical manual and will form a most valuable addition to the armamentarium of the practising physician.

LECTURES, CHIEFLY CLINICAL AND PRACTICAL, ON DISEASES OF THE LUNGS AND THE HEART. By JAMES ALEXANDER LINDSAY, M.D., F.R.C.P. (London), M.A., Professor of Medicine Queen's College, Belfast, Physician to the Royal Victoria Hospital, Belfast, etc. New York: William Wood & Company, 1904.

THE series of twenty-one lectures contained in this volume deal with most of the phases of intrathoracic disease that come under the observation of the physician. The various subjects are not taken up in a systematic manner, but they are discussed in a practical fashion from the clinical standpoint. The actual consideration of the diseases in question is preceded by a brief description of diagnostic methods, a discussion of the interpretation of the history in relation to disease and also a recital of methods of physical examination and of the results yielded thereby. Ten lectures are devoted to diseases of the lungs and pleura, and five of these deal with the subject of pulmonary phthisis alone. An additional lecture takes up the causes and management of hæmoptysis. The various disorders of the heart are discussed in seven lectures, an additional lecture dealing with the physical examination of the blood-vessels. The text is supplemented by an index of authors and a general index. We have here presented a considerable mass of facts in an interesting and instructive manner. The type is large, the paper heavy, and the binding neat.

LESSONS ON MASSAGE. By MARGARET D. PALMER, Masseuse and Manager of the Massage Department of the London Hospital; Instructor of Massage to the Nursing Staff of the London Hospital; Member of the Council of the Incorporated Society of Trained Masseuses. Second edition. New York: William Wood & Company, 1904.

THE author of this valuable work pays special attention to the anatomy of the parts, for after the opening chapter, in which she considers the history of massage, the preparation of the bed and patient, lubricants, and the definition and classification of movements, she makes a study of the human body in its various aspects, beginning with the skeleton. Massage of the various regions of the body is described, one chapter being devoted to the treatment of affections of special parts, such as stiff joints, lawn-tennis arm, writer's cramp, flat-foot, sciatica, varicose veins, etc. The author touches on spinal curvature. Massage of children is considered by itself, including the consideration of infantile paralysis, greenstick fractures, separation of epiphysis, talipes and intussusception. In this new edition a few alterations and additions have been made, besides the chapters on the Nauheim treatment, and bandaging. Some of the old photographs have been replaced by new ones, while two colored plates and other illustrations have been added. The writer has had many years of experience both in teaching and in practical work.

L'ENTÉRO-COLITE MUCO-MEMBRANEUSE. Par le Dr. FROUSSARD. Paris: A. Maloine, 1904.

IN the present monograph Froussard describes the symptom complex of membranous enteritis and its treatment. The writer does not believe that this malady is especially apt to be complicatied with appendicitis. The latter is occasionally met with here, but is not caused by the membranous enteritis, and exists independent of the other disease. As a therapeutic measure of great value, Froussard considers the olive oil enemas of Kussmaul and Fleiner. The small volume will be read with interest by the practitioner.

INFECTION AND IMMUNITY, with Special Reference to the Prevention of Infectious Diseases. By GEORGE M. STERNBERG, M.D., LL.D., Surgeon-General U. S. Army (retired), Ex-President of the American Medical Association, and of the American Public Health Association; Honorary Member of the Epidemiological Society of London, of the Société Française d'Hygiène, of the Royal Academy of Medicine of Rome, etc. New York: G. P. Putnam's Sons. London: The Knickerbocker Press, 1903.

THE importance of this work can hardly be overestimated. The name of the author is a guarantee of its excellence and scientific accuracy. The leading part that preventive medicine is playing of recent years makes any knowledge on this subject of great interest. The writer has stated the main facts as far as they are now known in reference to infection and immunity in order the more clearly to point out the measures necessary for the prevention of infectious diseases. The book is intended for non-medical readers, and with this purpose in view the use of technical terms is avoided as far as practicable. When these terms have to be used, they are explained. A discussion of the theories of immunity and the results of recent work in relation to the "antitoxins," "agglutinins," "precipitins," "bacteriolysins" and so forth, have not been incorporated in the text, as such discussions involve the use of many new technical terms. The writer in his preface expresses the hope that this book may serve, at least to a certain extent, as a textbook in high schools and colleges. The volume is divided into two parts. In the first are arranged the general subjects of Infection, Channels of Infection, Disinfection, Sunlight as a Disinfectant, Natural Immunity, Acquired Immunity, and Antitoxins. The second part is devoted to the consideration of the most important infectious diseases and the manner of their propagation, their importance as a factor in mortality statistics, and the best methods of restricting their dissemination. The book is written in a charming style, and is sure to prove of great value to all interested in the subject of sanitation.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

One Hundred and Eighty-eighth Regular Meeting, Held May 6, 1904.

Dr. CHARLES STEDMAN BULL, PRESIDENT, IN THE CHAIR.

A Case of Giant-celled Sarcoma of the Lower Jaw Treated by Radium.—By Dr. ROBERT ABBE. This patient had already been shown at the March meeting of the society, and a preliminary report of the case was published in the MEDICAL RECORD, April 30, 1904, page 715. The growth, which was an extensive giant-celled sarcoma of the lower jaw, was first noticed by the patient six months ago. It extended from the middle toward the left, bulging inward under the tongue and outward under the skin—the inner part comprising one-third of the mass, and the outer two-thirds. The diagnosis of pure giant-celled sarcoma was confirmed pathologically.

As the case, surgically treated, called for resection of the jaw, with hopeless mutilation and inevitable recurrence, Dr. Abbe decided to try the effect of radium. A small glass tube of 10 cgm. of the 300,000 *x*-Curie radium was applied over the growth within the teeth for one-half to one hour daily, a lead shield protecting the tongue. Under this treatment, the entire bulk of the projecting internal tumor was considerably reduced. Subsequently the tube was inserted directly into the mass of the tumor and allowed to remain imbedded for two or three hours at a time. By this treatment the growth of the tumor had not only been arrested, but there was an appreciable shrinkage in its bulk during the first two months.

A week after the above preliminary report was made, Dr. Abbe said a small slough appeared on the inner surface of the neoplasm. This, he thought, was the result of overradiumization. The treatment was discontinued, and within a few days a severe dermatitis of the skin and subcutaneous tissue developed over the site of the tumor. This was rather unexpected, as the view was generally held that the skin was never affected when the radium was buried in the tissues or applied internally. This dermatitis persisted for over three weeks, and then, under the use of soothing applications, it gradually subsided. No applications of the radium had since been made, but the improvement in the malignant condition had steadily continued. There was apparent arrest of development of the growth, and a marked shrinkage in its bulk.

Dr. Abbe said that at a subsequent meeting he would report the final outcome of the case.

Dr. GEORGE L. PEABODY said the appearance of the case had certainly improved since it was first shown, two months ago. The tumor was smaller, and its bony walls, which were then very thin, had apparently grown firmer. The development of the new bony tissue, as well as the shrinkage in the size of the growth, could only have taken place at the expense of the tissue of the tumor itself, unless, perhaps, it was due to the subsidence of an accompanying inflammation.

Some Thoughts Suggested by the Statistics of the Health Department, Especially Concerning Typhoid Fever and Smallpox.—Dr GEORGE L. PEABODY read this paper. (See page 905.)

Dr. ABBE said that many of the deaths attributed to malaria were possibly cases of pyæmia in which the source of the infection had not been recognized. In certain cases of appendicitis, mastoid disease or empyæmia, the condition was often difficult to recognize, and the symptoms—repeated chills, daily elevation of temperature, etc.—were strikingly like those of malaria. The large number of deaths from strangulated hernia was not surprising on account of the delay that so often occurred before these patients were brought to the surgeon. Many general practitioners failed to appreciate the danger of allowing a strangulated hernia to go over twenty-four hours.

Dr. FRANCIS P. KINNICUTT said he was inclined to agree with much that Dr. Peabody had said in his interesting analysis of the statistics of the Health Department. At the Presbyterian Hospital it was the routine practice to inquire carefully into every case of typhoid fever as to the possible source of infection, and in the great majority of cases it was found that the drinking water was the only common factor. It was interesting to note that a large proportion of the patients used neither raw milk nor oysters. The speaker said that accepting the Health Department's statistics as correct, viz., that there was a constant greater prevalence of typhoid fever in the Borough of New York than in Brooklyn, he thought Dr. Peabody's suggestion that this was due to the fact that New York was largely supplied by surface water, while the Brooklyn supply found an efficient natural filter in the sandy soil of Long Island, was a reasonable explanation. Dr. Kinnicutt said he was disposed to agree with Dr. Abbe that many deaths from so-called malaria were really cases of pyæmia. In regard to the removal and segregation of smallpox patients, the speaker inquired whether, under exceptional circumstances, such cases were not allowed to remain in their own homes under the supervision of the Health Department.

Dr. HERMANN M. BIGGS said the figures quoted by Dr. Peabody furnished another illustration of the fact that one was often misled by unexplained statistics. According to the figures, Brooklyn had a higher death rate from typhoid fever than the Borough of Manhattan, although the number of cases of the disease in Brooklyn, according to the population, was less than in New York. This was due to the fact that many of the cases in Brooklyn had not been reported to the Board of Health. The same difficulty in getting cases of typhoid fever properly reported was formerly encountered in Manhattan; less than ten years ago not one-half and probably not even one-quarter of the cases of typhoid fever in this city were reported. Two years ago the Health Department began following up the hospitals in this connection, and it was found that only one hospital, the Presbyterian, was making fairly accurate reports of its cases of typhoid fever. In the others, both large and small, hardly more than one-half the cases were reported. Vigorous steps were at once taken to remedy this. The superintendents of several of the hospitals were summoned before the Board of Health, and since then the proper reports have been forthcoming. The previous defects were due to negligence, as the internes in these institutions are frequently changed, and no one felt himself particularly charged with the duty of making the reports to the Health Department. The same fault was found with general practitioners, and many of the cases treated in private practice were only discovered by the death returns. In such a case, the physician was communicated with, and informed that his neglect to report the case was a violation of the sanitary code. To such a communication, usually, a prompt reply is received, stating that the neglect to report it had been due to an oversight, or that the report had been sent and evidently miscarried, or some other excuse was given, which, if it was plausible and the offence was not repeated, was accepted by the department and the matter was allowed to drop. If no response was received to the first communication, however, a second one was sent, and perhaps a third. Then the matter was referred to the secretary of the board, and a further communication sent to the delinquent. If no response was received to this the matter was turned over to the Corporation Counsel for prosecution. This was the usual routine followed by the Board of Health in the cases of failure to report typhoid fever, tuberculosis and the various other contagious or communicable diseases. During the past three months forty or fifty physicians who had been negligent in this respect had been brought before the Board. On account of this activity, the number of cases of typhoid fever reported in Manhattan had largely increased during the past few years, especially since the

stablishment of the bacteriological department in connection with the Board of Health. An attempt was being made to bring the department up to the same standard of efficiency in the Borough of Brooklyn, but thus far with only partial success. Not only were the returns of contagious diseases from that Borough much more incomplete than those from Manhattan, but all attempts to introduce improved sanitary procedures there had met with a great deal of obstruction. For example, in the adoption and general use of antitoxin in diphtheria it took a much longer time to accomplish in Brooklyn what had been done in two years in Manhattan. The same was true in regard to the prevention and treatment of diarrhœal diseases in children. On account of the comparatively few tenement houses in Brooklyn and the lack of overcrowding and excessive poverty, the mortality of diarrhœal diseases in children in that city should be much lower than in Manhattan, while, as a matter of fact, it had been continuously from 30 to 35 per cent. higher. These figures showed that either Brooklyn people did not boil their milk in summer, or else the children were brought up largely on artificial food or condensed milk.

Dr. Biggs said that during the past five or six years the Health Department had investigated all the cases of typhoid fever occurring outside of the hospitals, and many of them in the hospitals, in order to determine, if possible, the source of infection. In the majority of instances it was of course only possible to learn the probable source of infection, while in isolated cases the true source of infection could often only be conjectured. In every instance, the family or physician of the patient, or both, was visited by the inspector, and special inquiry was made as to whether the patient had been outside of New York during the month previous to the onset of his illness; if so, where he had been, and for how long a time. Inquiry was also made as to whether he was a milk drinker habitually, and whether he had been in contact with any other case of typhoid fever. Also, whether he was accustomed to partake largely of shell-fish, or had recently bathed in either the East or North River. The Department had a regular blank prepared on which these questions were asked, and the tabulation of the information obtained showed in a general way that in about 25 per cent. of all the cases occurring in the Borough of Manhattan, the source of the infection was almost certainly outside of the city, while in a considerably larger per cent. there was a possibility that the disease was acquired outside of the city. About 6 or 7 per cent. were certainly instances of contact infection, while in a considerable number of cases the infection was traced to milk. One group of forty-nine cases was due to milk infection and traced to the same milk supply. This was one of the most difficult sources of infection to trace, as the milk of New York came from a radius of 500 miles and was collected in the creameries from so many different farms that its identity was lost. A certain family, for example, might receive milk one day from a certain group of farms, and the next day from a different group, so that the difficulties of tracing the milk supply of a given family became almost insuperable.

The total number of cases of typhoid fever comprised in small groups was considerable. In a group of ten cases seen at St. Vincent's Hospital, the patients were all employed as stewards on the steamship *New York*. A careful inquiry was instituted as to the source of the infection in these cases, but nothing could be learned until a number of the patients were about to be discharged, when one of the men, who had been desperately ill and almost constantly delirious up to that time made the statement that previous to their illness, the steamship *New York* had been ordered to the Cramp's ship-yards, in Philadelphia, for repairs, and that while there they had been dependent on the Schuylkill River for their water supply. Orders were issued by the chief steward to see that all the drinking water was boiled, but this order was disregarded in the second cabin, and ten cases of typhoid fever resulted. Similar groups of cases had been treated in other hospitals in the city.

Dr. Biggs said he had no doubt personally that a percentage of cases of typhoid fever in New York City, apart from those contracted outside of the city, was the result of milk infection. In from 40 to 50 per cent. of those who apparently contracted the disease in the city, the patients were habitual milk drinkers, which was a very large percentage, compared to the number of habitual milk drinkers as a whole.

Speaking of the water supply of New York, Dr. Biggs said he did not think the facts justified Dr. Peabody's interpretations. The Croton Watershed covered an enormous area, and was very sparsely populated. With the exception of one or two small reservations, the city had acquired title to the land adjoining all the reservoirs and along the banks of the principal streams, and had cleared these of all kinds of habitations and nuisances. There were still a few localities where considerable contamination of the water might take place, but the danger had been reduced to a minimum. Last summer one of the assistant bacteriologists of the Health Department had been in constant communication with the physicians practising on the Croton Watershed, some forty in number, and he was kept informed of all cases of typhoid fever and diarrhœal troubles that came under their observation. Typhoid fever was comparatively rare in that locality, not more than six or eight cases being recorded during the entire summer. Diarrhœal troubles, however, were exceedingly prevalent in some seasons. Not a single instance was found in which by any possibility the water supply could have become contaminated by the evacuations of these patients. Even admitting the possibility of an occasional pollution from a single case, the quantity of the water was so great that the enormous dilution rendered the danger of infection in the city very slight.

Shell-fish, as a possible source of infection in typhoid fever, had received considerable attention from the Health Department, but in these cases the infection was even more difficult to trace than with milk. There were many cases, however, in which the presumption was very strong that the infection was due to shell-fish, and investigation had shown that many oyster-beds were located where the the water could not fail to be polluted by sewage. Some of the oysters were placed in brackish water near the outlet of small streams along the Staten Island, New Jersey, and Connecticut shores, and these streams served as sewage-carriers from the surrounding houses and villages. Dr. Biggs said he had seen a number of cases of typhoid fever in which he thought there could be no question that the infection was due to oysters. Experiments had shown that the typhoid bacilli might be present in the oyster for perhaps twenty-four to thirty-six hours after its removal from an infected water, and that in oysters which were not absolutely healthy the typhoid bacilli were often present in enormous numbers and remained for several days. The Board of Health had at present under consideration certain measures for the regulation of the oyster traffic. In the course of their investigations, one oyster-bed was found at the Erie Basin, the water of which was nothing more than dilute sewage. While the New York Croton water supply was often muddy and had a disagreeable odor, the speaker said he did not think it was a factor of any importance in the production of typhoid fever in New York City. In Brooklyn, however, the drinking water was not above suspicion. Originally, Brooklyn had an excellent water supply, but at the present time, possible sources of pollution had been discovered in Ridgewood and all the way down the South shore. There were a large number of definite sources of possible infection, which had been located, but which the Board of Health was not yet empowered to remove.

Dr. Kinnicutt said that in the purification of drinking water, sedimentation was quite as important as dilution,

if not more so. While the water supply of New York City had the benefit of the latter, it did not have proportionately the benefit of sedimentation. The sedimentation noted in a glass of drinking water or bath indicated how largely the Croton water was a surface water. It was a well-known fact that in a running stream the typhoid bacilli were capable of doing harm after being carried for a long distance in great dilution. Outbreaks of typhoid fever had been reported from the use of water many miles away from the source of infection. As a possible example of this the question was now being agitated in St. Louis, whether the water supply of that city was not being contaminated by the drainage of Chicago. If that be so, the infection must travel through the Chicago Canal and the Illinois River into the Mississippi River.

Dr. Kinnicutt said that all the sources of infection in New York other than the water supply mentioned by Dr. Biggs should necessarily also apply to Brooklyn.

Dr. Biggs said that in the New York City water supply the dilution was on a vast scale, and there was also a certain degree of sedimentation in the several reservoirs connected with the system. Nearly 300,000,000 gallons of water were used daily, and the only possible infection could come from some individual case which might escape detection.

In regard to malarial fever, Dr. Biggs said he quite agreed with Dr. Peabody that the deaths reported from that cause were far in excess of the actual number. The reports in that respect, however, were far more accurate now than they were five years ago, the number of reported deaths from malaria having fallen to one-third or one-quarter of what they were at that time. During the past three years, every death attributed to malaria, coming under the notice of the speaker, had been investigated by a medical inspector of the Health Department, and in every instance in which the facts justified action, the death certificate was changed. In this way, the number of deaths had been cut down to twenty-seven per annum in Manhattan, whereas not many years ago over 300 deaths here ascribed to typhomalarial fever and intermittent fever. In a certain number of these cases, the true cause of death could not be ascertained. A certain number of them were n young infants, with high temperature and sudden death, and the attending physician, without further justification, pronounced the cases malarial fever. A few deaths from malaria had undoubtedly occurred in the Borough of the Bronx, usually in young children.

Dr. Biggs said that the high death rate from diphtheria was largely due to the fact that it was almost impossible to get the tenement-house population to realize the importance of early diagnosis and treatment in this disease. While the death rate from diphtheria in the city, as a whole, was 11 per cent., that among the cases treated by the Health Department inspectors was only 6 per cent. The reason for this was that the physicians in the tenement-house districts did not resort to the use of antitoxin early enough in the course of the disease.

The decrease in the smallpox mortality was undoubtedly due to the very extensive vaccination that had been carried out during the past few years. During 1902 more than 800,000 vaccinations were made by the Health Department, and in 1903 nearly 600,000. As a result of this, smallpox had practically been stamped out. In the few cases that were seen, the infection as a rule occurred outside of the city. No exception was made to the rule that smallpox patients must be removed to the Smallpox Pavilion on North Brother Island, but plans were being made to provide special accommodation for patients who wished to be accompanied by their private physician or nurse.

In reply to a question as to whether there was a law under which smallpox patients could be forcibly removed from their homes, Dr. Biggs replied that the Health Department had absolute power to establish any rule with regard to the protection of the public health, and it was under that provision that the power of removal was exercised. A year ago a smallpox patient in Queens County refused to go to the hospital on North Brother Island. He was forcibly removed and his friends took the matter to the courts. A *habeas corpus* was issued, but no one could be induced to serve it.

Dr. Edward G. Janeway said that while the city water was sometimes so muddy that it was unfit even for bathing purposes, he did not think it could be held responsible to any extent for typhoid fever. Otherwise, that disease would be of more frequent occurrence in the city than was the case. The city was supplied from two sources—one, a high pressure service, which came direct from the Croton Water-shed, and the other through the reservoir in Central Park. In the high pressure service there was no sedimentation, whereas in the reservoirs, which supplied, the lower part of the city, there was more or less sedimentation. The speaker said he favored a filtration plant, such as Philadelphia was now using for the Schuylkill River water.

As another possible source of infection in typhoid fever, Dr. Janeway mentioned the green vegetables that were eaten raw, especially watercress which was usually grown in marshy lands and along the banks of brooks. He had seen a certain number of cases in which this was the only source of infection he could find. Raw fruit was another possible source of infection. He also recalled a case of typhoid fever in a pedler, who had been sick for ten days, traveling from house to house and using the water-closets promiscuously many times daily. He was strongly convinced that raw oysters were the source of infection in certain cases, while among the poorer classes milk was probably a very potent factor.

In regard to the forcible removal of smallpox patients, Dr. Janeway said that was rather a difficult question to handle. If some patients were left at home, while others were removed, it might be regarded as class legislation and the public might object against such discrimination, yet this existed in the dealing with diphtheria and with scarlet fever. The rules in this respect were more stringent than was formerly the case.

Dr. Beverley Robinson said that as long as the Health Department exercised its arbitrary right to remove smallpox patients, every citizen should also exercise his authority and refuse to harbor any person in his house who was not willing to be vaccinated; or, better still, that a compulsory vaccination law should be passed.

Dr. Janeway said he was afraid that a compulsory vaccination law would only have the effect of exciting greater opposition to vaccination than now existed. That had been the result of such a law in England.

Dr. Biggs said that while vaccination was not compulsory in New York, it was practically universal, especially among the lower classes. So far as the public schools were concerned, it was compulsory, and in the large department stores, hotels, and factories it was practically so. At certain periods, or when there was any danger of smallpox, the proprietors of these establishments were communicated with, and informed that the Board of Health would like to vaccinate their employes. Usually, they readily consented. If they refused, they were informed that in case smallpox appeared among their employees, their establishment would be quarantined for such a length of time as the Health Department thought necessary. Such a letter usually brought a satisfactory response. Many of the large department stores refused to engage unvaccinated help. A new difficulty that the Board of Health had to contend with in this connection had recently come to light. Certain physicians and dispensaries on the lower East side of the city had been found issuing certificates of vaccination, which read as follows: "Certificate of Vaccination. Within five years of date, children presenting these certificates are entitled

› attend school under the rules of the Health Depart-ent." These certificates were being sold by some hysicians for ten cents each. A warning had been issued y the Board of Health that they would not be accepted i the public schools.

Dr. Biggs said that every precaution was taken to uard against a mistake in the diagnosis of smallpox. he patient was first seen by one of the diagnosticians of he Department, and subsequently he was examined by he resident physician of the hospital. If there was any uestion about the diagnosis, the patient was kept in a eparate, isolated ward until it was cleared up. Every atient brought to the smallpox hospital was immediately accinated. One objection to allowing these patients › remain at their homes was that it would be very diffi-ult to isolate them: the only way would be to place a anitary policeman at the door, and keep him there day nd night. The removal of smallpox patients was rarely bjected to.

Dr. W. GILMAN THOMPSON said he was glad to hear the tatements made by Drs. Biggs and Janeway that Croton ater was not responsible for typhoid fever in New York ity. The speaker said this had been his own opinion or many years, and he had devoted much study to the tiology of the cases he had seen. He knew of a group f nine cases that developed in a single house last year, nd sometimes he had traced the source of infection in oys to the fact that they bathed in the East or North River at the mouth of a sewer. Such cases were certainly ot attributable to the city water supply. If the Croton ater were responsible for typhoid fever to any extent, he fact would undoubtedly soon be recognized, as it had een in Philadelphia. The statistics quoted by Dr. Pea-body showed a general uniformity in the number of cases, nd suggested a variety of sources rather than a casual nfection of the drinking water. The possible sources of infection were quite numerous. Among them were ice and oysters, and raw foodstuffs polluted by flies.

Dr. Thompson asked Dr. Biggs whether the Croton water was not examined periodically for typhoid bacilli? He had heard that this was done, and that the typhoid germs had never been found, so far as he knew.

Dr. Biggs replied that the Croton water was frequently examined, and it had never been found to contain typhoid bacilli. Rarely, the colon bacillus had been found.

Dr. Kinnicutt said it was a very difficult matter to find the typhoid bacilli, even in water that was known to be freely contaminated with them.

Dr. Thompson said that with regard to the removal and segregation of smallpox cases, he was inclined to agree with Dr. Peabody that more discretion should be shown in dealing with special cases. Without present knowledge of the prevention of infection he thought it was possible to quarantine such cases under suitable conditions, when a special room on an upper floor could be set aside for that purpose. Dr. Peabody's paper furnished an excellent illustration of the fallacy of arguing from unexplained Health Board statistics, and Dr. Biggs had in an admir-able way shown just what interpretation should be placed upon the figures furnished by the city Health Department. The speaker said he had no doubt that the health reports of other cities were often unintentionally misleading in the same way.

Dr. Janeway said that a number of years ago there was an outbreak of typhoid fever among the children at the New York Deaf and Dumb Asylum. There were about 70 cases in all, perhaps one-half that number developing into full-fledged typhoid, while the others were abortive attacks. The epidemic was ascribed to defective sewage. The defects were remedied, but a few years later there was a second outbreak, for which no satisfactory cause could be found. Subsequently, there was a third outbreak, and a thorough examination of the building showed that one of the ventilating pipes had rusted out, and apparently gave rise to some suction between the sewage and drink-ing water supply. This defect was corrected, but there was subsequently a fourth outbreak of typhoid fever, and in this epidemic it was noticed that more boys were affected than girls. There was a pump in the boys' yard, and upon examining the water from this, it was found to be chemically pure, but when chloride of lithium was thrown into the hospital sink, traces of the lithium were found in the water from the pump, showing that there was a connection between the two. The handle was removed from the pump, and since then there had been no more epidemics of typhoid fever in that institution. This illustration of the danger of overlooking the true source of disease had been spoken of previously.

Dr. Peabody, in closing the discussion, said that whether the occurrence of typhoid fever in New York at the present time could be attributed to the drinking water or not, there was no doubt of the fact that the water was supplied directly from the surface, without sedimentation or filtration, and that a water supply of that character always carried with it the imminent risk of an epidemic. This surface water was not only obviously dirty, but came from an inhabited district. The various hypotheses that had been advanced to explain the occurrence of typhoid fever in this city were not entirely satisfactory. Many of the typhoid-fever patients he had seen in the hospitals were not habitual milk drinkers; indeed, it was a frequent experience to find in them an invincible repugnance to milk, which seriously complicated the problem of feeding them during the fever; very few of them had indulged in raw oysters, and they had not been outside of the city. In case an epidemic of typhoid fever did occur in this city from the drinking water, it would be likely to be one of such magnitude as to shock even Philadelphia.

CHICAGO MEDICAL SOCIETY.

A clinical meeting was held April 6, 1904, when cases of aneurysm of the aorta were exhibited and reported. Dr. Frank Billings showed a man forty-five years of age, whose family history as regards tuberculosis, malignant disease, and heart disease was negative. The patient had an attack of typhopneumonia which confined him to bed for a period of three months, when he was nine years of age, from which he recovered. At eighteen years of age he had specific urethritis which lasted for three weeks. He denied any other venereal infection. Six years ago patient first felt a sharp pain in the region of the right shoulder, which came on suddenly. He described the pain as severe, beginning in the anterior portion of the chest, about an inch to the right of the right nipple, pass-ing directly backward through the shoulder, and from the shoulder-blade extending downward along the side of the chest, and sometimes across to the opposite shoulder. About a month ago the patient became incapacitated for work and noticed that his voice was failing. At about the same time dyspnœa came on, which was aggravated by exertion. There was paralysis of the left recurrent laryngeal nerve. With these prominent symptoms and other minor signs, a diagnosis was made of aneurysm of the aorta. Dr. Robert H. Babcock showed a man, fifty-three years of age, laborer by occupation, who had been an inmate of the Cook County Hospital for the past seven-teen months. The family history was negative. Personal history revealed gonorrhœa at the age of nineteen. Patient denied syphilis, and did not give a history of any other important disease. The present trouble began a little over two years ago, with weakness and inability to work, associated with difficulty in breathing and pain. Dyspnœa and pain were present only during exertion. Pain was felt in the lateral aspect of both sides of the chest. Present symptoms were chiefly those of dyspnœa and change in voice, which was husky. His cough had taken on a peculiar character. Patient presented all the symptoms of a case of aneurysm of the arch of the aorta, as determined by inspection, palpation, and auscultation. The treatment had been the ordinary routine treatment

of symptoms—rest in bed, light diet, iodide of potassium, etc. Dr. C. A. Elliott presented a man, fifty-four years of age, in whose case a diagnosis of aneurysm was first made two years ago. Patient had the symptoms of this disease, associated with others. A pulsating tumor could be seen about ten centimeters in diameter, which extended from the second rib to the fourth. The apex beat could be seen in the sixth interspace, about an inch to the left of the mammary line. A generalized arteriosclerosis was present, with pulsations of all the superficial arteries. A capillary pulse could be demonstrated. The pulses showed the characteristic water-hammer pulsation. Tracheal tug was present, but not marked. On auscultation there was a harsh, roaring, systolic bruit at the apex, and a systolic murmur to be heard. Over the aortic interspace there was a double to and fro murmur, both systolic and diastolic. Over the tumor a double sound could be heard, both a systolic and diastolic bruit. Over the posterior aspect of the chest, at about the level of the eighth rib on the left side, one could hear distinct murmurs, both disastolic and systolic. Upon auscultation over the lower parts of the chest many râles were to be heard, and over the left side of the heart occasionally a squeaking rub was heard. The patient having been an athlete, the author thought it was reasonable to suppose that the strain to which he had subjected himself was an etiological factor in his case. The size of the tumor was smaller than it had been. Dr. Charles L. Mix exhibited a man, forty-nine years of age, with aneurysm of the aorta. Three months before he presented himself to the Post-Graduate Clinic, the patient was suddenly seized with an attack of severe pain in the left side, which persisted for a while, disappeared, and then recurred. He had had three paroxysms altogether. In addition there was dyspnœa. Patient had had specific disease. In this case the aneurysm was near the heart. There was dilatation of the venules which one sees in cases of adhesive pleurisy, in some cases of mediastinal tumors, pericarditis, and sometimes in emphysema. In this instance they were scattered well around the chest. The other findings on inspection, palpation, and auscultation were pointed out. Dr. George Galloway reported a case of aneurysm of the aorta. Dr. R. B. Preble reported a case of aneurysm because it presented so few symptoms. The patient appeared at his clinic complaining of dyspnœa on exertion and upon reclining, and was suffering from œdema of the eyelids, which was manifest in the morning, and œdema of the feet, which was manifest at night. During the night the œdema of the lower extremities disappeared, while the œdema of the face appeared, and *vice versa*, during the day. Inspection disclosed extreme tortuosity of the brachial vessels, with a high degree of arteriosclerosis, although the patient, a colored man, was only forty-three years of age. The patient denied a syphilitic history. The heart was considerably enlarged; the apex beat was situated an inch and a half to the left of the nipple line, and in about the seventh interspace. It was strong, but quite irregular in its action, and not particularly accelerated. Percussion disclosed an area of distinct dulness behind the sternum. Other features of the case were pointed out at length. Dr. Preble said the case was in no way remarkable from an aneurysmal point of view, but it drew attention to the fact that in many cases aneurysm was merely an accident. In his case it was an incident of a serious generalized disease, in that there were changes in the heart itself, and in the kidney, which were far more important and serious to the patient than the changes in the aorta. The purpose in having these patients presented to the society was to draw renewed attention to the fact that aneurysm of the aorta were not uncommon; that they were extremely common, no two cases being alike, and anyone who thought, in order to make a diagnosis of aneurysm, he must have auscultatory phenomena, coming on early, was mistaken, because many of the most serious cases of aneurysm of the aorta had very little phenomena. Dr. Frank Billings said that in the last few years he had had several cases in which he had made a diagnosis of dilated aorta, and of all those that had come to autopsy, in more than one-half that diagnosis had been verified. Of the cases he had observed, all but one had occurred in elderly people, much older than any of the patients that had been shown, in people in whom one would expect to find atheroma, sclerosis of the vessels, etc. He mentioned the main points that were noted in taking the history of these cases. Dr. Arthur Dean Bevan said he had noted three types of tumors within the chest, as shown by the *x*-ray, and there were one or two points of great value in making the differential diagnosis. In aneurysm the outline was almost always a regular curve; while malignant growths or mediastinal tumors invariably had an infiltrating outline, if primary, as shown by the *x*-ray. Other pathological processes presented an irregular, curved outline. He mentioned a case in which he assisted at an operation in which a positive diagnosis of mediastinal tumor was made by six good clinicians, the possibility of aneurysm of the aorta having been eliminated. The mediastinal space was opened with the intention of removing a tumor; the patient died on the table. Post-mortem examination revealed an aneurysm of the aorta about the size of a fist.

Pneumococcus Endocarditis.—Dr. Frank Billings reported two cases of pneumococcus endocarditis, and exhibited specimens. The first case was a woman, twenty-two years of age, who gave a history of incompetent heart of five years' standing, preceding acute symptoms, which brought her to the hospital. There was no history of rheumatism or anything of that kind as the cause of the heart disease. Patient complained of incompetency of the heart. There were no evidences of pneumonia. Blood cultures were made, and pneumococci found. The woman subsequently died. The diagnosis was made, after finding the pneumococcus, of acute endocarditis of pneumococcus origin, with probably an old mitral stenosis. The specimen showed a funnel-shaped mitral stenosis, with valvulitis. The next case was a boy, eighteen years of age, who gave a history of rheumatism at five and at ten years of age. During the second attack there was shortness of breath. He was admitted to the hospital on February 27 of this year, and died March 31. A history of incompetent heart was elicited, and an illness of an acute character dating back three or four years. The patient had never had a cough sufficient to warrant one in saying that he had pneumonia, or pain about the chest or back, nor had he had a chill. Shortly after admission examination disclosed elevation of temperature, with a rapid, irregular heart, but the temperature at no time during his stay in the hospital was high; 99° to 100° was the usual range, but he believed it exceeded this point once. Examination showed an enormous heart extending far beyond the nipple and to the right, rather high. The apex beat was plainly heard. There was hypertrophy of the heart, with a loud systolic murmur heard at the apex, transmitted to the left. This murmur was heard all over the heart and heard also in the back. There was an accentuation of the second pulmonic tone. There was mitral insufficiency, with dilatation of the heart. Friction sounds were heard at different times over the lung and pleura. Patient had pain when he coughed, with bloody expectoration. A culture of the blood was made, and the pneumococcus found. A diagnosis was then made of acute endocarditis of pneumococcic origin. Patient died. Post-mortem examination revealed a large heart, incompetent mitral valves, with vegetations along the aortic, mitral and tricuspid valves; acute endocarditis on both sides of the heart, associated with hypertrophy and dilatation; infarcts in both lungs, pleurisy in both lungs, and infarcts in the spleen. This was the fifth case of acute endocarditis of pneumococcic origin he had seen in the last three years. He believed the President (Dr. Preble) had collected three or four. A statement was made to him by a Philadelphia physician not long ago to the effect that

ie believed cases of acute endocarditis were more frequently due to the pneumococcus than to any other one germ; that the gonococcus came next, and then pus germs, etc He said he would not care to sustain such a tatement that the pneumococcus was the most frequent ause of endocarditis, or that the gonococcus was the econd cause.

Cincinnati Academy of Medicine.

At a regular meeting of the Academy, April 4, a paper was read by Dr. Alfred Friedlander on "Medical Inspection of Schools." He said in brief: It has been well said that his is the age of the child; the methods of teaching in the chools are becoming more individualized and suited to the hild's needs. It is recognized that impressions, both physical and mental, obtained by the child in school are often asting for good or for evil. The crowding of the children, he bad air and light, the unaccustomed quiet and restraint, together with cramped position and prolonged mental effort, are all sources of danger to each child.

We call this the age of Preventive Medicine, and we see more clearly day by day the importance of school life in the causation and propagation of disease; we should then try to raise the general bodily efficiency of each child by aiding its natural bodily and mental growth, we should protect it by the prompt temporary removal of those who are sources of danger to it by reason of contagious disease. It is well known that the time of greatest frequency for the acute exanthemata is the school year and the segregating of children in the schools doubtless has much to do with this.

The hygiene of schools to-day concerns itself with the construction of the buildings on the one hand, and the direct medical supervision of the school children on the other. It is the latter question which concerns us here.

In 1884 Germany started the closing of schools for certain epidemics, but the daily medical inspection of schools started in Philadelphia in 1889, but was discontinued because of parental objection. Dr. S. H. Durgin, Chairman of the Boston Board of Health, then started it in the Boston schools in 1894, and from March 1, 1894, to March 1, 1896, 6,571 cases of illness were found by the inspectors; 5,818 of these were sent home, many of them suffering from markedly infectious or contagious diseases. The detection of contagious diseases is by no means the only duty of the inspectors, but also the detection of eye disease, nasopharyngeal troubles associated so often with deafness, incipient tuberculosis, with its frequent precursor, in children, severe anæmia, nervous affections and incipient scoliosis; these should all be reported to the parents and treatment advised.

Long before the systematic inspection of schools was thought of, Cohen of Breslau made extensive observations on myopia in the German schools; in 5 village schools he found 1.4 per cent. of the pupils myopic, in 20 elementary city schools there was 6.7 per cent. found, in 2 advanced schools for girls 7.7 per cent., in 2 intermediate schools 10.3 per cent., in 2 technical schools 19.7 per cent., in 2 high schools 26.2 per cent., and in one university 59.5 per cent. The percentage was seen to increase with the increase of the length of school life and with the amount of study required. In Cleveland, in 1899-1900, 30,045 children were examined and 20.7 per cent. had defective vision; in Minneapolis, of 25,696 pupils examined 32 per cent. had imperfect eyes. A majority of these cases would only have been discovered by such a systematic examination, The school hygienist must then seek to relieve eyestrain as far as possible by the proper placing of desks and blackboards for light and by advising the parents to have the defects corrected. About 90 per cent. of cases of deafness originate in nasopharyngeal troubles which begin in childhood and are, to a large extent, preventable. Defective breathing and chronic inflammations of the upper air passages are also susceptible of treatment, and when untreated, expose the child to a greater extent to many contagious diseases.

The number of cases of contagious diseases discovered each year by inspectors is very large. In Chicago, in four months, 1,417 cases of diphtheria, 648 of measles, 1,160 of mumps and 306 of scarlet fever were found, and in New York last year, 510 cases of diphtheria, 45 of scarlet fever, 168 of measles, 673 of varicella and 201 of pertussis were found and excluded from the schools. In New York last year, 25,264 cases of contagious eye diseases and 156,886 cases of pediculosis were found.

In Chicago, New York, and Boston, where the inspectors are at work, the cases of contagious disease are diminishing each year because of their early detection and isolation. It is not the aim of school inspection to make the treatment of disease compulsory, except in the case of contagious disease, and also it will in no way interfere with the family physician. What prevents the general adoption of this system is expense, but this would be very slight; in Boston 49 inspectors received $9,790 for inspecting schools with an enrollment of 95,561 and in Chicago 50 inspectors received $13,000 for schools with 268,561 enrollment. Cincinnati, with a school enrollment of 44,458, should be able to provide 25 inspectors for at most $7,500 a year.

Dr. Boone, in his last report as Superintendent of Public Schools, says that speaking generally, the sanitary condition of the schools is improving, but that even some of the newer buildings are hygienically unsafe and unsatisfactorily heated and few have any ventilation except by natural gravity.

Dr. S. P. Kramer and Dr. Marcus inspected the schools some years ago and their report says that except for the newest buildings the sanitary conditions were exceedingly bad and that some of the buildings are a disgrace to the city. All these conditions cannot be corrected at once, but there is no reason why medical inspection should not be instituted, as it has been in some cities, notably Philadelphia and Milwaukee, which have a lower per capita expenditure than ours (Cincinnati spent in 1901-'02 $25 for each child, Philadelphia $22, Milwaukee $17, Baltimore $16, New York $39, Chicago $31, Boston $41, and Cleveland $38). In a question of this sort the community naturally looks to the medical profession for guidance and advice. As a body we have certainly been remiss in our duty; it is time to take action, collectively and individually, and to work earnestly and conscientiously for the establishment at once of an institution that has everything to recommend it and nothing except slight expense to prevent its adoption. Medical inspection is in vogue in nearly all the large and in many of the smaller cities of this and other countries. Why not in Cincinnati?

Tetany; Its Association with Chronic Affections of the Stomach.—John Bouchier Hayes reports two cases of tetany. The first patient was a woman aged forty years. Her illness began suddenly with vomiting. She was removed to the hospital and was doing fairly well when she took some grapes and soda water. She was seized almost immediately with spasms involving the whole upper and lower extremities. The arms and hands became particularly rigid. This occurred daily and the gastric irritation and vomiting continued unchecked. Exhaustion ended in death. The intense tetanic spasms simulated strychnine poisoning and a rigid opisthotonic condition of the body after death seemed to give the same evidence. Post-mortem analysis, however, showed no sign of poisoning. The second patient was a man thirty-five years old. For some time he had suffered from digestive disturbances when vomiting suddenly set in. Tetany supervened. He recovered from this attack, but about a year later he succumbed to a similar attack. The writer declares that any factor which exhausts or debilitates the constitution is very liable to induce an attack of tetany.—*The Dublin Journal of Medical Science.*

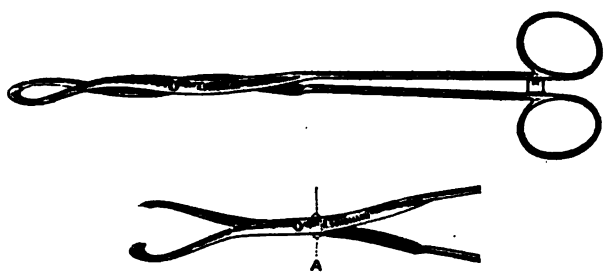
New Instruments.

NEW INSTRUMENT FOR GILLIAM'S SUSPENSION OF THE UTERUS.

By WM. M. GOODWIN, M.D.
NEWARK, N. J.

Dr. D. Tod Gilliam of Columbus, Ohio, has devised an operation for suspension of the uterus which has proven quite successful in his hands as well as in those of Dr. Edward J. Ill, and others. and owing to its simplicity and good results should become the leading operation for retro-displacements.

For the purpose of shortening the time of this operation, and even simplifying its technique, I have devised the instrument shown herewith. It renders the use of silk as a tractor unnecessary; it does not wound or strangle the ligament; it is so constructed that it does not enlarge the punctured wound in the abdominal wall when the forceps is opened to grasp the ligament; it enables one to hold the loop of ligament firmly



in any position necessary for its proper suturing. In cases in which the ligament, in its natural position, cannot be directly grasped by this instrument, the button forceps of Dr. Gilliam, as described in his book, will readily bring the ligament within its grasp.

This instrument was made for me by Reinhold Schumann, Newark, N. J., and is intended to puncture the muscle and peritoneum of the abdominal wall, as described by Dr. Gilliam, then to grasp the round ligament at the proper distance from the uterus, with or without the aid of the button forceps above mentioned, then to draw the ligament up through the punctured wound, when it may be sutured fast to the external fascia of the rectus.

64 Congress Street.

A Note on Primary Ether Anæsthesia for Short Operations—Pleasant, Safe, and Efficient.—Edward J. Brown advocates the use of primary anæsthesia in operations on the throat. He has recently employed this method in the case of 21 different patients, mostly young children. The ether was administered by the drop method with the ordinary chloroform mask, from 8 to 12 grams being used in from 1½ to 2 minutes, and in most cases following one or two applications of 20 per cent. cocaine. In a few of the later cases the cocaine was omitted without apparent disadvantage. The children have all taken the ether without objection, breathing deeply with the mouth open, and at the proper time allowing the instruments to be introduced without the necessity of a mouth-gag. Vomiting attributable to the ether has not occurred, nor has undue hemorrhage. The operations have nearly all been performed in the office. The writer recently made an internal Wilde's incision, in a case of acute mastoiditis in a four-year-old boy. He applied the "cocaine, carbolic acid, and menthol mixture," administered ether for 1½ minutes, and then freely incised the membrana tympani and the posterior-superior wall of the canal. The boy sat quietly and made no outcry, and later said that he had suffered no pain.—*Northwestern Lancet.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending May 28, 1904:

	Cases.	Deaths.
Measles	1107	32
Diphtheria and croup	376	40
Scarlet fever	312	22
Smallpox	1	...
Varicella	68	...
Tuberculosis	403	158
Typhoid fever	22	14
Cerebrospinal meningitis	...	80

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended May 28, 1904:

			Cases.	Deaths.
SMALLPOX—UNITED STATES.				
California, San Francisco	May	8–15	1	..
District of Columbia, Washington	May	15–21	6	..
Florida, Jacksonville	May	15–21	1	..
Georgia, Macon	May	15–21	4	..
Illinois, Danville	May	15–21	2	..
Kentucky, Covington	May	15–21	1	..
Louisiana, New Orleans	May	15–21	12	One imported.
Michigan, Detroit	May	15–21	1	..
Missouri, St. Louis	May	15–21	11	..
Nebraska, Omaha	May	15–21	3	1
New Hampshire, Manchester	May	15–21	4	..
Ohio, Toledo	May	15–21	1	..
Pennsylvania, Pittsburgh	May	18–24	3	..
South Carolina, Charleston	May	16–21	3	..
Wisconsin, Milwaukee	May	15–21	8	..
SMALLPOX—FOREIGN.				
Brazil, Rio de Janeiro	Apr.	11–24	133	63
Canada, Sydney	May	15–21	1	..
China, Hongkong	Mar.	26–Apr. 2	6	5
Shanghai	Mar.	25–Apr. 2	..	8
France, Marseilles	Apr.	1–30	..	5
Great Britain, Birmingham	May	8–14	1	..
Bristol	May	8–14	1	..
Edinburgh	May	1–7	5	..
Glasgow	May	7–13	25	1
Hull	May	1–7	1	..
Leeds	May	8–14	3	..
Liverpool	May	8–14	1	..
London	May	1–7	14	1
	May	8–14	26	..
New-Castle-on-Tyne	May	1–17	3	1
Nottingham	Apr.	24–30	4	..
	May	1–7	4	..
India, Bombay	Apr.	20–26	..	23
Karachi	Apr.	18–24	9	1
Italy, Catania	May	6–12	..	1
Palermo	May	1–7	2	..
Japan, Moji	Apr.	1–9		Present
Nagasaki	Apr.	1–9		Epidemic
Sasebo	Apr.	1–9		Present
Java, Batavia	Apr.	10–16	11	1
Mexico, Tampico	May	8–14	..	1
Torreon	May	8–14	5	5
Netherlands, Rotterdam	May	8–14	..	1
Russia, Moscow	Apr.	24–30	7	4
Odessa	Apr.	11–17	1	..
	Apr.	18–24	4	1
St. Petersburg	Apr.	24–30	15	4
	May	1–7	17	4
Warsaw	Apr.	10–16	..	27
	Apr.	17–23	..	26
Straits Settlement, Singapore	Mar.	26–Apr. 2	..	1
Turkey, Alexandretta	May	1–7		Epidemic
Beirut	Apr.	24–30		Present
Constantinople	May	2–8	..	6
SMALLPOX—INSULAR.				
Philippine Islands, Cebu	Mar.	1–31	1	1
Manila	Mar.	27–Apr. 2	1	..
YELLOW FEVER.				
Brazil, Rio de Janeiro	Apr.	11–24	..	7
Ecuador, Guayaquil	Apr.	24–May 4	..	5
Mexico, Coatzacoalcos	May	11–17	3	1
Merida	Apr.	24–30		Present
Vera Cruz	May	8–21	3	..
CHOLERA.				
India, Bombay	Apr.	20–26	..	1
Madras	Apr.	16–22	..	1
Persia, Kermancchah	To Apr.	11	..	20
PLAGUE—FOREIGN.				
Africa, Johannesburg	May	5	2	..
Port Elizabeth	Apr.	17–23	2	1
Australia, Brisbane	Apr.	8–16	2	..
Brazil, Nichtheroy	Apr.	15	1	1
Para	Apr.	24	Still present	
Rio de Janeiro	Apr.	11–24	..	5
Chile, Antofogasta	Apr.	19	9	..
China, Hongkong	Mar.	26–Apr. 2	..	3
Formosa	Mar.	31–Apr. 9	229	167
India, Bombay	Apr.	20–26	..	532
Madras	Apr.	16–22	..	1
Peru, Lima	Apr.	10–11	20	..
Straits Settlements, Singapore	Mar.	27–Apr. 2	..	1
PLAGUE—INSULAR.				
Philippine Islands, Cebu	Mar.	1–31	3	3
Manila	Mar.	25–Apr. 2	1	..

Medical Record

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Original Articles.

HE ASSOCIATION OF SURGICAL LESIONS IN THE UPPER ABDOMEN.*

BY WILLIAM J. MAYO, A.M., M.D.,
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ROCHESTER, MINN.

HE history of medical advance from the empirical eatment of symptoms to scientific expectancy, has en based on the study of death and modern re-arch work. The spirit has been fine, although mewhat pessimistic. The great advances have en along the line of preventive medicine and in e elucidation of problems connected with the eti-ogy of disease.

Surgical progress has been, to a certain extent, rough similar channels; the spirit, however, has en one of magnificent optimism. The great ivances in surgery have come from the clinical side, odern technique having enabled examination of imary conditions during life.

As a groundwork for the study of medicine the athologic laboratory and autopsy room offer unriv-led advantage, but they teach end results only. ho of us has not admired the precision with which trained observer makes a diagnosis? A few days ter one visits the autopsy room and here observes hat this almost clairvoyant analysis was correct. t the same time, we must also acknowledge that he patient has not profited; it means a hundred ages of pathology and two meager lines of treat-ent. How many times do we notice in the autopsy velations that the original lesion has been but ight, and at one stage easily curable, the pathology resent largely the result of secondary complications nd terminal infections?

The post mortem has been an institution for years, et what did we know about appendicitis until sur-ery led the way, or about gallstone disease, supposed o be an "innocent post-mortem finding," until oper-tion opened up the field? Did knowledge of extra-terine gestation come from the autopsy? By no eans. It was through the surgeon's knife, and hy? Because secondary conditions so often mask he original lesion at the post-mortem. On the con-rary, our understanding of acute conditions causing udden death has been brought about by dead-house nvestigations; for instance, fatal hemorrhage and perforation placed acute gastric ulcer on a sound oundation. Not so chronic gastric and duodenal lcers with late death from complications, cholan-eitis from gallstone disease, and chronic pancreatitis rom the same cause. These conditions could not be orrectly studied, excepting after death from acci-dental cause, and real progress lay dormant until surgery invaded the field.

From research work we have profited much; we are gaining rapidly by this means day by day, but we cannot compare the animal to the man, nor can we always artificially create similar conditions. Like the post mortem, it has its limitations, yet these two fundamental methods have enabled us to advance. Without them we would still be in the middle ages. Now the time has arrived, in the light of these investigations, to view conditions from a new standpoint at a time when the lesion is in its infancy, long before the post mortem, while the patient may be benefited and the research work applied to the elucidation of living problems.

The medical man must haunt the operating theater as he has haunted the autopsy room and the laboratory. The times have changed; we must have more treatment and less pathology. It is here that surgery wins its triumphs. We must not forget, however, that to physicians of pathologic training we owe the knowledge which enables us to approach the subject. Courvoisier was the real father of gallstone surgery. It was Balzer, Fitz, Opie, and others who cleared up the pathology of pancreatitis, and surgery followed their lead. It is in the union of the internist and surgeon that progress is most rapidly made, and in the readjustment of science the former will be the architect and the latter the master builder.

Once more the physician and surgeon will come together, and the mistakes of endeavor in new fields will receive timely correction at the hands of the pathologist and experimental worker.

The surgical borderland of to-day lies in the upper region of the abdomen, a locality until recently considered almost purely medical. What are the reasons for this invasion, and have the results justified the attempt?

Surgery must be judged on three grounds: First, the mortality of the operation itself and the question whether this is greater than under the expectant plan; second, the permanence of cure contrasted with medical treatment; third, the question of disability, either introduced by the operation itself or the natural length of time which the healing process involves. On each one of these considerations we must answer yes, and we can go still farther and say that earlier operation would reduce the mortality and increase the permanence of cure and lessen the disability.

Certain parts of the body are so closely related in their anatomy, function, and pathology as to be almost necessarily considered as part of the same system. The generative organs of women form so distinct a field of work as to have built up a specialty. Can we separate diseases of the kidney from the ureter, bladder, and urethra? By no means. Each may stand in an etiologic relationship to the others which cannot be ignored.

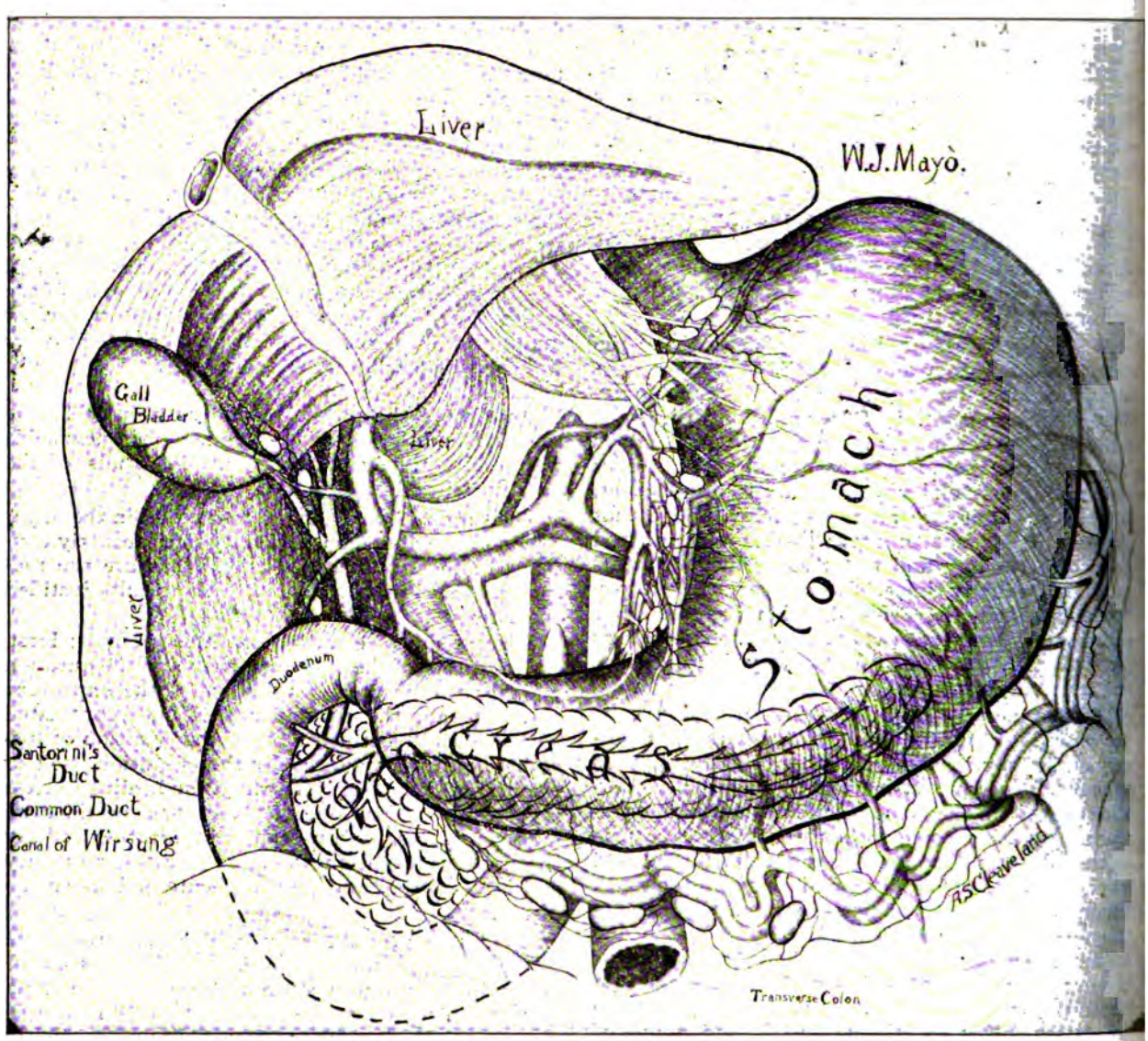
In the upper abdomen we have attempted to study the stomach independent of the associated organs, the liver and bile passages, the duodenum and pancreas. The result has been a confusion in diagnosis and treatment. The palm of a hand may cover a serious lesion of any one of these organs, and that, too, at the point of greatest liability; not only so, but any one of this group may start a pathologic process which may extend to any one of the others, and with fully as great frequency as occurs under similar

*Oration on Surgery at the fifty-fifth annual session of the American Medical Association, at Atlantic City, June 7 to 10, 1904. From advance proofs, through the courtesy of the *Journal of the American Medical Association.*

conditions in either the generative or urinary systems.

Note the disturbance of the stomach which occurs with gallstone disease; the adhesions to the duodenum and the pancreatitis, an association direct as it is vital. Again, let me call attention to chronic ulcer of the stomach with adhesions to the pancreas, secondary ulcer of the duodenum adherent to the bile passages or gall-bladder. These are not fanciful pictures, but drawn from everyday work. I have no hesitation in saying that with an operative experience of over 1,400 cases of this description, mistakes in exact diagnosis are still common, and in many instances unavoidable. The history may be the only valuable diagnostic resource when the patient comes to us, and we all know how unreliable that may be. Given a history of painful attacks which have been exact nature of which must be determined by incision." The patient does not come to us for the purpose of having a certain operation performed, but seeks relief from suffering and disability.

Let me call your attention for a few minutes to the anatomical diagram, showing the nearly vertical position of the stomach with the pylorus in the middle line of the body, and but little elevated above the lowest point of the gastric cavity. It is turned upward and to the right just enough to prevent the weight of the gastric contents bearing directly on the sphincter apparatus. The only portion of the duodenum in which we are interested is the four inches lying between the pylorus and the papilla of the common duct of the liver and pancreas. This may be called the vestibule of the small intestines. Its position subjects it internally to the perils of ulcer



very severe, but which have completely ceased, with tenderness on deep palpation in the epigastrium, and we may have disease of any one of these four organs, and not infrequently an association either direct or indirect of the pathologic process. If we clearly understand the possibilities of error, we are better prepared to meet complications or execute a change of front and operate on one organ when another procedure was planned. In the majority of cases a pathologic diagnosis is possible, and one can say with certainty, "This is gallstone disease," or "This is ulcer of the stomach"; but in a considerable minority a surgical diagnosis is the best that can be made. That is, we can say: "In this locality is a diseased process which requires operative treatment, the

from the acid gastric juices which its thin tunics but inadequately resist. Externally its function is often interfered with by adhesions to the gall-bladder and bile tract, secondary to gallstone disease. This unoffending bit of intestine is so often offended against as to cause it to become the most frequently diseased portion of bowel of the same length. The remaining eight inches of the duodenum is protected by the alkaline secretions of the pancreas and liver. Its fixed position and peculiar horseshoe shape, with its delivery point nearly as high as its origin, enable it to retard mechanically the ingested material during the mixing process for which its large caliber affords accommodation.

The anatomy of the bile tract is equally interest-

ıg, and especially the relations of the common ver duct to the pancreatic duct and the duodenum. here is continuity of mucous surface, each pro- ecting itself from the secretions of the others by the ıechanical washing effects of its own secretion, ıe joint discharge and a feeble sphincter apparatus reventing entrance of the duodenal contents.

The gall-bladder, as it furnished the initial lesion ı more than one-half of the diseases of this group, ; of great interest. Like the appendix, an obsolete rgan of storage function and limited outlet, it ives rise to a variety of troubles, which we are only f late beginning to appreciate. It is an old aphorism iat "Nature finds mischief for idle hands to do." he gall-bladder has a capacity of about an ounce, nd as we find almost universally in organs of torage function, the neck is raised slightly about he lowest point to prevent the weight of contents sting directly against the outlet. The little pouch us formed may be called the pelvis of the gall- ladder (Brewer). It is here that the obstructing tone is so frequently lodged in cystic impactions. Murphy observes that the fundus of all organs as but few lymphatics, while the region of the eck has an abundant supply; hence, even with ptic contents, there is but a mild reaction when he pelvis is obstructed, as compared with the artling temperature curves of duct stones.

The pancreas, composed of two originally separ- ed parts, has in nearly half of the specimens ich have been examined two patent ducts, that Wirsung, which is the important one, uniting the common liver duct. The minor duct of orini, however, has a possibility of useful func- in certain diseased processes, as pointed out Opie. The pancreas was originally an intra- oneal organ, becoming retroperitoneal by a evolution (Huntington), and in this anatomic liarity Brewer believes lies one of the reasons he diffusion of fat necrosis resulting from acute reatitis. Mikulicz has called attention to the that adhesions to the pancreas in gastric cancer e a mortality of 73 per cent. in his resection es. Robson also notes the pancreatic mischief asioned by perforating gastric ulcer on the terior wall.

The blood supply of this group of organs is almost irely from a single source in the celiac axis. It been experimentally developed that the sever- ce of all connections of the pancreas excepting blood supply, does not check secretion if food placed in the gastrointestinal tract. In the ve supply from the pneumogastrics and sym- thetic ganglion, we find the same direct relation- ip involved. If we study the function we see same association. The stomach can be com- red to a mill, the fundus the hopper, in which food is macerated in a weak solution of pepsin d hydrochloric acid, and the muscular pyloric ortion the grindstones in which the masses are oken up into a homogeneous whole. The entrance food into the duodenum causes the outflow of liary and pancreatic secretions, the absorption turning to the liver by way of the portal vein. This is so elementary that you wonder that I should fer to it, yet the causation of the common sur- ical lesions lies in perversion of these fundamental nctions, and is just as simple. Mechanical injury of the pyloric portion and excessive acidity of the astric secretions, under anæmic conditions, give se to ulcer and lie behind the precancerous lesions which Ochsner notes is found in the history of cancer of the stomach in the majority of cases. The acidity of the gastric secretions renders the contents of the stomach, when turned into the intestine, relatively sterile, but increases the liability of ulcer of the duodenum. The sterility of the upper intestinal tract is still further increased by intestinal absorption, as shown by Adami, the bacteria being picked up and destroyed in part by the glands. Many germs are, however, carried to the liver, and here either annihilated or screened out of the blood in the portal vein and discharged with the bile. We must look on the bile as always containing a few bacteria, and it is probably this attenuated infection of bile retained in the gall-bladder which gives rise to gallstone disease, which in turn is the chief factor in the production of duct inflammation of both the liver and pancreas.

These considerations, so briefly outlined, taken in conjunction with the embryologic origin, justify the grouping of *the surgical lesions of the upper digestive tract*, and at once enable the diagnostician to associate the symptoms and the surgeon to direct his attention, not to one, but to the entire group of organs. The burden of proof lies with the practitioner, not only to demonstrate that the disease rests in one organ, but to differentiate and show that no other is involved.

The art of the diagnostician lies in the proper valuation of the signs and symptoms of disease in organs of associated function and pathology. The instinct which seems to lead some men to a correct conclusion, and by a mental process they could not themselves analyze, usually depends on few things, the immaterial or inconclusive evidence being unconsciously discarded. For instance, note the value of the colic in the diagnosis of gallstones. The typical attack comes on and stops abruptly, is relieved by vomiting or a feeling of movement of gas, is irregular in time, in regard to food, and not accompanied by temperature or pulse elevation, and leaves the patient able to attend her duties almost immediately after cessation of pain. While the pain lasts, it is excruciating, felt in its greatest intensity in the epigastrium, radiating upward behind the sternum and into the back. The distress penetrates to the right side, but occasionally to the left, and lasts from a few minutes to six or eight hours. When the patient comes to the physician it may have been years since the typical attacks; he may have forgotten them, the present trouble complained of being pain, digestive disturbance, and tenderness on deep pressure over the gall-bladder region. The history of the early attack is worth more than the physical examination in many cases. Compare it with the pain in gastric or duodenal ulcer, which may be just as severe, but lasts a day or two longer, especially when due to regional peritonitis, and is accompanied by gastric symptoms and local tenderness. The patient diets, which means he reduces his food supply. The symptoms last more or less for some days or weeks, and the interval of apparent cure gives some weeks or months of comparative health.

Acute perforations of the organs of this group are relatively common and give rise to symptoms which would be at once recognized if they occurred in the region of the appendix, but, occurring in the upper abdomen, too often go to a fatal issue unoperated. The initial symptoms are remarkably alike, whether of the gall-bladder, the duodenum, stomach or acute perforation of the pancreas with fat necrosis. The onset is essentially the same in each. Sudden extreme epigastric pain, with collapse, ushers in the attack, and muscular rigidity, as a rule, comes on early. The diagnosis of perforation, if we are on our guard, is easy, although it may be difficult to say which organ is affected; but this does not make any difference. The vital consideration is that it

has happened, and immediate operation must be performed.

In 811 operations on the gall-bladder and bile tract we had 4 acute perforations of the gall-bladder, with but one recovery, although the average mortality in the benign series was but 4.47 per cent. In 45 operations for duodenal ulcer, 4 acute perforations occurred, with 2 recoveries, while in the 41 operations for subacute and chronic ulcer there was only one death. In 469 operations on the stomach, 5 perforations occurred, with 2 deaths. In 32 operations for diseases of the pancreas, there was only one operation for acute pancreatitis and fat necrosis, with recovery. This gives 14 cases of acute perforation, with a mortality of 50 per cent., and why? Because the operation was usually too late. The death rate in over 1,150 operations for subacute and chronic benign conditions of this group of organs averaged a little less than 5 per cent., counting as a death from operation any patient dying in the hospital without regard to cause or time elapsed between the operation and the fatal issue. If we add to this mortality of 50 per cent. in operations for acute perforation, the cases seen in a moribund condition beyond even attempt at relief, and the still larger number in which death occurs without an ante-mortem diagnosis, we get some idea of the appalling nature of the disaster. To be successful, operation must be immediate; the condition is as imperative as hemorrhage from an artery of the third class. Few recover operated on later than ten hours after perforation. The conditions simulating perforation in the upper abdomen, such as thrombosis of the mesenteric or splenic vessels, diaphragmatic and duodenal hernia with strangulation, and so forth, are rare, and likewise call for early operation.

As a rule, the history and location of the early acute pain will furnish evidence as to the origin of the trouble. Preceding perforation of the gall-bladder there are often symptoms of several days' duration with a history of gallstones. The acute pain occurs in the gall-bladder region. Early drainage with removal of the gall-bladder should give a mortality of not to exceed 10 per cent.

Duodenal perforation usually occurs in cases of chronic ulcer with years of symptoms preceding; but the immediate onset is exceedingly acute, and not ushered in by a few days or hours of prodromata, as is often the case with the gall-bladder. The location of the early pain is just to the right of the median line. The liquids gravitate at once to the appendical region and simulate perforated appendix. The rapid diffusion of escaping contents is fatal to delay. Operation for acute perforation of the duodenum is rarely successful after eight hours. Suture of the perforation with suprapubic pelvic drainage, and after-treatment in the sitting posture (exaggerated Fowler's) in early cases should give 80 per cent. or more of recoveries.

Gastric perforations occur on the anterior wall, according to Brunner, 7 times to 1 posterior, and near the cardiac end 5 times to 3 times in the pyloric portion, and near the lesser curvature 122 times to 16 times near the greater curvature. The initial pain is usually to the left of the median line, and early diffusion of fluids is to be expected. Only 10 per cent. occur without previous symptoms of chronic ulcer. The results of operation being in direct ratio to the amount of gastric contents, and the length of time which has elapsed, the treatment is similar to the duodenal ulcer.

The term perforation of the pancreas from inflammation with resulting fat necrosis is a purely pictorial expression, and not a pathologic entity in the sense the word is used in the preceding remarks, yet it conveys the idea and calls attention to the value of peritoneal drainage in its treatment, as shown by Woolsey. The symptoms are sudden pain in the epigastrium, collapse and early extreme distension of the abdomen. On opening the peritoneal cavity, free fluid, often of a hemorrhagic character, is evacuated. The little fatty masses in every direction and the enlarged pancreas call attention to the source of the trouble. This particular phase of acute pancreatitis cannot be separated from the hemorrhagic type in which treatment is as yet in an unsettled state. Those interested in this question will find a mine of information in the Hunterian lectures for 1904 by Mayo Robson.

The group of acute perforations gives an unsatisfactory mortality, with a prolonged period of disability from drainage, and without a certainty of permanent cure of previous underlying conditions. This will not long continue. Like acute gangrenous appendicitis, the condition will be recognized early with corresponding improvement in results.

The diagnosis of the chronic infective lesions of the organs of this group is in a far more satisfactory condition. The general mortality of gallstone operations is not above 5 per cent., taking the cases as they come, but even this is too high. Grouping the cases in which the entire process is limited to the gall-bladder, the mortality is from 1 to 2 per cent., and depends to a large extent on the general condition of the patient. Secondary complications, chiefly those which involve the hepatic and common ducts with resultant cholangeitis, pancreatitis, and so forth, are responsible for the death rate. As practically all of the patients have symptoms on which a diagnosis could be based previous to the complications, it will not be long before early operation in patients otherwise in good health will be the rule as it is now in chronic and relapsing appendicitis. Not only is the mortality thereby reduced but the disability is likewise lessened. The average stay in the hospital for uncomplicated gallstone patients is slightly less than seventeen days; the convalescence of the complicated duct cases is prolonged one or two weeks.

Chronic infections of the pancreas are usually secondary to gallstone disease, and, as a rule, do not occur excepting where the common duct has been directly irritated by the presence of calculi, although the consequences may continue for some time after the passage of the offending body. The results of drainage of the gall-blader and bile ducts are extremely satisfactory. In our series of thirty-two cases there were but two deaths; these patients had coincident suppurative cholangeitis.

Chronic infective lesions of the stomach with ulcer as a type are becoming better understood every day, as surgical operation discloses the actual conditions present. The primary mortality of operations for their relief are in a fairly satisfactory condition, but as to ultimate results we cannot say definitely. For the obstructive complications the result of ulcer, there can be no question as to the relief afforded and at a nominal risk. The dilated stomach with retention or stagnation of food suggests at once drainage operations with gastrojejunostomy as the type. We have patients of this description alive and well more than twelve years after operation.

Chronic ulcer without mechanical obstruction gives a less promising outlook. The very fact that there is normal gastric motility indicates that gastroenterostomy or other drainage operation is less necessary. Our results in operations for this description of lesion have not been wholly satisfactory, and

furnish a considerable percentage of secondary operations and failures to relieve.

Cannon's experiments have shown the same results. A gastroenterostomy on a normal stomach of an animal does not drain the gastric cavity, even if placed at the lowest point. The gravity advantage of the gastroenterostomy is overcome by intra-abdominal tension, and the food, by muscular action, is carried out the pylorus rather than the artificial opening. The magnificent showing of gastroenterostomy in obstruction has led to the indiscriminate performance of the operation in those cases of ulcer in which gastric drainage is normal. This particular phase of the subject must be further investigated.

Chronic ulcer of the duodenum is relatively more common in the upper two inches than in any corresponding portion of the stomach. It is especially liable to perforate, although its sheltered situation usually leads to adhesive protection. Many pyloric ulcers will be found to have their origin on the duodenal side. Gastroenterostomy is the operation of choice, as it diverts the irritating gastric juices and food products from the sensitive surface, thus promoting rapid healing. We have performed gastrojejunostomy 286 times for all purposes, with a mortality of 5½ per cent. in the benign series. The recent improvements in the technique of gastroenterostomy has greatly reduced the mortality and largely eliminated the causes of failure to mechanically relieve the conditions. Moynihan well says that "the surgeon may not unreasonably expect that from being a last resource gastroenterostomy may be considered as a method of treatment worthy of consideration in a much earlier stage of chronic ulcer of the stomach." Excision of gastric and duodenal ulcers would seem to be a wise procedure, but is open to certain strong objections. In 20 per cent. of cases more than one ulcer is present, and one or more may be undetected or lie in an inaccessible situation. It leaves the ulcer tendency unrelieved, and more ulcers may form. Rodman has suggested the removal of the pyloric or ulcer-bearing portion of the stomach with complete closure of both duodenal and stomach ends and independent gastrojejunostomy. We have followed this plan in five cases of inveterate ulcer relapsing after gastroenterostomy, with good results. The gastroduodenostomy of Finney is a most excellent operation, and we would predict a wider field of usefulness than it has enjoyed. We have performed this operation forty-six times, with one death, and no relapse. The theoretical objection is that in open ulcer the food must pass the ulcerated area before reaching the widened pylorus, and obstruction has no part in the production of ulcer, as is shown by the development of duodenal ulcers. Pyloroplasty must be discarded. While we had no death in twenty operations, we had seven relapses.

In briefly calling attention to the malignant diseases of this group of organs, the writer would emphasize the possibilities of cure by means of operation. In the gall-bladder we found 4 per cent. of cases at the operating table had malignant disease, and all of these cases had gallstones present or evidence that they had been present at one time.

Since it has become the practice to remove all thickwalled gall-bladders as useless and a possible source of future trouble, many cases of malignant disease in an early stage have been in this way, as one might say, accidentally cured. We have met with several such instances.

Cancer of the stomach is the most common type of malignant disease in the human body, constituting one-fourth to one-third of the total number. The radical treatment of gastric carcinoma is now on assured ground, with a mortality of 10 per cent., or less in favorable cases, to 20 per cent. in late but still operable disease. The only necessary thing for success is an early diagnosis, and this must be on clinical grounds, supplemented by early exploratory incision. In forty-six gastric resections for pyloric cancer we had seven deaths.

The profession may well look on the surgical achievements in this new field of work with pardonable pride. That there are many shortcomings must be admitted, but in the history of surgery there has never been a territory opened up with equal rapidity, nor one in which the physician and surgeon have worked together in such harmony for the common good. The statistics on which this paper is based represent the operative experience of Dr. Charles H. Mayo and myself.

PROGNOSIS; ITS THEORY AND PRACTICE.*

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THE topic I have ventured to bring before you is "Prognosis; Its Theory and Practice." As a text, let me quote from the oldest work we have on this subject,[1] which, though old, still has the freshness and modernism that genius gives to human productions:

"It appears to me, said the Father of Medicine, a most excellent thing for the physician to cultivate prognosis; for by foreseeing and foretelling, in the presence of the sick, the present, the past and the future, and explaining the omissions which patients have been guilty of, he will be the more readily believed to be acquainted with the circumstances of the sick; so that men will have confidence to entrust themselves to such a physician. And he will manage the cure best who has foreseen what is to happen from the present state of matters. For it is impossible to make all the sick well. This indeed would have been better than to be able to foretell what is going to happen; but since men die, some even before calling the physician, from the violence of the disease, and some die immediately after calling him, having lived perhaps only one day or a little longer, and before the physician could bring his art to counteract the disease; it therefore becomes necessary to know the nature of such affections, how far they are above the powers of the constitution. Thus a man will be the more esteemed to be a good physician, for he will be the better able to treat those aright who can be saved, from having long anticipated everything, and by seeing and announcing beforehand those who will live and those who will die, he will thus escape censure."

In this Hippocrates describes the essential importance of prognosis to the patient and the physician in relation to treatment. Besides this, prognosis is often important to relatives and dependents, not merely for reasons of sentiment, but in order to protect property and prevent unhappiness and destitution that would be as painful for the patient to contemplate as for the others to suffer. There is another aspect not present in the time of Hippocrates —giving the patient an opportunity to prepare himself for the anticipated life beyond the grave. In many cases, too, prognosis may have important bearings on political parties or for the commonwealth.

The patient very often ignores these needs. If he asks for anything, it is usually either the name of the

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disease or that of the medicine the physician intends to use. He really understands as little of the significance of the name as he does of the action of the drug, and is often more quickly satisfied in proportion as both answers are occult.[2] What really should interest him is, as clearly as his mental development permits, some idea of the changes in his body, anatomic and functional, their present seriousness, the chances of death, or of complete or partial recovery, with, in the latter case, the probability of temporary or permanent disability, near or remote, in some organs or functions.

Within the last century prognosis has lost some of its relative importance. Unlike etiology, diagnosis, prophylaxis, and treatment, it has no special literature, and is only occasionally the subject of addresses or essays. But much of the so-called prognosis of the earlier periods was really diagnosis, as in Hippocrates' vivid description of empyema and his remarks in regard to other diseases of the respiratory organs. It also seems a mistake to assume that practical prognosis was more accurate at any period than in later ages of equal enlightment. While we may admit that great masters like Hippocrates himself, Galen, Sydenham, and Boerhaave, were remarkably accurate in their prognostications, there is no reason for thinking that the rank and file, following their rules without having their keenness of observation and precision of reasoning, were more accurate, or as accurate as physicians of a later period when the formal study of prognosis was neglected, but when other means of knowledge were greater than before. We must bear in mind a fundamental difference in methods. The older prognosis was based on the observation of symptoms alone, and consciously or unconsciously took the standpoint of humoral pathology or some equally imperfect theory. One charge against ancient prognosis is not as serious as some have thought, viz., that the prognosis was made without a definite diagnosis. Even now we sometimes have to be satisfied with a very imperfect diagnosis, and yet may make a very good prognosis, at least for the immediate future. But the older prognosis was almost wholly lacking in anatomic, and totally without chemical basis. Realizing how far short of accuracy the diagnosis must have been in many cases, we can understand that prognosis must have failed almost as often. Moreover, in early medicine, most attention was paid to acute diseases, or the acute terminations of chronic diseases, so that the many important chronic diseases that now make so much of medical practice were comparatively neglected.

Whatever shortcomings medicine may have—and those who cultivate the subject most thoroughly feel the needs most deeply—it must be admitted that diagnosis is much more certain than ever before. Not only are we able to distinguish more quickly and more accurately many diseases long known, such as some of the acute fevers, malarial disease, tuberculosis, diphtheria, and pneumonia; but we have learned the existence and the means of detecting many diseases formerly confused with others. As examples, let me name only a few, such as the diseases originating in the vermiform appendix and the gall-bladder, diseases of the pancreas, many diseases of the blood, a large number of diseases of the nervous system and of the ductless glands, and many diseases caused by animal parasites, of which the sleeping sickness is the most striking example at present.

The older prognosis, far from being negligible, is really of fundamental importance. It gives the accumulated experience of ages that, untrammeled by detail, carefully noted broad and elementary features of disease. As gathered together in the aphorisms and prognostics of Hippocrates, and in the numerous commentaries on them—not always improving the original—it furnishes a fund of inestimable value, but like everything else in medical art, this knowledge is less useful when applied mechanically than when worked over in the crucible of personal experience, tested by other methods and transposed into current formulæ.

Older prognosis was possible to collect into fairly circumscribed space, but this is no longer true.[3] In proportion as diagnosis has become subdivided, specialized and enlarged, and as knowledge or morbid processes has become more complex, so prognosis has become more intricate. Older prognosis was based on broad symptomatic lines, qualified in practice, we may be sure, by a consideration of the patient's constitution. The present basis is diagnosis, but of a different kind. It means not merely a recognition of the name of the disease, but a knowledge of the nature of the disease, still incomplete, but rapidly gaining in fulness and accuracy. In many cases we know the causes, and a good deal of the nature of the causes; in many more we know the seats of the disease, and the anatomic, chemical, and functional changes that result directly and indirectly. It is by the study of the altered functions that we can make a prognosis and plan useful treatment without knowing the name of the disease. Clinical and anatomic investigations have been aided by experiments and observations on lower animals, without which our knowledge would have been much less certain than it is. Scores of technical methods have been devised for reactions and explorations; natural forces previously unknown, such as the *x*-rays, have quickly been pressed into service. Long and painstaking observations have thrown much light on complications and sequels, their nature and detection. From all these things the prognosis proceeds naturally in most cases, but here again an indispensable part is a just recognition of the patient's constitution. It is probably true that in this connection we unduly neglect some prognostic aids furnished by the patient, such as changes of the physiognomy. But, on the other hand, we have much more accurate methods of ascertaining the constitutional factor than were formerly available. Constitution is still a somewhat vague term, but we can speak of it here as the result of the functions of all the organs. While the method of representing these functions is still inadequate, we can safely assert that we have much more accurate means of determining the condition of the heart, arteries and veins, and the force of the circulation than we had before; we have gone considerably beyond the recognition of the apoplectic habit in foretelling the danger of vascular disease. We can usually estimate fairly well the efficiency of the blood-forming organs; we can determine with reasonable accuracy the capacity for work of the stomach and intestines, as well as a few details of nutrition and metabolism; we are rapidly getting beyond the limitations of Falstaff's water doctor in fixing the anatomic and functional ability of the kidneys, and we are working toward methods of testing the functions of the liver, muscles, and nerves. When we have all these factors thoroughly investigated it is probable there will be little need of the *vis medicatrix naturæ*, now an essential part of prognosis.

In the conclusion resulting from these things there is no room for a supposititious clairvoyance, an intangible gift of prophecy, a hypothetic intuition that trained intelligence cannot equal or industry surpass. We have a positive foreknowledge, a prescience, a prognosis, corresponding in accuracy and usefulness to our diagnosis, and often in advance of our treatment.

In the foregoing I have spoken of the theory. In

the practical use of prognosis the first to profit by that function is the physician. With an accurate prognosis, based on exact and thorough examinations, knowledge of the natural course of the disease and of the patient, the physician foresees the course of the malady and is prepared for changes, emergencies, and complications. He is thus enabled not only to preserve his imperturbability, so essential in carrying out necessary measures of treatment, but he can also prepare the patient to meet coming events in better physical and mental condition than otherwise, and, what is often of even greater importance, the self-confidence thus shown stimulates the efforts and the compliance of others concerned in the case.

It is not easy to say how much the patient should share this foreknowledge, and how it should be conveyed to him. In many cases the patient does not ask an opinion, and in many others, either because the present disease seems too slight or for other reasons, the physician does not proffer one. Yet it is good mental discipline to work out the prognosis in every case, as a complement to the diagnosis, and in many the results should be stated to the patient. Many things may conspire to make such statements act either favorably or unfavorably on the patient as on the physician.

Physicians, like other people, can often be classified as either optimists or pessimists. Not that these tendencies affect all parts of the individual's activities. One may be a perfect Pangloss in sociologic, political or climatic matters, and yet take a gloomy view of all his patients. (I am not speaking of those who, rarer in the profession than in some of its parasitic growths, habitually exaggerate the danger of their cases, making every angina a diphtheria, every erythema an erysipelas, and every bronchitis a threatened pneumonia). Another who is perpetually cast down by the failure of democratic government or the need of a stronger one, the immorality of the rich and the rule of the bosses, may meet every case with hope and cheer.

But the practice of prognosis should be cultivated as objectively as any other part of medicine. Not only the therapeutic indications suggested by it, but also the human ones, should be carried out without fear or timidity, without unnecessary harshness, but also without the false benevolence that often does more harm than brutal frankness or ignorance. Here, as in other departments of medicine, the welfare of the patient must be the touchstone by which the action proposed should be proved.

No disease should be looked on as insignificant. Nothing seems less becoming than to hear medical men speaking lightly of disease in general, or of any disease in particular. It is no consolation to the mother whose child has died of one of the rare complications of chicken-pox to find that many physicians think that too trivial to concern themselves with it. Nor does it increase confidence in the profession to have hysteria and neurasthenia considered imaginary and ridiculous evidences of perversity, while the impatience, not to say lack of scientific interest, sometimes shown toward other less well-defined neuroses, undoubtedly has some relation with the crowded ranks of followers of isms of all kinds.

In acute diseases the best general rule is still that of Hippocrates (Prognostics; 19, sect. II): "In acute disease it is not quite safe to prognosticate either death or recovery." A case of this kind, however, should not be considered likely to die unless from a complication, or from the effect of a pre-existing disease, though in certain diseases, such as scarlet fever and diphtheria, the danger of a sudden change and of death should be made known in the beginning. Of course, in cholera and plague, and even in cholera infantum, such information is rarely necessary. In some other acute diseases the study of prognosis prepares the physician not to be unduly elated by the remissions that are so reassuring to relatives. The temporary amelioration in meningitis and peritonitis, in which the patient seems almost free from symptoms, may be mentioned. Less disappointing, but still ominous, is the occasional lull in bronchopneumonia. But in the cases I have just mentioned it is rarely advisable to bring the unfavorable probabilities too strongly before the patient. In these we often need the effects of reassurance and of hope. For the latter, as we see it in medical practice, is not merely the "kind nurse of old age—hope—which," as Pindar says, "more than aught else steers the capricious will of mortal man," in acute cases especially it is distinctly stimulating to physical and mental processes. Sir Dyce Duckworth,[4] speaking from a ripe experience, recently gave an address on "Hopefulness in Medicine," in which he emphasized this fact, and Niemeyer, equally successful in his career, at his medical promotion defended among others the thesis *medicus semper hilaris*. On the other hand, it is a serious error not to point out, after recovery from certain acute diseases, the possibility of sequels, sometimes months or years afterward, and the advantage of examinations at intervals for the purpose of detecting them before they become inveterate. The thorough examination of the urine at intervals after scarlet fever, of the lungs, after pleurisy and all bronchitic diseases, of the heart and arteries after many infectious diseases, often has great practical value.

In chronic diseases there are few exceptions to the rule that the patient should be told the nature of his case as fully as possible. At least, in patients who can be made to understand, and who have a possibility of recovery, of definite improvement or of long duration, there are only individual exceptions. Patients with tuberculosis, heart disease, kidney disease, and disease of the alimentary tract cannot get the best possible results unless they understand why and how they should do certain things and why they should avoid others. Tact and patience and a knowledge of human nature are essential in this. The statements made should be as simple as possible, as brief as definiteness permits, without pathologic explanations. Better no statement than an unconsidered or an unintelligible one.

In talks of this kind we too often forget how different are the ideas of non-medical persons, even those who have studied physiology in the public schools, from our own, regarding the body, its functions and diseases. I am always interested in seeing how soon medical students lose the lay point of view, just as one forgets an unused foreign language, and how sometimes they never recover it. Yet unless they do, they lack valuable means of giving aid. Darwin has noticed how everyone who studies profoundly a subject often becomes unaware on what points the ignorant require information. Carlyle, as John Beattie Crozier tells us, imagined his stomach as some old teakettle, thickly encrusted with fur, and I have seen an otherwise intelligent man on the point of using strong sulphuric acid for a cough, because he found by experiment that oil of vitriol dissolved sputum more quickly than any other reagent he had tried. Nor is it enough to make the explanation. We must ascertain whether the statements are understood, and, if possible, whether they are accepted. How often, even with an intelligent individual, after we have stated the exist-

ence of a small tuberculous focus, and described the results of rational treatment, we find the patient shutting himself in a dark and close room, taking "lung cures," cough syrups and more or less medicated cod-liver oil, and how often, after demonstrating the sufficiency of dietetic treatment in a digestive disease, we find the patient taking bitters, digestive ferments, usually well neutralized by alcohol, antiseptics, and other drugs less easy to classify. So time and patience must be devoted to this part of the work, and we should never be discouraged by failure. I am convinced that there is an improvement in the possibility of carrying out rational treatment, notwithstanding the insidious propaganda of useless or dangerous methods in and out of medical journals.

It is much easier to advise in cases that have a strong tendency to recovery than in those that have not, and there is room for difference of opinion and of practice in the latter, because the conditions vary with patients according to individuality and accidental factors. A number of aspects present themselves for consideration. In the first place, there is often an element of diagnostic or prognostic uncertainty, when the prospects are better than they seem. Sir Dyce Duckworth[5] has formulated universal experience in pointing out the advantages of the "cautious 'if,'" and if the alternative accepted is the hopeful one, much good can be accomplished in many cases. An interesting example is given by Kussmaul in his fascinating "Jugenderinnerungen." Having made a reputation as a zealous dissector, and having won over his confiding peasants to the many advantages of post-mortem examinations, he was asked by the father of a girl with advanced tuberculosis of the peritoneum to arrange for an autopsy on the daughter, when she died. Although Kussmaul, too, thought the daughter was lost, he retorted that he could not speak of an autopsy until the patient was dead. Notwithstanding many obstacles, the girl recovered. The tendency to take the less hopeful alternative is still shown in some cases of tuberculous disease in stages not far advanced, though it is not so common, fortunately, as it was not many years ago, to see such patients given over either to a life of dissipation or of abject despair. The prognosis of valvular disease of the heart is also in a much more optimistic vein than it was fifty or even twenty-five years ago. However, in many cases the prognosis needs to be tested by a therapeutic "if" that is not as well recognized as it deserves. The physical conditions may seem hopeless, and yet if the action of the heart can be improved the case may assume a very different aspect. The advantages of trying were well illustrated by a case in which a woman with aortic and mitral insufficiency and moderately severe loss of compensation was given up as beyond treatment by her family physician. Not knowing this I told the relatives the impossibility of complete recovery, the danger of sudden death or more probably rapid failure at any time, but also the possibility of improvement and a fairly comfortable life for some time, all the more worth trying to realize, because the condition was not complicated by medicinal action, and the other important organs showed no serious alteration. The family physician then wrote me admitting that he had stated improvement was out of the question, and treatment not worth trying, although under subsequent treatment the patient lived two years and nine months.

In cases hopeless in a more certain degree than such as I have just mentioned, it too often happens that treatment is abandoned too early in the case. Patients with cancer of the stomach or other inoperable tumors, cirrhosis of the liver, and many other diseases are permitted to drag out their existence without relief. There are several reasons for this. Sometimes families, having been told the truth about such a patient, refuse all further medical aid, even when the conscientious physician who gives the information points out what can still be done.

Many physicians voluntarily discontinue attendance when they realize that the end is inevitable, with the feeling, doubtless, expressed by Sir William Temple. The latter said that "an honest physician is excused for leaving his patient when he finds the disease growing desperate, and can, by his attendance, expect only to receive his fees, without any hopes or appearance of deserving them." This, however, ignores the fact that in such cases the accomplished physician can often do more real good to the patient than in many cases that recover, while the opportunities for obviating despair, alleviating pain and soothing mental anguish, and for exhibiting thoughtfulness, gentleness, persistence, and a variety of resources, are more valuable to the physician than any fee. Even in acute cases it sometimes happens that the physician is either discharged or withdraws because the indications seem hopeless, and I have known of patients with pneumonia living for one or two days in this way, the family waiting for the end of a life that with greater effort might have been saved. Sir Francis Bacon described this tendency as one of the deficiencies of medicine, "so that Sylla and the triumvirs never proscribed so many men to die as physicians do." For, as he continued, "the office of a physician is not only to restore health, but to mitigate pain, and not only when such mitigation may conduce to recovery, but when it may serve to make a fair and easy passage."

Improvement in methods of treatment have an important relation to prognosis, in that many diseases considered hopeless at one stage of knowledge, may in another offer many chances for recovery or alleviation. In this connection a critical knowledge of current medical literature is necessary, and a realization of the value of medical evidence. Few things can be more disastrous to the physician's mental development—never completed—than constant change of therapeutic method, but there are differences. One need not try every drug proposed for the treatment of typhoid fever or pneumonia, nor every new antipyretic or hypnotic. But the physician who does not inform himself quickly of the value of surgical treatment in various disease as it is developed, in pelvic diseases, brain diseases, diseases of the appendix, biliary tract, stomach, and pancreas, comes very near deserving the reputation of an unscrupulous practitioner. In these departments, too, mistakes are made and exaggerations are inevitable concomitants of progress, but the gain is often distinct and unmistakable, and often changes the prognosis from one extreme to the other.

It may seem that I have taken a too purely medical view of the practice of prognosis. Can we always act from the standpoint of simple diagnosis and prognosis, or must we not at times take into consideration the weakness, fears, and prejudices of people? In trying to get the best light on this subject, I have for many years noticed the opinions of patients and their relatives, as well as of non-medical writers, and it is instructive to learn how those who are not physicians approach the subject. Many physicians have been influenced by the views of Percival, from whose interesting work on Medica.

Ethics some of the best parts of the old Code of the Association were taken. Percival said:[8]

"A physician should not be forward to make gloomy prognostications, because they savor of empiricism, by magnifying the importance of his services in the treatment or cure of the disease. But he should not fail, on proper occasions, to give to the friends of the patient timely warning of danger, when it really occurs, and even to the patient himself, if absolutely necessary. This office, however, is so peculiarly alarming, when executed by him, that it ought to be declined whenever it can be assigned to any other person of sufficient judgment and delicacy, for the physician should be the hope and comfort to the sick; that by such cordials to the drooping spirit he may smooth the bed of death, revive expiring life and counteract the depressing influence of those maladies which rob the philosopher of fortitude and the Christian of consolation."

In general, this furnishes a useful guide to conduct, but nevertheless requires some examination. Part of it reminds one of the maxim of John Halle, who, as far back as 1596, wrote:

> Wi h one consent uniformlye
> Comfort the wounded man,
> But unto some good friend of hys
> Express all that you can.

In the first place, the truth is not always so alarming to the patient, painful as it often is to the physician. In fact, it seems to me this is one part of our duties that does not become less trying with increasing experience. To the sick man, whose thoughts have been turned toward the end longer than others suspect, intimation of a fatal end often brings no shock, but rather relief from the ending of a painful uncertainty. According to the rules of the Roman Catholic Church, a timely announcement should always be given, and those who have witnessed the last days of members of this faith can confirm the statement that good often follows, speaking merely from the medical standpoint, and rarely harm, while the same thing is true of many of other faiths or of no faith. Even where we have to give a fatal prognosis there are certain mollifying influences that can be introduced, aside from those that spring from a tender heart. A hope can be expressed based on the fallibility of human knowledge in general and medical knowledge in particular.

The rule in regard to giving the patient a good prognosis and the relatives a bad one, can often be followed, but it is a very fallacious one on the whole. It is often more necessary to keep up the spirits of the relatives, especially those who have to nurse, than those of the patient, so that sometimes the rule can be reversed with advantage. Darwin[9] cites some interesting and instructive examples of this kind, from his father's practice, and Billroth[8] has expressed himself with much feeling in one of his letters. Moreover, the relatives informed, either from a feeling of compassion or otherwise, may not bring the patient to act on the information, and I have known of serious financial loss befalling a family because the relative entrusted with the task of breaking the news to the patient did not do this. Another risk is that the relatives may divulge the fatal prognosis in such a way as to put the physician in the light of a heartless deceiver, and thereby cause the patient to lose all confidence in him. On the whole, in cases in which the patient should know the truth the physician is often the best one to state it, and he should see that this is done before it is too late.

Exceptions to the rule of candor may occur in the case of children, in women with no spiritual obligations or business responsibility, or in exceptional cases of men. No general rule can be laid down, but that such exceptions occur can be confirmed probably by every physician. A striking example of this is quoted by Darwin.[9]

Of course, this part of the subject is closely related to the theory of ethics, and many writers on this subject have touched directly on the question of medical veracity with, as one might anticipate, diametric differences of opinion. Some moralists of the strict school of Kant and Fichte insist that any deviation from the absolute truth is wrong in medicine, as they assert that it would be wrong even for the purpose of saving the whole race. Others believe with Paulssen, who says: "There is not a physician in the world who does not give deceptive answers to his patients, who does not excite hopes that he does not share. He does not blame himself, nor do others, for everyone does the same." Johnson, "the stern old moralist," in his remarks on the subject, laid open a serious flaw in his own logic: "You have no business with consequences, you are to tell the truth." But surely the physician's chief interest is with the consequences, and if he thinks the patient can gain only by misrepresentation, it is just as proper for him to use it as it would be to give a medicine that in other cases might be quite improper. But the physician in such a dilemma would do well to bear in mind the next sentence in Johnson's *ipse dixit:* "You are not sure what effect your telling him that he is in danger may have. It may bring his distemper to a crisis, and that may cure him." Jonathan Dymond, as strict as any one in his morality, threw a gleam of stern humor into the discussion: "Persons frequently employ falsehoods to the sick man who cannot recover, lest it should discompose his mind. This is called kindness, though an earnest preparation for death may be at stake on their speaking the truth. There is a peculiar inconsistence sometimes exhibited on such occasions. The persons who will not discompose a sick man for his interest in futurity, will discompose him without scruple if he has not made his will."

This part of the discussion might be indefinitely prolonged, but I think we can never get far away from the principle I intimated in the beginning—that in practical prognosis we must individualize, just as we have to in therapeutics, with the patient's welfare ever the object of our activity.

Accidents that follow an unfavorable prognosis occasionally suggest a revision of methods. I have already alluded to the error formerly not uncommon in the treatment of tuberculous patients. More acute results sometimes follow a fatal prognosis, as in two of my patients who resorted to suicide. One was a man with far-advanced carcinoma of the stomach, to whom I recommended palliative treatment and advised against a useless effort at radical treatment. The patient left for his home, but threw himself from a fast train and was killed. In another patient, a man with a large kidney tumor, apparently with many adhesions, my surgical colleague and I advised against an operation. The patient went to another hospital, and apparently received similar advice, for he shot himself through the tumor, and died in a short time. From a broad biologic standpoint it does not, of course, make any difference whether an individual organism dies as either one of these, or as it would if left to its fate. But no matter how one may feel on the subject of suicide, I have always thought these men less fortunate than another patient with carcinoma of the stomach, also far advanced. To him, in advising against an operation, I added that if he could find a good surgeon who was willing to operate, he might submit. He underwent the

operation at the hands of one of the most distinguished surgeons in the country, and died on the table. In such a case the result is often unfortunate, because it prevents operations on other and more promising cases, but for the man himself, fighting to the last, it seems to me one can have only respect.

This brings up a question on which a few words may be proper—the question of euthanasia. Every few months some one—usually not a physician—proposes that people with incurable diseases should be killed by some painless method. The plan offers so many opportunities for crime that it would be difficult to carry out, but aside from that it involves important principles. The difficulty of telling when the proper time had come would often be insuperable. Aside from examples of fortitude and other virtues exhibited by the dying, how much the world would have lost if a chronic invalid like Stevenson had the cord of his life snapped at one of the times when the *aes triplex* of his soul seemed battered through! To take a less selfish view, we can think of the "pictures of human patience, the visions of ripened character, which have been revelations and inspirations to generations of mankind" (Phillips Brooks), and see these repeated daily in sick rooms of all degrees, while the self-sacrifice and kindness developed in others at such times cannot but be of untold benefit to the race. To most physicians the suggestion of any planned shortening of life must be abhorrent. For countless generations they have been doing their utmost to lengthen life and lessen disease. They have shown how to prevent the plagues that formerly made life almost as bad as a perpetual illness for the survivors, and they have also shown how many deaths can still be prevented. On the other hand, they can, in most cases, so treat the dying man that the bitter anguish often associated with death is absent, that life is not only less painful but actually longer, so that they will continue to follow the rule of the Father of Medicine, and "give no deadly medicine to any one, even if asked, nor suggest any such counsel."

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1. "The Book of Prognostics;" the genuine works of Hippocrates, Adams' translation, Vol. I.

2. Striking examples of the virtue of mysterious names are conspicuous in the practice of the popular sect of osteopaths. I could give many examples of the license with medical terms among these people, but as the evidence is derived wholly from patients I cite only one that can be vouched for by medical eye-witnesses. A hospital patient with typhoid fever, with the neck pain not infrequently felt in that disease, requested that his osteopathic physician be allowed to treat him. I was not unwilling, especially as the osteopath gave assurances that he would not attempt to treat the typhoid fever. Two internes "assisted" at the treatment. The osteopath, one of the *sang azul* of his class, after feeling the neck, announced that the transverse processes of three cervical vertebræ were displaced on one side. After some manipulation he pronounced the displacement relieved, though I was sorry to see that the pain was not much less than before.

3. I have not attempted to include prognostic details, but would refer those interested to "Observations on Prognosis," by P. H. Pye Smith, Guy's Hospital Reports, Vol. xliv 1887, as one of the most comprehensive and suggestive articles in modern literature.

4. Duckworth, Sir Dyce: "Opening of University of Liverpool Medical School," *British Medical Journal*, October 3, 1903.

5. Duckworth, Sir Dyce: "Address on Medicine," *British Medical Journal*, 1896, Vol ii, p. 251.

6. "Medical Ethics; or a Code of Institutes and Precepts," adapted to the professional conduct of physicians and surgeons, with an appendix containing a discourse on hospital duties; also notes and illustrations, by Thomas Percival, M.D., Manchester, 1803. p. 31.

7. "The Life and Letters of Charles Darwin," edited by his son, Francis Darwin, New York, 1887, Vol. I. "Called to see a patient who had been given up to die by the family physician, Dr. Darwin took a different view of the matter and maintained that the man would recover. He was found quite wrong in all respects, and owned his error. He was convinced that he should never again be consulted by this family, and was much surprised at being called in after a few months by the widow. He asked a friend of the widow to find out why he was again consulted. The widow answered that she would never again see the odious old doctor who said from the first that her husband would die, while Dr. Darwin always maintained he would recover. In another case Dr. Darwin told a lady that her sick husband would certainly die. Some months afterward he saw the widow, who was a very sensible woman, and she said, 'You are a very young man, and allow me to advise you always to give, as long as you possibly can, hope to any near relative nursing a patient. You made me despair, and from that moment I lost strength.' 'My father,'" continued Darwin, 'said that he had often since seen the paramount importance for the sake of the patient of keeping up the hope, and with it the strength of the nurse in charge.'"

8. "Briefe von Theodor Billroth, 1902:" Speaking of the slow decline of Professor Breisky, and of the attending physician telling the whole truth to the wife, he remarked: "I admit that under certain circumstances this is necessary: but here I do not think it is necessary. How can the poor wife, without a glimmer of hope, bear the weeks until the liberator of all sorrows gently approaches the husband. We should give her courage, and the poor patient morphine. A hard task. But let us remember that every family physician is in this situation hundreds of times, and often has to see his incurable patients daily. If the young man suspected these mental tortures when he enthusiastically enters the temple of Æsculapius he would surely often turn back. To face the unveiled figure of Sais requires all the undaunted resignation that we slowly win in our profession."

9. *Op. Cit.* "He was sent for by Mr. P., who said 'From all that I have seen and heard of you I believe that you are the sort of man who will speak the truth, and if I ask you will tell me when I am dying. Now I much desire that you should attend me, if you will promise, whatever I may say, always to declare that I am not going to die.'"

PREVENTIVE MEDICINE: ITS ACHIEVEMENTS, SCOPE, AND POSSIBILITIES.*

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THE terms sanitary science, public or State medicine, and preventive medicine, have frequently been used as almost synonymous. The latter term, "preventive medicine," however, has sometimes been restricted in its application to the prevention of the infectious diseases. In the broad sense, preventive medicine comprises both general prophylaxis and individual prophylaxis, and applies to all forms of disease, not simply to the infectious diseases. Preventive medicine is an applied science, which deals with the preservation of the health both of the individual and of the community.

No subject more vitally concerns the welfare of a community than that pertaining to its healthfulness. How the inhabitants live, and how, and at what age they die, what is the extent and character of the morbidity occurring among them and what are its causes, are questions of momentous importance. They are essential features in the problem, whose solution will teach men how they may live longer, healthier, and therefore happier lives.

In rural districts the average healthfulness of the inhabitants depends largely on natural conditions, such as elevation, climate, soil, and, to a much less extent, on the artificial conditions produced by the handiwork of man. In densely popu-

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ated cities, on the contrary, the natural conditions become relatively unimportant features in determining the degree of healthfulness, so much do they become subordinated in many cases to the artificial conditions which have resulted from the lives, labor, and occupations of the inhabitants. It may be said with certain limitations that the inhabitants of any city in the temperate zone now have it largely within their power to determine what degree of healthfulness their city shall have. A high morbidity and a high mortality in any urban population depend largely on some remediable features of an insanitary character, such as the sewerage of the city, the occupations, habitations, food, and water supplies, and the habits of the inhabitants—all factors which lie to a great extent within their control. Hence, when any city in modern times has a high annual death rate, for example, 30–35 per 1,000, as was formerly the case in New York, Liverpool, and other cities, instead of a death rate of 17-18, or 19 per 1,000, as now exists in London, Berlin, and New York, it is because conditions are permitted to exist partly from the neglect, indifference and ignorance of the people, and partly from the lack of proper facilities and necessary efficiency on the part of the authorities.

The achievements of scientific medicine have now placed at the disposal of the sanitary authorities such full knowledge as to the causation of so large a proportion of the diseases producing death, and of the means by which they may be restricted or prevented, that the determination of the average death rate is in their hands. This statement is not, of course, intended to mean that it is now possible to prevent or stamp out local epidemics of influenza, pneumonia, cerebrospinal meningitis and some other infectious diseases, but it is intended to cover the average general death rate of a city for a series of years.

The expectation of life at birth in certain manfacturing cities of England has been but little more than one-half that of the healthiest districts of England. Until recent years it was twenty-five or twenty-six years in Liverpool and Manchester, thirty-seven years in London, and forty-six years in Surrey, a healthy country district. Even at the age of thirty, the expectation of life was seven years more for England as a whole than it was for the inhabitants of Manchester. I have estimated that the expectation of life at birth in New York City in 1866 was only a little more than twenty-five years, while in 1903, calculated on the death rate for that year, it had almost doubled, and equaled about forty-two years. For the seven-year period ending in 1873, the death rate under five years in New York City was 123 per 1,000 of the population at these ages. For the year 1903 the death rate under five years was fifty-six. On the present estimated population at these ages, this reduction equals a saving of more than 28,000 lives annually.

These considerations suggest the vast importance of the healthfulness of the community, to the individual at every age, and to the community as a whole, for on this depends not only the relative freedom from illness, but also the probable lifetime of each member.

In the causal consideration of the healthfulness of communities as compared with the conditions existing in earlier times, we are inclined to think without investigation that there has been but little advance in modern times and that while some diseases have been greatly restricted or entirely stamped out, these have been replaced by others equally as fatal to the human race. A little study, however, shows how erroneous are these views. In the seventeenth and eighteenth centuries the average annual death rate throughout the civilized world was at least 50 per 1,000 of the population, and probably it was much more than this. From 1628 to 1635 in London, these years being free from pestilence, the average death rate was 50 per 1,000, and the absolute annual mortality for twenty-four years, from 1620 to 1643, was over 70 per 1,000.

The death rate during 1902 in London was only 17 and a fraction per 1,000. The mean expectation of life in London for the decennial period, 1771–1780, as calculated by Price's table, was 19.6 years, the annual mortality being 51 or 52 per 1,000; while from 1831 to 1835, although an epidemic year is included, the death rate had decreased to about 32 per 1,000. In 1894 the mean expectation of life at birth for all England had more than doubled that of 1780 in London, so that it was nearly forty-one years, and for London alone it was thirty-seven years. From 1771 to 1780 in London not less than five in each thousand of the population died annually of smallpox; in 1810 this mortality had sunk to 2 per 1,000, and in 1835 to 0.8, and in recent years it has been an absolutely insignificant decimal. Fever as a cause of death declined in almost the same ratio, from 6.21 in the decennial period ending in 1780 to 2.64 in 1810, and 1.14 in 1835. In the sixteenth century fever, plague, cholera, and dysentery destroyed annually 31 out of every thousand of the population of London, or nearly twice the total deaths occurring now from all causes. These diseases at the present time, as causes of death, do not equal in London 2 per 1,000 annually of the population.

According to the English life tables up to 1875, 518 out of every thousand children in Liverpool died during the first five years of life; 351 died in London and 205 in the healthy rural districts of England, while in the whole of England 297 out of every thousand died during this period of life. In old New York City (comprising the Boroughs of Manhattan and the Bronx), for the seven-year period ending in 1873, 616 out of every thousand children born died during the first five years of life. As computed by the death rate under 5 in 1903, 280 would have died during these same five years. This mortality, while still far too high, equals a reduction of nearly 60 per cent., and as calculated for the estimated population at these ages, means a saving of about 20,000 lives a year in these boroughs. The death rate in the period over five years of age has naturally shown a much smaller decrease, although it has fallen from nineteen or twenty, as it was in 1865 and 1866, at the time of the organization of the Department of Health of New York City as at present constituted, to about fourteen for the year 1903, being a reduction of nearly one-third. This has been accomplished notwithstanding the fact that the old city has increased during this time from a population of about 750,000 to more than 2,200,000.

It does not seem necessary or desirable for our present purpose to consider in detail the causes of this decrease or the special diseases in which it has taken place, but the facts suffice to indicate the great achievements of preventive medicine during the past four decades. Expressed in human lives, it means in the boroughs of Manhattan and the Bronx a saving of over 30,000 lives a year, and computed at the same rate for the whole city, a saving annually of more than 50,000 lives. I would not be taken as intimating that all of this has been accomplished through the agencies which we usually include under the head of preventive medicine, or that it has been the result solely of the action of the

sanitary authorities. Such an interpretation would be very far from the truth, for many agencies have been at work in the production of these results. But preventive medicine, as I conceive its purposes and scope, should include all of those agencies which are essential and direct factors in the prevention of disease and the preservation of life. These agencies are not necessarily all under the direct control of the sanitary authorities.

In these introductory remarks, and in much that follows, I have taken many illustrations from conditions which exist in New York, because I have been familiar with the sanitary affairs there for many years, and the illustrations which it furnishes serve our purpose as well as if selected from many different States or communities.

It has long seemed to me that the work of the sanitary authorities in this country was too much restricted and the general conception of the scope of their functions was narrow and out of harmony with the spirit and development of modern scientific medicine.

Sanitary work has been pretty well limited along certain old and well-defined lines, much to the detriment of the public health. The medical profession has unconsciously contributed no small part to this condition, because of the existence too often of a certain antagonistic attitude toward the action of the sanitary authorities and the feeling that the occupation of a larger field by them would be detrimental to the best interests of the medical profession. The latter has too often resented and opposed any movement to enlarge the field of preventive work, and has often insisted that its operations should be kept within the traditional narrow lines. Until in very recent years the operations of the health officers have been chiefly confined to the measures adopted for the prevention of the more readily communicable diseases, commonly called contagious. These usually included smallpox, diphtheria, and scarlet fever, and at intervals, yellow fever, cholera, epidemic dysentery, and typhus fever. More recently typhoid fever and measles, and indirectly the diarrhœal diseases of infants, have been generally added to this list. But even in regard to the diseases referred to, the measures adopted have been of an elementary and most unsatisfactory character. It must be admitted, however, that until our knowledge of the causation of many of the infectious diseases was rendered more exact by the discoveries in modern bacteriology, sanitary procedures were of necessity largely empirical, and disinfection was either entirely wanting or the methods employed were quite inefficient.

The scope of the sanitary measures in force with reference to the ordinary infectious diseases has in recent years been greatly broadened. More than ten years ago the Board of Health in New York assumed the position that all facilities and procedures looking to the prevention and cure of the infectious diseases should be afforded by the Department of Health. The establishment of the methods for bacteriologic diagnosis and the facilities for the serum treatment had their origin there, and have since been widely followed.

General prophylaxis, or that portion of preventive medicine which should come directly under the supervision of the health authorities, has or should have, a broader scope than that indicated, and should include the supervision, not only of those diseases which have generally come within sanitary surveillance, but also all the infectious diseases which from their nature are to a greater or lesser extent preventable, in addition to all other forms of disease which are the result of insanitary living, occupations, habitations, or surroundings, including those diseases arising from manufacturing, mining, or other industries which, on account of their nature, are peculiarly or especially injurious to health. It should also include with greatly increased powers and breadth of jurisdiction, the surveillance of the water and food supplies and the sewage disposal.

To return for a moment to the consideration of the infectious diseases to be included in this list, there is a large class of different types of the infectious diseases which are well recognized as being more or less preventable which are not included in the registration returns. These are not dealt with at all by the sanitary authorities, or only to a very limited extent. Mention may be made in this connection not only of tuberculosis in all its forms, whooping-cough, mumps, chicken-pox, and cerebrospinal meningitis, which have been included in the registration returns by some authorities, but have not, as a rule, been dealt with by them, but also of puerperal fever, erysipelas, pneumonia, the diarrhœal diseases of infants, dysentery, malarial fever, influenza, the contagious diseases of the eye, and certain parasitic diseases of the skin, as well as some of the rarer diseases occurring in both animals and man, such as rabies, tetanus, anthrax, and glanders.

The inclusion in the registration returns of such a long list of infectious diseases as has been here indicated requires considerable modifications and expansion of the ordinary sanitary procedures, and such action at first thought is likely to arouse opposition and unfavorable criticism from the medical profession. Such opposition and criticism, however, I believe is without proper justification, and arises from an erroneous conception of the proper scope and functions of the authorities and their relations to the medical profession and the people.

There has long existed a belief in the medical profession, and to a considerable extent it has also been a part of the conception of the sanitary authorities of their functions, that the registration of a case of any kind of infectious disease involved some surveillance of such case by the authorities. The slightest consideration would at once show that with relation to many of the diseases mentioned no such surveillance could be of any real service, and it might be a source of annoyance to the sick person, the family and the attending physician. Much good, however, would result, in my opinion, by such a broadening of the scope of sanitary work, without causing annoyance or being detrimental to any one. I should like, however, to point out that more than a year ago the Board of Health of New York City in the revision of its sanitary code included a number of new sections in relation to the infectious diseases, covering to a large extent the diseases above mentioned. These sections, with the accompanying notes, read as follows:

INFECTIOUS DISEASES.

SEC. 133. It shall be the duty of every physician to report to the Department of Health, in writing, the full name, age, and address of every person suffering from any one of the infectious diseases included in the list appended, with the name of the disease, within twenty-four hours of the time when the case is first seen:

A. *Contagious* (very readily communicable): Measles, rubella (rötheln), scarlet fever, variola (smallpox), varicella (chicken-pox), typhus fever, relapsing fever.

B. *Communicable:* Diphtheria (croup), typhoid fever, Asiatic cholera, tuberculosis (of any organ), plague, tetanus, anthrax, glanders, epidemic cerebrospinal meningitis, leprosy, infectious diseases of the eye (trachoma, suppurative conjunctivitis), puerperal septicæmia, erysipelas, whooping-cough.

C. *Indirectly Communicable* (through an intermediary host): Yellow fever, malarial fever.

NOTE.—In this provisional classification of the infectious diseases, arranged for practical purposes, the most

readily communicable of these diseases, embracing the exanthemata and typhus fever, have been placed in a group by themselves and called contagious. This has been done with a view to emphasizing a distinction, which is not only of scientific significance, but of practical importance, in dealing with the sanitary features of administration. This distinction is furthermore of importance because it avoids the misunderstanding and alarm frequently caused by including in the same class the very readily communicable diseases (such as smallpox), and the much less communicable diseases (such as tuberculosis), which require very different sanitary measures for their control.

SEC. 134. It shall be the duty of the commissioners or managers, or the principal, superintendent or physician, of each and every public institution or dispensary in this city, to report to the Department of Health, in writing, the full name, age and address of any person suffering from any one of the infectious diseases included in the list appended, with the name of the disease, within twenty-four hours of the time when the case is first seen:

A. *Communicable:* Influenza, lobar pneumonia, bronchopneumonia, infectious diseases of the gastrointestinal canal (dysentery, cholera morbus, cholera infantum, summer diarrhœas of infants).

B. *Parasitic Diseases of the Skin:* Scabies, tinea tonsurans, impetigo (contagious), favus.

NOTE.—In this list of diseases reporting is required by the department of health in order that data may be obtained for general and special investigation of the modes and sources of infection and as to the prevalence and distribution of these diseases. The Department of Health does not propose to exercise a sanitary surveillance in these cases, but desires information with a view to the ultimate removal or improvement in the conditions which foster them. Notification is required in certain of these diseases because of the liability to their extension among children in the schools.

It will be noted, first, that two main groups of diseases are specified. In the first group, including the more readily communicable diseases, and some others which are not so regarded, registration is compulsory in all cases coming under the observation either of a private attending physician or an institution. These are separated for convenience under three heads: (*a*) The contagious or very readily communicable; (*b*) the communicable, including diphtheria, typhoid fever, Asiatic cholera, tuberculosis, and a number of others, and (*c*) the indirectly communicable, including only two diseases—yellow fever and malarial fever—which are transmitted solely through an intermediary host. In these three classes compulsory registration is required because in all of the diseases in these classes preventive measures, properly executed, are certainly efficient to a very large extent. As to the propriety of the compulsory registration of all of the diseases included under the first heading, "The contagious or very readily communicable diseases," I assume that there can be no reasonable difference of opinion. Measles, rötheln, scarlet fever, varicella, variola, typhus fever and relapsing fever, certainly without question, should be reported to the sanitary authorities. The necessity for reporting rötheln and varicella rests more in the danger of confusion of these diseases with measles and varioloid, respectively, than because of the importance of the diseases themselves. Our experience in New York has shown again and again that outbreaks of smallpox have resulted from the failure of inexperienced physicians to recognize mild cases, these having been mistaken for varicella and treated as such. Every case of varicella occurring in the city must, therefore, be reported, and all cases occurring in adults are immediately seen by a trained diagnostician. I say all cases of varicella in adults, because experience has shown that very frequently varicella in an adult is a mild case of variola.

In the second class, called simply "the communicable diseases," there might be some question as to the propriety of the reports in some instances. There would be none, however, with regard to diphtheria, typhoid fever, Asiatic cholera, plague, tetanus, anthrax, glanders, and leprosy. All of these diseases are under some conditions communicable and of the greatest importance, yet they are much less communicable than the first class, the contagious.

There cannot now be, nor can I conceive that there ever will be again, any serious question as to the necessity or propriety for the registration and sanitary surveillance of tuberculosis, although this has been a subject of very bitter dispute, and although this disease has come actually under the close supervision of the sanitary authorities in only three of four cities in the United States, and of practically none in Great Britain or on the continent. Pulmonary tuberculosis was included in the list of communicable and reportable diseases by the New York City Board of Health ten years ago, and the measures adopted for its surveillance have been gradually extended, and the lines for its restriction have been drawn closer and closer as each year has passed. Some doubt, however, might properly arise as to the necessity of the inclusion of other forms of tuberculosis than pulmonary tuberculosis in the registration returns, because for the most part these other tuberculous diseases are not communicable, or very slightly so. Bone, joint, intestinal, and gland tuberculosis are practically never sources of infection in other persons, but cases of tuberculosis of the types mentioned indicate the previous exposure to infection of the individual, and they thus point out a probably infected site or family, concerning which the sanitary authorities should have information. Such cases may also disclose unrecognized instances of pulmonary disease. Furthermore, knowledge of all cases is absolutely essential to a comprehensive recognition of the extent and prevalence of the infectious disease, *tuberculosis*. During the past year measures to ensure the registration of tuberculosis in all its forms have been adopted in New York.

The importance of the registration of epidemic cerebrospinal meningitis arises not so much because of the evidence of its communicability as because of the importance of fuller information as to the conditions under which it arises and becomes disseminated. We have in New York City just been passing through an epidemic of this disease, the first serious one for thirty years. During the month ending May 15 more than 300 deaths occurred in New York City from this cause.

The infectious diseases of the eye—trachoma and suppurative conjunctivitis—should be included because of the importance of the adoption of preventive measures in the public schools. Few persons had any conception of the great prevalence of these diseases of the eye in the public schools of New York until after the Department of Health adopted some comprehensive measures for their surveillance. Such a vast number of cases was found that the Board of Health was forced to establish special dispensaries and provide special hospital facilities for their care. Only within a few weeks a second hospital and dispensary has been opened, and in the original one in connection with Gouverneur Hospital an average of about 500 patients a day were treated during the year 1903, and nearly 5,000 cases were operated on for trachoma.

Puerperal septicæmia should be included in the registration returns because modern aseptic midwifery has shown that in most instances this is a strictly preventable disease, and excepting rare cases of difficult or prolonged labor, its occurrence may be regarded as the result of uncleanliness, negligence, or incompetence. The registration and the investigation of these cases by the sanitary authorities should soon result in the exclusion from practice of incompetent midwives, restrict the work

of the criminal abortionist, and foster the practice of aseptic midwifery.

No one, I fancy, would seriously question the propriety of including erysipelas and whooping-cough in the registration returns. So far as this country is concerned, I assume that typhus fever, Asiatic cholera, plague, leprosy, and yellow fever are diseases which will never again call for anything more than occasional or emergency measures for the disposal of isolated cases or small groups of cases. But with reference to one disease in the third class, *i.e.* malarial fever, some remarks may be in point to show the advantages which are likely to result from the interference of the sanitary authorities. We now all believe that malarial fever is not only an infectious disease and indirectly communicable through an intermediary host, but that it is also distinctly preventable.

The registration of cases of malarial fever should be required, not because close surveillance of individual cases is necessary, but because sanitary authorities should know where the sites of infection are, where the breeding places of the anopheles mosquitos are to be found, in order that they may adopt proper means for determining the cause of such areas of infection and the proper measures for their removal. In certain sections of New York City, investigation has shown that in some instances almost every person living within certain small areas has suffered from malarial fever during the spring and summer months of a single season. Such outbreaks are without any question the result of local remediable insanitary conditions, which furnish the breeding places for the mosquitos. But without special information through the registration of malarial fever, knowledge of the presence of much insanitary conditions and their removal may become difficult or impossible. The surveillance in their homes of the individual cases reported is of course not contemplated. That conditions similar to those found in New York exist in other communities, I have no doubt.

Section 134 of the Sanitary Code of New York, covering the second group, deals with infectious diseases of a somewhat different type, and in these the Sanitary Code requires the reporting to the department by public institutions of all cases coming under their observation; but it only requests physicians to report them and does not require such reporting.

Class (*a*) in this group includes some of the more important acute infectious diseases of the upper respiratory tract, namely, influenza, lobar pneumonia and bronchopneumonia, and certain of the more common acute infectious diseases of the gastro-intestinal canal, namely, dysentery, cholera morbus, cholera infantum, and the summer diarrhœas of infants.

The acute diseases of the respiratory tract referred to should, in my opinion, be registered, because they are infectious, because they are of prime importance as causes of death, and in order that general and special investigation may be instituted for the collection of data bearing on the modes of infection and the sources and causes of their prevalence and their distribution. New York City has, during the last winter, experienced the greatest prevalence of these diseases which it has had for many years. In the first four months of the year more than 6,000 deaths occurred from influenza, lobar pneumonia, bronchopneumonia, and acute bronchitis.

I firmly believe that these diseases can be, to a very considerable extent, prevented, but the means and the methods are yet to be determined, and it is hoped that registration will assist in the acquisition of knowledge for the attainment of this end.

A large new field has just been opened by recent observations with regard to the specifically infectious character of many of the cases of summer diarrhœa and dysentery, both of infants and of adults. The results of the investigation of the sanitary authorities in recent years in many large cities have shown in the most conclusive way that these diseases are, to a very large extent, preventable, and it seems probable, or at least possible, from recent investigations, that some forms, at least, are preventable and curable by the use of a specific curative serum.

Investigations in New York and other localities have shown that serious outbreaks of diarrhœa and dysentery have occurred in various institutions and in local areas which were probably, if not certainly, preventable, but concerning which the sanitary authorities have had no information. It seems evident, therefore, that these diseases should be made notifiable. A practical difficulty in this connection exists in the lack of definiteness as to what cases should be included and how the differentiation is to be made between the diarrhœas due to simple digestive disturbances and those of a more serious nature caused by infection. This, however, is a matter for further investigation.

Notification of the parasitic diseases of the skin should be required chiefly because of the liability to the exclusion of these diseases among children in the public schools.

There are certain very large and important questions of prophylaxis connected with the prevalence of typhoid fever and the milk and water supply of our large communities. The occurrence of great outbreaks of typhoid fever, such as the epidemic at Ithaca, N. Y., and Butler, Pa., during the last year, the prevalence in Philadelphia, Pittsburg, and some other cities of the United States and the extensive distribution in the rural districts, constitute a disgrace to American preventive medicine, and should arouse the sanitary authorities, the medical profession, and the people to the provision of efficient measures and the enactment of suitable legislation for its prevention.

The annual cost of typhoid fever in sickness and death throughout the United States would be computed in terms of tens of millions of dollars. All of this loss we know is certainly preventable. If only a small portion of the annual outlay made by the country for sickness and death from this cause were expended in the education of the people as to the cause and the methods of prevention of this disease, and the provision of proper water and sewerage systems, typhoid fever might soon become a rare affection. Unfortunately the city sanitary authorities are often almost powerless in this matter, as their jurisdiction does not extend over the watersheds which supply with water the people under their care, and a supervision by them of the sources of the milk supply is also frequently absolutely impossible.

In New York city detailed investigations of all the cases of typhoid fever occurring within the city limits were instituted several years ago and have been continuously carried on. These show that at least 25 per cent. of the cases occurring in the city have *certainly* received their infection outside of New York City, and a considerable percentage more have *probably* received it outside. Five or 6 per cent. are the result of contact with other cases, and the remainder are in all probability almost wholly the result of infection through milk or oysters. Some more comprehensive measures are urgently demanded to extend the juris-

diction of the authorities in the supervision of the supplies of milk and oysters and other foods.

A serious objection which may be urged against the adoption of the measures here recommended in regard to the registration of many infectious diseases is the increased labor thrown on physicians which their enforcement would involve. The question may properly be asked: Whether the sanitary authorities in the interest of the general public may call on the medical profession for the expenditure of so much time and labor without making any compensation in return. There are thirty-five diseases included in the New York list. The English authorities pay a fee for the notification of each case of infectious disease, and I believe that this course might properly be pursued in this country; but this has not been the custom here, and the authorities generally are not now provided with the funds necessary for this purpose.

When the Department of Health of New York City established its bacteriologic laboratories in 1892, measures were adopted to make some return to physicians for their interest and labor in connection with the sanitary surveillance of the infectious diseases. A systematic plan was then inaugurated, and has since been consistently followed, to secure their coöperation, by offering free bacteriologic examination in the diagnosis and surveillance of various forms of infectious disease. This was first applied to Asiatic cholera in 1892, during the outbreak in New York Harbor, and has since been extended to all of the diseases in which existing scientific knowledge made it possible, cerebrospinal meningitis being the latest disease added to this list. The establishment of this system of free bacteriologic examinations in the diagnosis and surveillance of the infectious diseases, and the provision of facilities throughout the city for the collection of specimens and the sending of reports to physicians, constituted an entirely new departure in sanitary work and has been of the greatest value. The example of New York has been followed by the sanitary authorities in most of the large cities of this country, by many State authorities, and by authorities generally, in Great Britain, and to a certain extent on the continent. These examinations constitute the return which the authorities here have made to physicians for the reporting of cases and for their assistance and coöperation in their care. This return has a very considerable money value, when we remember that for such examinations the usual fee is $5, and as physicians cannot, as a rule, make such examinations themselves, they must work without the assistance thus afforded unless they appeal to the regularly constituted laboratories.

What now are the possibilities of preventive medicine as concerns the larger centers of population? In answering this question we may first take as the basis of our reply the conditions found in some of the large cities with the lowest death rates, or, still better, the conditions found in some healthy rural districts. In considering the crude death rates, as ordinarily reported, however, one must not ignore the influence of the sex and age distribution of the population on the death rate. As is well known, the death rates in the periods of life between five and forty-five years of age are very low, and the death rate among women is lower than among men. If, then, in a city there is a relative excess of the population in the middle periods of life, or an unusual preponderance of women, we may have a crude death rate which seems very low, but which when corrected may be relatively high. For example, the death rate of New York City, as corrected by the English life tables, would probably be at least three points higher than it is. For 1894 the gross rate was 22.76, and the rate corrected by the English tables was 26.46. The corrected death rate of some of the large, rapidly growing Western cities would probably be five or six points higher than the crude death rate reported. The death rate of London at present averages about 17 per 1,000, and when corrected about 18.5 per 1,000, while the Berlin death rate is somewhat lower than this. The crude death rate of Surrey, a healthy rural district in England, is 14 and a fraction, and when corrected would probably be 15.

We can hardly use for a basis of comparison the conditions in any of the cities of this country with very low rates, because the rates have not been corrected, and the basis on which they are calculated cannot always be accepted as correct. Taking all the facts together, and judging of the duration of human life as we know it, we may accept a corrected death rate of 14 or 15 in a large city as a goal toward which preventive medicine should strive and hope to achieve. If we consider the question from another point of view, as to what is possible in the reduction of the death rate from distinctly preventable diseases, we would reach a conclusion not unlike the previous one.

In New York City it may be assumed that the present death rate of 2.7 from tuberculosis may, under proper surveillance, with certainty be reduced to 1.2, and 1.5 points would thus be subtracted from the crude rate. The diphtheria death rate, already reduced 65 per cent. by the use of antitoxic serum, should certainly be reduced to one-third of what it is at present; it is now about .6 per 1,000 population. Similar reductions should be possible in the death rate from typhoid fever, measles, and scarlet fever. The diarrhœal diseases of infants have already been reduced in the last twelve years to one-half of their former prevalence, and should still be reduced more than 50 per cent. Thus more than 3 points may be subtracted from the crude rate in New York, which in 1903 was 18.18. The rate would then be 15+. The rate for 1903 was the lowest in the history of the city.

The most fatal affections with which we have now to deal in New York are the acute respiratory diseases, including influenza, lobar pneumonia, bronchopneumonia, and acute bronchitis. The average death from this group of diseases now exceeds 3 per 1,000 of the population, and in years when there is an epidemic prevalence of these diseases the death rate may be 4 or more, as seems likely to be the case this year.

The advances in preventive medicine have as yet not only had no influence in reducing the death rate from this group of diseases, but, on the contrary, there has been a slow and continuous increase. I cannot at this moment point out the method or the means by which a reduction is to be brought about, but still I firmly believe that with fuller knowledge such a reduction will become possible in the great cities where these diseases are so prevalent.

Something can be accomplished through the closer sanitary surveillance of the occupations and conditions under which the lower classes work, especially the noxious trades. Something, too, may be done through a closer supervision of foods to ensure their purity and freedom from adulteration.

A very difficult problem arises in connection with the diseases of the circulatory apparatus and the kidneys. My investigations have shown that in New York City a large increase has taken place, due to these causes, during the last twenty years. The

acute respiratory diseases, cancer and diseases of the circulatory apparatus and the kidneys are the only important causes of death which have shown an increase during this period. The increase in cancer amounts to about 15 per cent., and the increase in the acute respiratory diseases amounts to about 15 per cent., while the increase in the diseases of the circulatory apparatus and kidneys combined equals about 40 per cent. In making this statement I have taken fully into consideration the possible influence of greater accuracy in the death returns, *i.e.* the inclusion formerly of these under other causes of death; but after making all allowances, it seems to me without question that an increase equaling 40 per cent. has taken place.

A very important sanitary problem is here presented to the health authorities. What are the factors in the lives of the inhabitants of our large cities (for I have found that similar increases, less extensive, however, have taken place in London, Paris, and Berlin) which have caused such a remarkable increase in the prevalence of these affections, and how are these factors to be removed?

The time at our disposal does not permit of more than this elementary and cursory review of the work in preventive medicine. Sufficient facts have, however, been adduced to show how great have been its achievements, and some of the directions have been indicated in which its scope should be extended. With such extensions, and many others not mentioned, for future possibilities of preventive medicine seem to be even greater than the past achievements, for almost every development in bacteriology opens up a new field of work for the sanitary authorities.

5 West Fifty-eighth Street.

EXERCISE IN RELATION TO DIABETES.

By LOUIS BARKAN, M.D.,
San Francisco.

Patient B. L. is of a robust athletic figure and fifty-eight years old. Eight years ago the patient enjoyed full health and was possessed of excellent teeth; shortly afterward when he increased his diet, gingivitis set in and he lost several teeth successively. They were not carious but covered with tartar. A dentist was consulted who declared the gingivitis to be the consequence of "hypernutrition."

The patient's father was of a decidedly gouty disposition and had suffered from a chronic gingivitis for years; his urine was never examined and he died at the age of fifty-eight years of hepatitis suppurativa.

The patient's urine contained sugar occasionally, but he did not heed it much, as his digestion was good, the result of plenty of bodily exercise; the more he worked, the better he felt, and felt best when he resorted to mountain climbing. Sight, hearing, and the other senses were tolerably good, but his memory is weak. He did not drink too freely of fluids nor did he urinate an abnormal quantity.

In the middle of November, 1902, a lipoma of the size of two eggs was removed from his left shoulder, In the first seven days it looked as if the wound would heal by first intention. Loss of a moderate quantity of blood, good weather, a careful diet, and walking three miles every day helped a great deal, but after the seventh day bad weather set in, the patient could not walk much nor be sufficiently outdoors. When on the tenth day the sutures were removed the wound was seen to be in an unsatisfactory condition, which lasted for a fortnight and aroused his fear that the healing of the wound, as is usually the case in diabetes, would be protracted. There was a slight dark colored suppuration, the margins of the wound were sloughing and had to be cut off, and neither cauterization nor other means were of any benefit.

I then changed the diet into a mixed one after I had read the valuable book of Kolish about diet in diabetic patients in which he recommends a mixed and preferably a milk diet, while he considers a rich meat diet only admissible to hard workers.

At the consultations with the surgeon I suggested brisk walking—about eight miles a day—sufficient gymnastics in open air and chopping wood, to which work the patient was accustomed anyhow; the surgeon refused the responsibility for these exercises and so I took it alone. From the very day the patient began to carry out this order, the granulation improved and two weeks later the wound was healed. The good effect of the exercise was quite evident.

Occasionally sugar would appear in the urine, but would, however, disappear when abundant exercise, and especially mountain climbing, was resumed. When on one occasion the patient was excreting much sugar in consequence of a change in diet, the sugar disappeared, in spite of a continuance of the diet after a mountain climbing tour of seventeen miles in one day.

Surgical Treatment of Recent Fracture of the Patella.—Edward Martin and T. T. Thomas summarize their paper as follows: The conservative treatment of fracture of the patella is applicable to blow or tear fractures in which the separation of the fragments is not greater than one-half inch when the knee is flexed to a right angle, and in which there is no great joint tension. Conservative treatment consists in fixation for ten days, the application of adhesive strips to approximate the fragments, the use of elastic bandages to prevent inflammatory exudation, and the employment of massage and passive movements. All fractures of the patella independent of the amount of fragment separation, attended by marked and immediate joint tension, should be treated by the open method. All fractures of the patella in which the fragments are separated more than one-half inch when the knee is bent to a right angle should be treated by the open method, the torn tendinous expansions of the quadriceps being closed by mattress suture, and the patellar fragments being united by silver wire, the insertion of the latter being facilitated by the use of a bone drill with an eye in its boring end.—*Therapeutic Gazette.*

Cataphoresis.—F. O. Marsh concludes that experimental tests tend to substantiate the claim that cataphoresis offers unique and special advantages for the destruction and disinfection of morbid and malignant growths *in situ*, and in many cases reflection would confirm the belief that it offers advantages over the removal *en masse* by the knife, curette, or actual cautery. In any but the most superficial growths it is quicker and more penetrating than the *x*-ray in its therapeutic action. To obtain proper results, the application must be made through the action of the powerful current somewhat prolonged, and used under anæsthesia. The method is, of course, powerless against anything but the local condition when internal metastasis has already taken place. While it is possible to obtain a beautiful primary union after a cutting operation, as an excision of the breast, the ultimate results, as obtained by Massey in over sixty unselected cases of malignant disease, seem to be far superior. A final consideration not to be neglected is the fact that the high mortality from malignant disease, as, for instance, cancer of the female breast, is owing to the difficulty of securing permission to make an early and thorough extirpation. The possibility of obtaining early consent to effective interference without the use of the knife would naturally tend toward a material reduction of the total mortality from malignant disease. —*Cincinnati Lancet-Clinic.*

MEDICAL RECORD:

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PULMONARY TUBERCULOSIS TREATED BY SERUM MARMOREK.

IN the *Revue de Médecine* for May 10, 1904, Dr. Jacquerod gives, at considerable length and in the necessary detail, his experience with Marmorek's serum, in the treatment of nine cases of pulmonary tuberculosis. In accordance with Marmorek's desire, good cases were not selected, but the cases taken being a number known to have been of long standing and progressive, or at least stationary. The tone of Jacquerod's article throughout is critical, and he makes all the necessary qualifications, in particular remarking that if it has taken ten years to demonstrate the part played in treatment by Koch's lymph, a part that is minimal yet sometimes brilliant, we may expect that it will require much time yet before the value of the present serum can be determined. But his experience with it in his opinion warrants the statement that "we have the impression that up to to-day it is the most important and useful discovery that has been made in this field;" certainly no light praise.

The mode of preparation of the serum has been described by Marmorek in the *Archives Générales de Médecine de Paris* for November 24, 1903. The basis of the serum is the discovery by Marmorek of a new toxin which he believes to be *the* toxin of the bacillus tuberculosis, and the production by injections of this into animals of an antitoxin. As prepared from the horse the serum is pale yellow and perfectly limpid. No antiseptics are added, sterilization being effected by prolonged, moderate heating. The injection is to be made into the subcutaneous tissue of the abdomen; not into the skin or muscles, in order to avoid the local œdema which otherwise sometimes occurs. Marmorek recommends the injection at one dose on the 1st and 2d days, of 5 c.c.; and on the 3d and 4th days, one of 6 c.c.; these injections being followed by a day's intermission, and then by a repetition of the series; the whole cycle ending with 5 c.c. on the 11th and on the 12th days, and then an intermission of 10 days. The cycle is then repeated until a rather marked effect is observed. The physician is then justified in waiting some weeks to see if the effect is maintained by itself. The treatment should be kept up until on such intermission the improvement is maintained by itself for three or four weeks. In acute and febrile cases the dose should be much stronger; from 10 to 20 c.c. Although the author used the treatment with prudence, and indeed with fear, no serious results were at any time observed, and he considers that to-day its harmlessness is demonstrated. The total amount used for any one patient was small. Albuminuria was never seen. Erythema and rheumatoid pains sometimes occur, but are without significance. The first injection never provoked any kind of reaction. Sometimes after the fifth or sixth, a certain amount of general malaise, fatigue, and anorexia, were observed.

In three febrile cases, which had during several months' treatment resisted all the recognized antipyretics, complete and definitive defervescence took place after the injections, and the result could have hardly been attributed to anything but their use. Also in two grave febrile cases with very old lesions and bad general condition, the defervescence was very clearly marked; in one it was incomplete (39.5 to 38.3), while in the other it was complete but transient (six weeks of apyrexia without medication). In one patient who was in general apyretic, but was subject to accessions of fever which yielded with great difficulty to ordinary antipyretics, the fever yielded immediately to one or two small doses (4 c.c.), the effect continuing for a long time. In almost all the febrile cases the temperature during the treatment was some tenths higher, falling one or two days after the last injection. In general, one must not fear to give in febrile cases large doses (10 c.c. for eight or nine days).

Expectoration after the first injection increases very notably, sometimes even to double, to later undergo a progressive diminution to a quantity sensibly less than that existing at the beginning of treatment.

The number of bacilli undergoes only a slight variation, and diminishes only in proportion to the lessening of the expectoration. But in several patients a rather important change in their form was observed. In place of the non-sporulating, short forms with a sharp outline, often after the injections long sporulating bacilli were seen, together with amorphous material such as one finds in chronic foci without a tendency to extension.

The auscultatory phenomena were always favorably influenced. Congestive symptoms, new foci, and increase of râles, were never observed. Even during the preliminary period with increase of expectoration, râles were less abundant, as though evacuation were more rapid and better. In the foci of infiltration with tubular breathing, respiration improved, and sometimes became vesicular.

Under the injections, the general condition always ameliorated, but not strikingly. During the period of administration of the latter, there was never any striking increase in weight, weight being rather maintained with difficulty as appetite existed on sufferance; but after the period of administration was over there was always an increase.

Hæmoptysis was never observed during the treatment. On the contrary, one patient who was subject to frequent attacks, had none for three months following the injections.

The results in three cases of ulcerative laryngitis, were interesting. In one the ulceration healed. The other two showed improvement of the local lesion with disappearance of the painful symptoms and of the laryngeal irritation.

In a word, all the cases treated were improved. On the other hand, none had, up to the date of

writing, been cured. The use of the injections was accompanied by the air and rest treatment.

In concluding, the author says that while the results so far obtained are not perfect, and have often been limited to a symptom, nevertheless the treatment yielded, in a short time, an improvement which he had vainly sought during several months to effect through the use of other means. As the serum acts only upon the toxin generated by the bacillus, and not on the anatomical lesions, it can be understood that the effect must often be only partial. For even supposing the toxin to be completely neutralized and the bacilli reduced to powerlessness, still a cure cannot result from this alone. Constructive work remains to be done to repair the anatomical lesions.

THE MANNER OF LIVING OF THE JAPANESE.

The war in the Far East, and the remarkable successes of the Japanese, both on sea and land, has aroused the most acute interest in this oriental race. Long held beliefs as to the inferior fighting qualities of yellow men to those of white complexion, have received a sudden check, and popular opinions have been somewhat rudely upset. The Japanese have taught Europeans and Americans a lesson and quenched in some degrees the conceit of the Caucasian in his superior capacity to do all things. Even in the matter of diet, our long cherished theory, that the energy and vitality of the white man is largely due to the amount of animal food consumed, must undergo revision. The Japanese are allowed to be among the very strongest people on the earth. They are strong mentally and physically, and yet practically they eat no meat at all. The diet which enables them to develop such hardy frames and such well-balanced, and keen brains, consists almost wholly of rice, steamed or boiled, while the better-to-do add to this Spartan fare, fish, eggs, vegetables, and fruit; for beverages they use weak tea without sugar or milk, and pure water, alcoholic stimulants being but rarely indulged in. Water is imbibed, in what we should consider prodigious quantities—to an Englishman, indeed, the drinking of so much water would be regarded as madness. The average Japanese, individual swallows about a gallon daily, in divided doses.

The Edinburgh Medical Journal, May, makes the water-drinking habit of the Japanese the text for a dissertation on the subject. The writer of the editorial in the Scotch paper thinks that with the British it is too much the habit to avoid drinking water, unless when impelled by thirst—in fact, it is asserted, there are numbers of persons in Great Britain, over whose throats this liquid, in its simple unadulturated form, never passes for weeks at a time. The Japanese recognize the beneficial effect of flushing the system, through the medium of the kidneys, and they also cleanse the exterior of their bodies to an extent undreamt of in Europe or in America. The *Edinburgh Medical Journal*, commenting on the generous use of water by the Japanese, says: "One might have thought that the advantage which accrues to a gouty man, with clogged tissues and muscles, from the copious draughts of water prescribed at any fashionable spa, would have suggested that the same fluid employed at home in modified fashion, might do away with the necessity of a yearly visit to his favorite Kurort. But no, on his return home he resumes his old habits, and eats freely when hungry—or when, according to the time of day, he ought to be hungry—and drinks with meals, but seldom else, unless over his cigar or pipe in the evening, and then not water unblended. Another—and perhaps this is the usage on which the Japanese lay the greatest stress—is that deep, habitual, forcible inhalation of fresh air is an essential for the acquisition of strength, and this method is sedulously practised until it becomes a part of their nature."

The Japanese race is a striking example of the good effects on the body and mind of temperate living. They are a cool calculating people, and have come to an appreciation of the fact, that if their ambition to be a world power is to be consummated, they must be in condition, mentally and physically. to show that they are adapted to such a position. They have proved that a frugal manner of living is consistent with great bodily strength—indeed, is perhaps more so than the meat diet of the white man. As to the water-drinking habit which is so distinctive a custom with them, it is probably an aid to keeping the system free from blood impurities, and might be followed with advantage in European countries, to a far greater extent than is at present the case. Hydropathy and exercise seem to be the sheet-anchors of the Japanese training regimen, and, judging from results, have been eminently satisfactory.

First Report of the German Commission on Tuberculosis.

These researches were initiated for the purpose of investigating the relationship of human to bovine tuberculosis, the raising of this question being due to the pronouncement of Professor Koch at the London Congress on Tuberculosis in 1901. The investigators were Drs. Kossel, Weber, and Heuss, who accept as proven that cattle are highly susceptible to infection with bovine tuberculosis, while remaining insusceptible to human tuberculosis, and that this characteristic is sufficient to indicate the origin of any given strain of bacilli.

The experiments undertaken were exhaustive and painstaking. In the experiments with cattle the summary of the findings was as follows: In cattle, subcutaneous inoculation of pure cultures, obtained from tuberculous cattle or swine, produces almost without execution a general disseminated tuberculosis, which in half the cases kills the animals in from six to eight weeks. (*b*) Experiments with bacilli from fowl tuberculosis showed that they produce a result somewhat similar to that following inoculation with human bacilli. The authors claim that in the experiments made by them with bacilli from human sources in forty-one cases, it is established that in the great majority of cases of tuberculosis in man, bacilli are found which morphologically, culturally, and pathologically can be distinguished from those causing "perlsucht," but that, in exceptional cases, bacilli are found which cannot be so distinguished.

Dr. Theodore Shennan, pathologist, Royal Infirmary, Edinburgh, commenting upon the investigations regarding bacilli from human sources, says: "We may note some interesting points in connection with these forty-one strains of human bacilli and their origin. Six cultures were obtained from cases of acute miliary tuberculosis. In three of these the primary focus was found in the alimentary system. From two out of the six cases the cultures separated caused generalized tuberculosis in cattle. One of these was of ingestive origin; in the other the

channel of invasion could not be accurately determined. Seven cases of primary tuberculosis of the intestine and mesenteric glands were met with. Cultures from the mesenteric glands in two cases produced generalized tuberculosis in cattle. In both cases the "intestinal mucous membrane was free from tuberculous changes. The same was also noted in another case, from which the cultures did not, however, produce a general disease in cattle. Three out of the seven cases were over fifteen years, and all three showed intestinal ulceration, presumably primary. In this connection, one is forcibly reminded of Koch's statement that he had met with only two cases of undoubted primary tuberculosis." The authors are of the belief, judging from their conclusions, that Koch was right when he said that human and bovine bacilli are of different species. Their experiments are not yet finished, and it is possible that when they test the alteration of virulence in a given strain, by passing through a series of animals of the same species, their opinions may undergo a change. Ravenel has shown that the virulence of human bacilli can be so increased in this manner as to approach the pathogenic power of bovine bacilli.

Child Labor.

At the meeting in St. Louis on May 18 of the General Federation of Women's Clubs the subject for discussion was "Child Labor in America." Resolutions were adopted by the Federation protesting against children under sixteen years of age working at night, and advocating the adoption of the "Standard Child Labor Law" in all States having labor legislation. Mr. Homer Folks, former Commissioner of Public Charities in New York City, delivered the principal address. He heartily endorsed the report of the committee in favor of a general effort for the following minimum requirements: First—That no children under sixteen years of age shall be permitted to work at night, that is, between the hours of 7 P. M. and 7 A. M. Second—That no children under sixteen years of age shall be permitted to be regularly employed who cannot read and write simple sentences. Third—That in States in which these two provisions are already enforced we should secure the enactment of the standard child labor law, as outlined by the National Consumers' League.

Mr. Folks, however, pointed out that the battle was only half won when legislation had been secured. Coöperation in the good work must not be expected on the part of industries affected. Enforcement is only possible when adequate machinery is provided. Employers are only influenced by selfish considerations, and so long as they are able to obtain cheap labor, the question of the injury done to the bodies and minds of children by factory labor does not enter into their calculations. Consequently the law will be evaded unless public opinion is shown to be strongly against child labor and the matter is constantly being ventilated by the press. To argue against child labor would be superfluous. It is harmful in the extreme on the face of it, and it is only remarkable that a country in the van of civilization, as the United States is, should have tolerated the system up to now. Most of the European countries have sternly forbidden, by laws which are enforced, the employment of children.

Care of Soldiers' Teeth.

It is widely recognized that in order to be an efficient soldier, teeth must be in good condition. A man with bad teeth cannot masticate food properly and will suffer from dyspepsia and stomach disorders. The military man laboring under disorders of digestion will not be able to fight so well nor to perform his general duties with that zeal and thoroughness characteristic of the individual who is in sound health, qualities very desirable in the soldier. The care of the teeth therefore is now receiving the attention among the civilized nations of the world which its importance deserves. In the January number of the *Deutsche militärärztliche Zeitschrift* the subject is discussed by Staff-Surgeon Richter, a dentist of Chemnitz. Richter states that for military purposes the subjects for discussion are: (1) The extraction of teeth; (2) The filling, and (3) Their replacement by substitutes. The hygiene of the mouth and teeth is described. The teeth should be well cleansed with a brush before going to bed. Cleansing in the morning is less important. If bleeding be caused by the use of the brush, accumulation of tartar is the probable cause. This should be removed by a dentist, if the use of a brush and tooth-pick do not achieve the purpose. Tooth-brush should be soft and straight and the bristles not too closely set. The use of tooth powder and other artificial means of cleansing teeth does not find favor with Richter. Mouth-washes do not destroy microorganisms, and careful mechanical cleansing is far more efficacious than any chemical disinfectant. In order to discover the frequency of dental diseases amongst soldiers, Richter examined 1,000 men of a Saxon regiment in Leipsic. Only 61 had perfectly good teeth; among the others there was an average of 1.4 teeth wanting, and 4.5 decayed. Of the decayed teeth, 2.1 could be filled, while 2.3 required extraction. In one infantry regiment of the German army there were yearly about 2,100 fillings, 2,300 extractions, and 50 sets of artificial teeth supplied.

Hearing in Country School Children.

Dr. König gives, in the *Sammlung swangloser Abhandlungen*, the results of the examination of 787 children in several of the village schools in Germany. The examination was of the most thorough type, comprising in every case, examination with the ear speculum and mirror; of the throat with the aid of the tongue depressor; tests of both nasal cavities for permeability to air, and investigation of the nasal mucous membrane with the speculum and mirror; and, finally, palpation of the nasopharyngeal space in cases which afforded any ground for suspicion of enlarged pharyngeal tonsil. Hearing tests were made with the watch, and with an apparatus described for measuring the hearing as a control to the watch; by whispered and ordinary speech; and by the tuning fork. The results carefully recorded in detail, showed that of the 1,574 ears examined, there was more or less impairment of hearing in 59.09 per cent. (30.44 per cent. for the boys, 28.65 per cent. for the girls). The ages of the pupils ranged from 5 to 14 years. Enlarged pharyngeal tonsil was found in 20 per cent. of pupils at 5 years of age; in 8.43 per cent. of those at 9; the remaining years showing intermediate proportions. More than one-half of the whole number (namely, 561) showed more or less impairment of hearing from chronic catarrh of the tubes. König's conclusions are to the effect that both, in the interest of the children and that of the state, otological examinations of school children are necessary. The best test is that by whispered speech. How much impairment of hearing affects the performance of school children is evidenced by the fact that the lowest place in the class is mostly occupied by those most deficient in this respect. Of those scholars who have on both sides less than one-third of the normal acuteness of hearing, it is in general to be assumed that they are

incapable of satisfactorily following the instruction. It should be the aim of the school physician to see that these cases receive proper treatment, the cost of which should be defrayed in the free schools by the school. The diseases most frequently encountered among the school children are diseases which are capable of being favorably influenced by proper treatment. The rural population is especially disposed to hereditary catarrhal diseases of the auditory apparatus. From the results of the examinations, only about two-fifths had normal acuteness of hearing upon both sides. In about 9 per cent. of the cases the impairment of hearing was brought about by purulent conditions; in about 17 per cent. by enlarged pharyngeal tonsils; and in about 60 per cent. by catarrhal lesions of the Eustachian tube or middle ear. About 15 per cent. of the boys investigated would not be able to do military duty in the standing army. Only 2.5 per cent. of those afflicted were aware of their defect.

Electricity for X-ray Work in the Field.

One of the greatest drawbacks to the use of the *x*-rays during active warfare is the difficulty of having a supply of electricity at hand. Ofttimes the obstacles in the way of diagnosing by means of the *x*-rays in the field are for this reason insurmountable. It has been demonstrated in practice that primary batteries, thermopiles, and static machines are unsuitable for obtaining the necessary supply of electrical energy. Lieut.-Quartermaster F. Bruce, Royal Army Medical Corps, writes in the *Journal of the British Royal Army Medical Corps* for May on the subject. He points out that in a paper of his read before the Röntgen Society, he maintained that for field use no *x*-ray apparatus can be considered complete which does not possess its own means for generating electricity. This opinion is now shared by other experts. Lieutenant Bruce has been endeavoring by actual experiments to devise a generating apparatus suitable to the needs of an *x*-ray installation. In the choice of motors, he discarded oil and petrol engines as, for a variety of reasons, inefficient, and pinned his faith to a steam engine. With regard to a steam engine he says: "In this we have a machine which under recent improvements can be worked anywhere. These improvements have been brought about in the race for supremacy in actuating the machinery of the motor car, and consist of a new system in valve construction, increased power for size, and the introduction of a steam generator having none of the disadvantages of an ordinary boiler. The engine in itself is most compact and easily managed, and being of high speed, can be adapted to drive the armature shaft direct without the need of using belts and pulleys. The steam generator, which is commonly styled a flash boiler, is simply a helical of steel tubing suitably heated when the engine is running. Only sufficient water is injected into the coils to produce steam for each stroke of the piston, the water on entrance being immediately vaporized. Hence there is no boiler to burst through mismanagement, water or steam gauges to be attended to, only the heating of coils to be seen to. The fuel may be either coal, wood or paraffin, the latter requiring a special burner. An engine of this description, with steam generator and dynamo, could be obtained weighing approximately 3 cwt.

The *x*-rays are of more use in warfare than under any other circumstances. It frequently occurs that if a bullet can be exactly located, a successful operation may be performed and life saved. But the value of the *x*-rays in the field are obvious. To be available, however, in the utmost state of efficiency, an *x*-ray installation must be complete in itself, with means for charging batteries. If Lieutenant Bruce has succeeded in solving the problem of how to do this, he has performed a very important service.

News of the Week.

The Walter Reed Memorial Association has been incorporated under the laws of the District of Columbia. After careful consideration it has been decided that this is the most practical manner of securing a responsible board of trustees to take charge of the funds subscribed for a memorial to Major Reed, and to attend to the execution of the project when the necessary money has been received. The American Medical Association and the Association for the Advancement of Science have appointed committees which will no doubt cooperate with the association, and subscriptions to the fund may be handed to any member of these committees or they may be sent to Mr. Chas. J. Bell, President of the American Security and Trust Company, Washington, D. C., who has consented to act as Treasurer. It is thought that at least $25,000 should be raised, and it is probable that the exact character of the memorial will not be determined until a considerable portion of this amount is in the hands of the Treasurer. While it is felt that the non-medical public should contribute a considerable portion of the amount required, the main dependence must be upon physicians to arouse interest in the project by pointing out the important results of Major Reed's yellow-fever investigations. The president of the association is Dr. D. C. Gilman, president of the Carnegie Institute; the secretary is Gen. C. De Witt, U. S. Army, 1707 Twenty-first Street, N.W., Washington D. C.

Conference of the State Boards of Health.—The annual meeting of the State and Provincial Boards of Health was held in Washington last week. At the close of the session a resolution was adopted declaring that it is the duty of State Boards of Health to obtain such legislation and appropriations as may be necessary to secure the drainage of swamp lands and to treat the surface of shallow ponds and pools with such substances as are recognized as destructive to the life of mosquitos of all species. The election of officers for the ensuing year resulted as follows: *President*, John S. Fulton, Baltimore; *Vice-president*, M. K. Foster, San Francisco; *Treasurer*, J. A. Egan, Springfield, Ill.; *Secretary*, Gardner T. Swartz, Providence, R. I. The application of San Francisco for the meeting next year was filed, and probably will be accepted by the executive committee.

The State Hospital for Consumptives.—The Albany correspondent of the *New York Times* reports that by the beginning of next month the State Hospital for the treatment of incipient tuberculosis at Raybrook, Essex County, will be so far completed that eighty patients may be received. The wings of the hospital are yet unfinished, but when they are ready for patients 150 more can be accommodated. All applications of patients must be made to the Overseers of the Poor, for the intention is to give preference to the indigent persons who are suffering in the first stages of the disease. The overseer shall certify patients, who will then be examined by the local examiners, and will be certified by them, if a proper case, for admission. Because of the limited accommodations the rules will be strictly adhered to. Preference, all things being equal, will be given to earliest applications filed. Patients in advanced stages of consumption will not be admitted. The State has expended $215,000 for the construction of the hospital, and has appropriated $55,000 for

the maintenance and accessories. In addition to these sums, Dr. Willis G. MacDonald of this city secured an appropriation of $5,000 this year for the establishment of a camp for outdoor treatment.

Toy Pistols Prohibited.—The City Council of Cleveland, Ohio, on May 31, passed an ordinance making it a misdemeanor to use, give away, or sell a toy pistol or blank cartridge in this city on the Fourth of July. The ordinance is the result of recent action taken by the Academy of Medicine, which showed that a number of persons died from tetanus last year following the celebration of the national anniversary. A similar ordinance was passed in Cincinnati some months ago. Chicago, where the toy pistol has been barred for some time, is to allow no giant crackers, no revolvers, nor any explosive that has dynamite in its composition. To make amends to the small boys, however, the city authorities have contracted with an amusement company to set off fireworks in designated parts of the public parks, and to furnish free to all children who apply, a package of the old-fashioned small Chinese firecrackers.

Examination for Medical Interne at the Government Hospital for the Insane.—The United States Civil Service Commission announces an examination on June 29 and 30, 1904, at the usual places, to secure eligibles from which to make certification to fill at least two vacancies in the position of medical interne in the Government Hospital for the Insane, Washington, D. C., at $600 per annum each, and other similar vacancies as they may occur in that hospital. The examination will consist of the subjects mentioned below, weighted as indicated: 1. Letter-writing (the subject matter on a topic relative to the practice of medicine), 5; 2. Anatomy and physiology, 15; 3. Chemistry, materia medica, and therapeutics, 10; 4. Surgery and surgical pathology, 20; 5. General pathology and practice, 25; 6. Bacteriology and hygiene, 10; 7. Obstetrics and gynecology, 15. Age limit, 20 years or over. This examination is open to all citizens of the United States who comply with the requirements. Applicants must be graduates of reputable medical colleges. Applicants should at once apply either to the United States Civil Service Commission, Washington, D. C., or to the secretary of any local board of examiners, for application Form 1312. No application will be accepted unless properly executed and filed with the Commission at Washington prior to the hour of closing business on June 22, 1904.

A Japanese Translation of Dr. Knopf's Prize Essay.—The first copy of the Japanese translation of Dr. S. A. Knopf's International Prize essay, "Tuberculosis as a Disease of the Masses and How to Combat It," has just arrived in this country. The translation was made by Dr. Goro-Shibayama, and prefaced and annotated by Professor S. Kitasato. The Icelandic edition, ordered by the Danish government to be translated and issued by the same, appeared last December, and the Serbian edition a few weeks ago. This makes a total of eighteen editions in fifteen different languages which have appeared since the original German and American editions were published in 1900 and 1901 respectively.

The American Gynecological Society, at its meeting in Boston last week, voted to amend its constitution to read: The object of this society shall be the promotion of knowledge in all that relates to diseases of women, to obstetrics, and *to abdominal surgery*. The following officers were elected for the ensuing year: *President*, E. C. Dudley, Chicago; *Vice-presidents*, H. D. Fry, Washington, and H. C. Coe, New York; *Treasurer*, J. M. Baldy, Philadelphia; *Secretary*, J. Riddle Goffe, New York. The next place of meeting will be Niagara Falls.

Typhoid Fever in Indianapolis.—The Indianapolis *Journal* states that instead of there being only sixty-five cases of typhoid fever in that city during May, the returns have been concealed and the actual number of cases was about two hundred. The paper charges that the President of the Board of Health deliberately held back the greater number of cases reported although even the full returns would not have given the real number of cases, as many physicians neglect to report their cases. If these charges are true, the sooner there is a change in the presidency of the Indianapolis Health Board, the better for the city.

High Death Rate in New York State.—The bulletin of the New York State Board of Health states that during April there were 13,700 deaths, which is within 300 deaths of April, 1891, at the height of the influenza pandemic and within 600 of that of the month preceding, so that it stands the third highest on the record of monthly death rates. "It is further exceptional in that it is sequent to a series of months of excessive mortality. In the four months of this year there have been 53,000 deaths in this State, against 44,500 for the same months in 1903, and 43,300 in 1902. At this rate for the year there would be 160,000 deaths against 134,000, or against our average yearly mortality of recent past years of from 125,000 to 130,000.

Vital Statistics of Philadelphia.—For the week ended June 4 there were reported to the Philadelphia Bureau of Health 465 deaths, as compared with 494 for the preceding week, and 427 for the corresponding week of the previous year. Of the entire number, 165 occurred in children under the age of 5 years. Sixty-seven deaths were due to pulmonary tuberculosis, 38 to heart disease, 29 to pneumonia, 28 to nephritis, 21 to apoplexy, 19 to typhoid fever, 15 to gastroenteritis, 13 to congenital debility, 12 each to appendicitis, scarlet fever, and old age. There were reported also 102 cases of typhoid fever, 62 each of diphtheria and scarlet fever, and 10 of smallpox.

Low Death Rate in Chicago.—According to the weekly bulletin of the Chicago Health Department, the month of May passed into the history of that city with the lowest May mortality on record. During the first twenty-eight days there was a total of 1,990 deaths—furnishing an annual death rate of 13.44 per 1,000 population. The average rate of the previous decade was 15.63 per 1,000, so that May's record will be about 14 per cent. lower than the average and nearly 2 per cent. lower than the previous lowest—that of 1901, when it was 13.70 per 1,000.

Dr. Lapponi and the Pope.—It was rumored not long since that Dr. Lapponi had been dismissed as Physician to the Pope, the Pontiff, according to the reports, desiring the services of his Venetian physician, and also Dr. Lapponi, being a Free Mason, had insisted on the Pope leaving the Vatican, taking the ground that the Pontiff was no longer a prisoner. Dr. Lapponi, however, in an interview with the representative of the Associated Press, says he has never been asked to resign, and does not intend to resign, as he is apparently enjoying the entire confidence of the Pope. He adds that he is not a Free Mason, and has no intention of becoming one.

The Philadelphia Hospital.—The Dean of the Medical Department of the University of Pennsylvania calls our attention to an error in a recent refer-

ence in these columns to the examination for the staff of the Philadelphia Hospital. Among the first nineteen successful candidates, sixteen were graduates from the University of Pennsylvania, two from Jefferson, and one from the Medico-Chirurgical.

Dr. Arthur MacDonald and "The Sun."—A jury in the Supreme Court before Justice Dickey in Brooklyn has rendered a verdict for $20,000 in the libel suit of Arthur MacDonald against *The Sun*. The issue was whether Dr. MacDonald was an honest scientist and pursuing his work in the Board of Education at Washington in good faith and with pure motives, or whether, as asserted by *The Sun*, he was a counterfeit scientist, using his work as a cover for ulterior objects.

Treatment of Milk Fever in Cows.—A circular issued by the Department of Agriculture announces the discovery of a simple cure for "milk fever" in cows, an extremely fatal malady on stock farms, and prevailing in all parts of the country. Milk fever affects well-nourished, heavy milking cows, and is characterized by the complete paralysis of the animal shortly after calving. The cure, according to the circular, is simple, and consists merely in the injection of sterilized air into the udder through the teat.

Cincinnati College of Pharmacy.—Thirty men received their diplomas from this institution last week. Addresses were made by Congressman J. H. Bromwell and by the president, Dr. Julius H. Eichberg. Later a banquet was served.

A New College in Los Angeles.—It is rumored that a new medical college has been organized at Los Angeles, Cal., to be known as the College of Physicians and Surgeons. It will be conducted in connection with the Angelus Hospital, also a new institution not yet built. Those named as being active in the organization of the new college are Drs. C. B. Nichols, Charles W. Bryson, Frederick C. Shurtleff, James H. Seymour, M. R. Toland, and J. H. Shields.

Hydrophobia.—The Director of the Chicago Municipal Laboratory, Dr. J. F. Biehn, recently sent out a warning of danger of an epidemic of rabies. Muzzling of all dogs that appear in public is the remedy advocated by him. He has just completed analyses of the bodies of three dogs, and has found that all had hydrophobia.

Prosecution of a Quack.—The State Board of Health of Illinois has prosecuted an advertising "doctor" charged with violating the medical practice act by the use of "torture needles and lotus-oil injections."

The John W. Pray Prize.—At the recent meeting of the New Hampshire State Medical Society, the John W. Pray Prize for the best essay on a medical subject was awarded to Dr. Frederick L. Hills, First Assistant Physician at the New Hampshire State Hospital. The subject of the essay was "The Sanatorium for Incipient Pulmonary Tuberculosis; Its Aims, Methods, and Results."

Commencement Exercises of Milwaukee Colleges.—The Wisconsin College of Physicians and Surgeons graduated a class of twenty-nine on May 25. The doctorate address was delivered by Dr. Arthur J. Burgess, and Dr. A. H. Levings, the president, conferred the degrees. A class of twenty-three was likewise graduated from the Milwaukee Medical College April 30. The degrees were conferred by the president, Dr. William H. Earles.

Runge Memorial Meeting.—Memorial services for the late Dr. Edward C. Runge, formerly superintendent of the St. Louis Hospital for the Insane, who died recently in that city, were held on the evening of June 2. E. C. Elliot presided and Drs. Frank R. Fry, Gustav Baumgarten, Robert Luedeking, Otto Heller, and Judge O'Neill Ryan spoke of the life and work of Dr. Runge. Dr. C. B. Burr also spoke in warm terms of his admiration for the high qualities possessed by Dr. Runge. The following resolutions on the life and work of Dr. Runge were adopted: "This assembly recognises in the personality of Doctor Runge a rare combination of qualities consisting of a brilliant mind, a high character, devotion to duty and friends, and a fearlessness which was admirable. We invite the people of this city and State to the obvious lesson to be derived from a careful study of this man's life. He was lofty without being impractical, he was noble without being egotistical, a well-rounded man and one whose death should be mourned by all."

Obituary Notes.—Dr. FREDERICK C. SCHAEFER, professor of clinical surgery in the Chicago Post-Graduate Medical School, surgeon-in-chief of St. Hedwig's Hospital, and gynecologist to St. Elizabeth's Hospital, died suddenly on June 3, at his home, from acute gastritis. He was born in Galena, Ill., in 1849, and moved to Chicago in the early seventies. He received his professional training in the Chicago Medical College. After being graduated in 1876, he became professor of anatomy. When the institution was merged with Northwestern University, Dr. Schaefer continued as a member of the Faculty. At the time of his death he was also consulting surgeon to the Mary Thompson Hospital for Women and Children. He was a frequent contributor to medical journals. He was also a member of the American Medical Association, of the State and local medical societies. He leaves a wife, one son, and three daughters.

Dr. ROBERT REIMAN died at Egg Harbor City, N. J., on June 4, as a result of cerebral hemorrhage, at the age of eighty-four years.

Dr. MATTHEW LEEPERE died on June 6 of nephritis, Glen Cove, L. I. He returned recently from the Philippine Islands. He was born in Arkansas in 1854. At the age of eighteen he became Indian interpreter for the United States Government and three years later was made a commissioned officer of the Fourth United States Cavalry. For ten years he saw active service in the West and on several occasions received honorable mention for bravery in battles with the Indians. At the expiration of the ten years he retired from the army and took up the study of medicine. He made a specialty of throat and ear diseases. He went to Chicago in 1882 and remained there until the Spanish War broke out, when he enlisted as a volunteer surgeon. He remained in the army until the close of the war in the Philippines. For the last year and a half he had been president of the Board of Health of the island of Mindoro. He was enthusiastic over the Philippines and believed there were great possibilities for the islands. He was taken sick on January 1, and as his condition did not improve he decided to return home. Dr. Leepere married Miss Mary Elsie Norton in Holland, N. Y., in 1890. She survives him.

Dr. B. A. WRIGHT, a native of New York, died on May 17, in Los Angeles, Cal., at the age of eighty-one.

Dr. H. C. VAIL, an aged retired physician of Long Beach, Cal., died suddenly at Los Angeles, May 18. He was a native of New Jersey.

Dr. GEORGE WASHINGTON BROOKS died in this city on June 3, from apoplexy, at the age of (87) years. He was long in active practice in New York, but retired about eight years ago.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

ANNUAL ORATION OF THE MEDICAL SOCIETY—X-RAYS IN RELATION TO TUBERCULOSIS AND CANCER—MIDDLESEX HOSPITAL AND CANCER—LONDON UNIVERSITY PRESENTATION DAY.

LONDON, May 20, 1904.

THE annual oration of the Medical Society of London was delivered on Monday by Sir Isambard Owen, who took for his subject the "Future of Medical Education in London." Sir I. Owen is sub-dean of the faculty of medicine of the London University and deputy chancellor of the University of Wales. He should, therefore, be well able to discourse of this subject, and his experience as a teacher in one of our hospitals is an additional qualification for his task. The oration was listened to with close attention by an interested audience, and a considerable proportion agree with his views. He drew a contrast between the provision for higher education here and abroad, in the course of which he mentioned a number of the munificent endowments in the United States, and lamented the little that we can show in comparison. One of the most important points put forward as a definite object for the future was the realization of the scheme of the London University for an institute of the medical sciences which would undertake the teaching of the preliminary and intermediate subjects of the medical curriculum. This would probably in time supersede the hospital schools so far as these subjects are concerned and leave the clinical to be continued as at present. Certainly some advantages would result to the students who would thus become members of the University, and would, if they liked, proceed to its degrees without a number of the vexatious and unreasonable restrictions imposed by the old London University, which was, in fact, a mere examining board hedged in by regulations most difficult to comply with.

But although many are prepared to hold that the institute would be the best solution of our difficulties, others are doubtful and think it might easily become a mere competitor of the old schools. It is possible, however, that the institute, if once established, would eventually absorb all the scientific education of the medical profession. The Senate has adopted the scheme, and the institute may be regarded as the child of the university. But there is one great matter to settle—funds. It is estimated that £375,000 will be required to adequately endow the institute. Where is the money to come from? Americans would very soon come forward for such an object in the United States. I am afraid that in the old country it will take considerable time and earnest appeals to carry out the scheme.

The Clinical Society had two papers before it dealing with *x*-rays from two different points of view. The first, by Drs. Stanley Green and W. H. Brook, discussed the use of the rays as a factor in the diagnosis of pulmonary tuberculosis, and was illustrated by lantern slides. From two and one-half years' work the authors concluded that the rays afforded substantial assistance in the diagnosis of very early phthisis, for by means of a screen examination unilateral limitation of the movements of the diaphragm would be revealed. The transradiency of lung tissue, or the presence of scattered areas of shadow, also afforded important indications. The slope and shape of the ribs and the width of the intercostal spaces were further points of importance to notice. They had been able to show the presence of cavities, and even of fibrosis, in certain cases. In bilateral cases an examination by *x*-rays might demonstrate the presence and even the extent of disease before it could be recognized by percussion and auscultation. But the method should only be regarded as an adjunct to these and to the microscopical examination of the sputum. This conclusion was commended by the speakers who followed, some of whom expressed a fear lest the older-tried methods are in danger of being neglected, for it is hardly likely that they will ever be supplanted. At the same time, as a means of realizing more vividly the physical condition, and, perhaps, of recording the progress of the disease, the value of skiagraphy must be recognized. Ocular demonstration of a morbid condition must be of value, but it is of importance to remember that the shadows are not infallible, and skiagrams require to be interpreted with care.

The second paper dealt with cancer instead of phthisis and the use of the rays in treatment instead of diagnosis. It was communicated by Dr. A. E. Peters, and consisted of a description of two cases of recurrent carcinoma of the breast which had been treated by *x*-rays. In the first the treatment had been continued for twenty-two months. The subcutaneous nodules and the ulceration both disappeared, but only to return on cessation of the treatment, though in a state of diminished activity. Eventually growths appeared under the skin, at the back of the thorax, and these nearly disappeared under exposures to the rays. The breast and glands of the opposite side became involved. The patient felt the pain relieved by the treatment. In the second case subcutaneous nodules and pleuritic thickening improved for a month under the treatment, but the patient died soon after from thoracic involvement. A tendency for scar-tissue to break down under the treatment was observed.

In the discussion on this paper it was generally recognized that the rays had a decided influence in promoting the removal of nodules, breaking down scar-tissue and degenerating cells, perhaps even changing the characters of a growth or preventing a tendency to recur. But then the patient would often succumb from secondary deposits elsewhere. In inoperable cases the rays may give the patient the comfort of relief from pain, but when cancer is discovered early enough the prevailing opinion seems to be in favor of excision.

The Countess of Derby held a meeting at Derby House on behalf of the Middlesex Hospital, at the close of which it was announced that contributions to the amount of over £8,500 had been promised. Sir Douglas Powell said efficiency was the watchword of the hospital, especially in reference to the cancer department. Mr. Pearce Gould made quite an optimistic speech in regard to this. He firmly held there was good hope of discovering the cause and then they would find a cure. As there were cases of cancer which got well spontaneously, and that fact proved that the disease was not incurable. The *x*-rays had a remarkable effect on some cases, and the work done in the research laboratory was most encouraging. It was too technical to dwell upon before that audience, but there was one point he would like to inform them about—the supposed hereditary nature of cancer. This had been grossly exaggerated. The careful survey of the facts they had accumulated proved that if heredity had any influence at all it was only very slight. Many people feared that if any of their relatives had suffered from cancer they would almost certainly have it. This was a gross exaggeration, and they should pay little heed to any such supposition.

On Wednesday the reorganized University of London celebrated its presentation day with almost mediæval pomp and circumstance. An imposing procession was formed of all the leading officials, the senators and guests, and passed on to the Great Hall, which was crowded with graduates and undergraduates, the number of women among them being notable. The presentation for degrees and honors occupied little more than half an hour, and the procession was reformed and passed out amidst a round of applause. The new organization seems successful so far as numbers go, for the report stated that the total number who entered the university in the last official year was 3,261. Further, the number of entries for the matriculation examination to be held next month is 3,551.

LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

INCREASE IN SMALLPOX—VACCINATION PROBLEMS—THE WORK OF THE OFFICIAL VACCINATORS—DISTRIBUTION OF VACCINE MATERIAL.

MANILA, March 29, 1904.

DURING the past few months the usual annual increase of smallpox accompanying the development of the dry season has been noted. The population of Manila itself has been well protected by vaccination, and but few cases of smallpox occur except in transients in spite of constant importation of the infection from the provinces. To reduce the liability to the latter, the quarantine physicians have lately been carrying out systematic vaccination among the crews of the vessels running to and from Manila, and so far have performed ten thousand vaccinations which were successful or which were repeated until the fact of immunity was established. In the provinces, however, in a large proportion of which the population is in great part unvaccinated, there have lately been several smart epidemic outbreaks, this being especially the case in respect to the provinces of Ilocos Norte, Tayabas, and Misamis. In all these epidemics the disease was stamped out by practically no measures other than that of vaccination of the entire population. In Misamis the military and civil medical authorities coöperated in the suppression of smallpox, which had developed into a serious outbreak. Communication with the infected towns of this province was very imperfect, and of a large amount of vaccine virus forwarded a considerable part went astray or spoiled en route. Arm-to-arm vaccination was therefore generally practised by the vaccinators with no ill results so far as known. The

Filipino, when vaccinated desires a well marked local reaction and does not discriminate between true vaccina and the reaction due to a local pyogenic infection. Much of the virus used by the Spaniards was inert, and with the desire of promoting its efficiency a custom has grown up among the lower classes of covering the vaccination abrasion with a poultice of boiled fish, which is left on for a couple of days or so and can be counted on to infect the skin lesion so thoroughly as to cause intense local inflammation. Vaccinators find considerable difficulty in successfully opposing this custom and in inculcating the new doctrine of cleanliness. Aseptic bandages are frequently removed to be replaced by the fish poultice.

As a general rule, the Filipinos are fully convinced of the efficacy of vaccination in the prevention of smallpox, and the work of vaccination probably encounters less opposition from them than from an equal number of white residents of the United States. A concrete example of their appreciation of the measure exists in a life-size statue which stands in the plaza before the Government building and is representative of and dedicated to the King of Spain under whom vaccination was first performed in the islands. It was erected a number of years ago from the voluntary contributions of the Filipinos themselves. Of course among the most ignorant classes and among the wild tribes the value of vaccination is not understood, and conditions are encountered similar to those mentioned by Kipling in his story having to do with the vaccinating of the Satpura Bhils. Quite recently vaccination had to be discontinued in the center of Panay Island by reason of the ignorant people, deceived by agitators against the Government into believing that vaccination was the cause of cholera, assaulting the vaccinators and forcing them to flee for their lives. The Moros have, rather unexpectedly, taken kindly to vaccination, as performed under the army surgeons in the vicinity of the few military stations where it has been practised on the surrounding native population, and a virgin population of some half a million Mohammedans is awaiting the advent of the vaccinators in the Moro country. In the Island of Negros report says that the wild tribe of the Babuayanes, living in the mountains, was almost exterminated by smallpox during the years 1899-1900, and this disease is stated to be a chief factor in the gradual but steady disappearance of the Negritos. Among the Igorrotes the smallpox infection is always prevalent and a prominent cause of mortality.

The work of carrying out vaccination in the city of Manila and throughout the provinces has lately been reorganized, and a carefully prepared plan elaborated under which this work will in the future be carried out. Up to the present time there has been little system in the execution of this work and no check upon its accuracy. In the provinces, vaccinators were appointed on the recommendation of the local doctors, furnished with vaccine virus and allowed to operate with practically no supervision. There was no minimum day's work required to be performed, and the results obtained were inadequate as compared with the expense involved. The records of the vaccination work were prepared in so many ways as to render it impossible to reduce them to a comparable basis of statistics for the entire islands, and reports of the work done were far less frequently rendered than missing. Where such reports were furnished, there was often reason to believe them to be unreliable from the desire of the vaccinator to make an exceptionally good showing. As the provincial vaccinator received his travel and subsistence expenses, there was a constant temptation to overcharge in this respect. and the disallowance of such excessive accounts caused trouble and annoyance to all concerned. It is also to be more than suspected that undesirable and incompetent men were frequently recommended for appointment as vaccinators by the local native doctors, who regarded such positions, well paid from the insular funds, as comfortable berths for political friends or needy relatives. The frequency with which smallpox was reported from districts recently supposed to have been properly gone over by vaccinators, showed the absolute necessity for radical reorganization.

The system in operation under the Americans in the provinces was highly faulty, but was a marked advance over the trivial, faulty, and impotent methods of the Spanish health authorities, whose records for the year 1894 show that the reported performance of only two or three vaccinations a day was regarded as a sufficient amount of work for a vaccinator. Finally, and of much importance, the means of communication throughout the islands are still so poor that unless vaccine virus is shipped with unusual precautions, it is often liable to become spoiled before being placed in the hands of a vaccinator operating in a remote province.

In Manila the vaccination work since the American occupation has been far better carried out than in the provinces, though still far from being perfect. A better class of vaccinators was obtainable. their work was supervised to a certain extent and the vaccine virus used was fresh. Fair records were kept of the work and show that more than 150,000 persons were vaccinated in the city during the year 1903. This amount of work, as shown by the records, is more than three times greater than the amount of vaccination work carried out by the Spaniards, in the city of Manila, during the entire five years preceding the assumption of American sovereignty over the islands. The recent work in the city has practically resulted in the protection of the inhabitants against smallpox, and as already stated, such cases as develop now largely occur in the less efficiently vaccinated transient population.

Under the new plan lately adopted, the general work of vaccination is under a physician of the Board of Health, whose office is subdivided into two divisions, one having to do with personnel, orders, reports, records and statistics, and the other devoted to the supply and distribution of vaccine virus. A chief vaccinator is in charge of the former class of work for the archipelago. For the city of Manila there are thirteen vaccinators and four inspectors of vaccination, one of the latter being in charge of the personnel of the city. Each vaccinator is required to average forty vaccinations daily, going from house to house, and each inspector is required to inspect one hundred vaccinations daily, as to their success. On vaccinating a person, the vaccinator signs and issues a red card, giving the name, age, sex, and address of the person vaccinated and the date of vaccination. The inspector takes up this red card on inspecting the vaccination, and if the latter was found to have been unsuccessful he issues a white card stating the fact and giving the above information. If the vaccination is successful, a blue card is issued, which is accepted as evidence that further vaccination of the holder will not be required for a period of two years. Careful records are kept on loose blank form sheets, which, after being filled out, are turned in to the various district sanitary stations, where they are bound together in permanent records covering the population of the respective sanitary districts. These sheets are signed by the vaccinator who enters thereon the name, address, sex and age of the person, the date of vaccination, and the existence or not of evidence of previous successful vaccination. These sheets are also signed by the inspector before being finally turned in to the district sanitary station, and the success of the vaccination noted and any remarks entered thereon. From these records almost any statistical data may be compiled, and full information as to the protection by vaccination of any person in his district can always be secured by the district medical inspector. A daily summary report, on a printed form sheet, is compiled from these records and forwarded from each district sanitary tation to the chief vaccinator for the city, who compiles them into consolidated weekly and monthly numerical summary reports and forwards them to the office of the Board of Health, where they are incorporated into the vaccination statistics for the archipelago. In the vaccination work of the city, the districts are gone over systematically, street by street; once in three months the birth records of the district are gone over and the unvaccinated infants of suitable age sought out and vaccinated, and especial effort is made to vaccinate persons not vaccinated during the previous calendar year.

In the provinces, practically the same blanks forms are used and the same reports are rendered as in Manila, so that the data thus furnished can be consolidated statistically, for the islands. The vaccinators are uniformed, and trained in Manila and sent out from there, being placed under the control of the provincial health officer as soon as they report for duty in his province. He assigns them to stations and is responsible for the efficient performance of duty by them. Each province is districted and a sufficient number of vaccinators will be stationed in each district to accomplish the vaccination of the entire population of such district within a fixed time. As in the provinces the law requires that persons to be vaccinated must present themselves at a place and time designated as the one in which the operation is to be performed, more persons can be vaccinated than where the vaccinators must themselves go from house to house. The minimum number to be vaccinated is fixed at sixty per man per day and the number to be inspected is one hundred and fifty per man per day. One hundred vaccinators are allowed for the provinces, in addition to which the law requires that the more than three hundred physicians who are presidents of local health boards shall vaccinate persons within their respective municipalities. The average numbers to be vaccinated daily by such physicians, when the general vaccination of a province or municipality is ordered, is fixed at fifteen per man per day, a greater number unduly interfering with the performance of other duties by such physicians. The records of vaccination are made on form sheets almost identical with those used in Manila, and after being filled out by the vaccinators and inspectors, are stitched together and filed with the Secretary of the municipality as a public municipal document. The re

ports and numerical summaries are rendered on the prescribed form blanks at the conclusion of the work of vaccination and inspection in each municipality, and are forwarded to the president of the provincial board of health, who consolidates all reports received from the various municipalities of his province on a provincial blank form and forwards the same to the Board of Health in Manila, where the various provincial and city reports for each calendar month are consolidated into a table for the islands. All reports from municipalities are sent through the local presidentes, or mayors, who are obliged to endorse thereon whether they believe the reports to be accurate and whether the conduct and efficiency of the vaccinators and inspectors were satisfactory while in their municipalities. As soon as a province has been thoroughly gone over and all available persons vaccinated, the vaccinators are moved to another province and the same procedure entered upon. The provinces first vaccinated are those in which smallpox exists, and the first towns selected within such provinces are those in which the disease prevails. Contacts are first of all sought out and vaccinated. Under this plan it is estimated that, using the services of the local health officers of municipalities, an aggregate of about two million persons can be vaccinated in the space of twelve months, which would mean that about four years would be required, at the same rate, to vaccinate the whole population of the archipelago. It is estimated that this vaccination can be carried out at a cost of less than five cents United States money, for each vaccination so performed.

In connection with this general plan of carrying out vaccination work, a satisfactory method of supplying vaccine virus has been worked out, by which vaccine substations in the remote provinces are established provided with large ice boxes and supplied with ice from Manila, or other convenient point for preserving the virus. Vaccine virus is sent on ice in small portable ice boxes from Manila to these provincial supply stations, where it is kept on ice until distributed to the vaccinators, the small portable ice box being at once returned empty to Manila to receive another shipment. In certain cases, in which water transportation is available and vaccinators are working at a considerable distance from such a provincial vaccine supply station, the portable ice boxes are reiced, if necessary, and sent direct to the vaccinators with their contained supply of vaccine virus. For short distances or to places in ready communication with Manila, as along the railroad or the shore towns of the neighboring provinces, vaccine virus will be sent out by mail, as heretofore. An elaborate scheme for distribution has been worked out in connection with post-office routes, the railroad and the lines of coastwise steamers, army transports and coast guard boats, by which it is known how and when any given municipality may be reached, so that supplies of fresh vaccine virus can be forwarded to it without unnecessary delay in shipment. This matter of supply of vaccine virus is one of much difficulty and great practical importance, as in the past the work of vaccination has been seriously impaired by difficulty of supply and deterioration of vaccine virus en route.

This proposed general vaccination of the islands is unquestionably the greatest undertaking of its kind which has ever been projected, and, from lack of ready means of communication, it will meet with difficulties which will scarcely be encountered elsewhere. Its success will greatly redound to the credit of those by whom it has been planned and executed.

IS LEPROSY CURABLE?

To the Editor of the Medical Record:

Sir: I notice that the Medical Record as well as the *British Medical Journal* has dignified the newspaper account of a recent lecture of mine with editorial comment. I feel that, perhaps, an authoritative statement from me might be acceptable.

The Louisiana Leper Home has never been adequately brought before the public of Louisiana; the State Legislature has always failed to supply adequate funds for the proper maintenance of this institution. With the object of stimulating local interest purely, I delivered a public lecture before the Alumni Association of the Jesuits' College here, an institution of no mean note. The newspapers reported that lecture sensationally, and I had no opportunity of censoring their account. Evidently some parts of their account were considered as general news, and the Associated Press distributed these in a more sensational way. I regret this, as a public lecture is not the place to exploit medical achievements, and my position in New Orleans did not need any advertisement of that sort.

My lecture dealt with the historical relation of leprosy, and a description of the past and present conditions of the leper colony in Louisiana. It was illustrated with lantern slides, and the whole topic was discussed in a dramatic way. In concluding, a section of the lecture was devoted to the caption, "Is There Any Hope for the Leper?" Under this head I related the fact that within two years every case, not too far gone, at the Leper Home had been benefited; that in three cases the evidences of the disease had almost disappeared. I further stated that during ten years my assistants and myself had removed all evidences of the disease in nearly a dozen cases. I had made no statement as to the remedy employed as I did not feel that that was the place to discuss technic.

The notoriety which has attached to the report of my lecture I trust will entitle me to receive adequate consideration at your hands for the present communication. I wish to state that *I know no specific for leprosy; I have discovered no cure.* I propose reporting these cases in which the evidences have been removed. I shall do this in a proper medical periodical.

I wish to state that in twelve cases all evidences of the disease have been removed—in one case, for the past eight years; the others have been free of evidences of the disease for periods ranging up to two years since. None of these cases have been at the Leper Home.

The treatment employed has been various, but, in most instances, I have used maximum doses of chaulmoogra oil, and as crude as I can get it in the liquid state. Some patients have taken as much as two drachms at the dose. The patients know that they have no evidence of the disease, and some of them follow their occupations as if nothing were the matter with them. All of them have maintained treatment since the evidences of the disease disappeared.

I have made no claim for anything more than the removal of the evidences of the disease. I have not stated that I had discovered a cure for leprosy. I do not know, nor does any one know, whether the disease will recrudesce in any of these patients or not.

The bacteriological examination has been negative in several instances in which such examination has been repeatedly made in these cases referred to.

As the founder of the Louisiana Leper Home and personally cognizant of the fact that the disease is more extant in Louisiana and neighboring States than is usually allowed, I have lost no opportunity in making the purpose of the Home known and felt. I regret any misapprehension that may have arisen. Finally, let me say that Unna of Hamburg, Crocker and Hutchinson in London, have announced cases in which all evidences of the disease had been removed by treatment, and I trust that when my report is made it will only stimulate others to treat the disease persistently and attentively.

Isadore Dyer, M.D.

New Orleans, La., May 27, 1904.

Enuresis in Children.—Percy Lewis states that the variety of causes to which this condition has been attributed and the very diverse treatments which have been recommended for its cure, suggest that its pathology has not been accurately studied. The subjects of this complaint are mostly unhealthy in aspect. The treatment which has for some years been successfully carried out by the writer was suggested by the consideration of a similar condition which occurs in infants fed on starchy foods. Such children always pass a larger amount of urine than normal. When their starchy food is cut off this symptom disappears. It is the same with victims of enuresis. In most cases a rigid anti-diabetic diet removes the symptom in a few days. The cause, however, due to a general depression of health produced by an excessive starchy diet, requires general tonic treatment at the same time. During the cure, starchy food may usually be allowed for breakfast without "accidents" occurring at night. Without any other treatment, hospital cases are relieved often at once and finally cured by being taken as in-patients and fed on the ordinary hospital diet. In private cases even small quantities of bread or cake given at dinner or tea early in the treatment cause the bed-wettings to recur. In about three to four weeks, sometimes sooner if the tonic treatment is pushed as well, a normal diet may be given without enuresis happening. While not wishing to contend that enuresis is a condition of rickets, the writer is of the opinion that it is a weak bodily condition caused by an excessive starchy diet and associated with inability properly to digest that excess.—*The British Journal of Children's Diseases.*

Progress of Medical Science.

The Boston Medical and Surgical Journal, June 2, 1904.

Disinfection of the Clinical Thermometer.—Francis P. Denny calls attention to a method of disinfecting the clinical thermometer by putting a few drops of formalin into the thermometer case. Two or three drops of formalin (40 per cent. solution of formaldehyde) are put into the case and are absorbed by the cotton, which will remain moist a number of days. Formaldehyde gas is freely given off from the formalin, but is confined in the air-tight chamber of the case. The small size of the chamber, the high humidity, and the high temperature, if the case is carried in the vest pocket, furnish conditions very favorable for the disinfectant action of formaldehyde. Where the thermometer has been used for a patient known to have a contagious disease it is best to disinfect it outside the case, or at least fresh formalin should be added and the thermometer exposed to the gas several hours before being used again. By this method the thermometer is always disinfected after it is used with no loss of time to the physician, except the time it takes once in two weeks to add three drops of formalin to the case.

Journal of the American Medical Association, June 4, 1904.

Abdominal Pain and Pneumonia.—S. A. Foote relates the case of a young woman of twenty years. Its interesting features were the absence of all signs pointing to involvement of the lungs until the third day of the illness. The principal initial symptom was pain in the right iliac fossa with evidences of excessive tenderness on slight pressure. There was no swelling but some rigidity was noted in the muscles superimposed on the appendical area. Later the tenderness spread over the entire abdomen. Operation was prepared, but on account of amelioriation of symptoms deferred. On the fourth day of her illness a severe pain, preceded by chilliness, was felt about the right nipple. Examination of the chest now revealed consolidation of the right lower lobe: termination by crisis occurred on the seventh day from the first onset of the sickness.

Medical News, June 4, 1904.

Scurvy in Infants.—William Fitch Cheney declares that scurvy is a disease in which proper treatment works a miracle. It has no tendency to spontaneous recovery, but when recognized and given the proper care, improvement is immediate and cure is surprisingly rapid. No other disease affords the physician a better prospect for brilliant results. As to treatment, three measures are indicated: (1) Discontinue the proprietary food. Substitute a mixture of fresh milk diluted with water or with oatmeal water. (2) Give fresh orange juice, in dose of one or two teaspoonfuls three times a day. It is surprising how babies with scurvy take to this and seem to enjoy it. (3) Give freshly expressed beef juice, squeezed from rare steak, in dose of one or two teaspoonfuls three times a day. (4) Give no drugs at all.

Notes on the Epidemic of Cerebrospinal Meningitis.—Henry Dwight Chapin, in describing this disease, says that the onset is fairly abrupt, differing thus from all other forms of meningitis. The severity of the initial symptoms is apt to stand in some relation to the type of the attack. There is severe pain in the head and back of the neck. The typical retraction of the head is an early symptom, usually noted on the second or third day. The posture is characteristic. With the opisthotonos, the thighs and legs, and even the arms and hands, are apt to be in a condition of more or less extreme flexion. After this characteristic beginning, cerebrospinal meningitis is most irregular in its manifestations, particularly in the epidemic type. The general course and duration are most irregular. In some cases the brain is permanently injured by the ravages of the disease. The special senses may suffer loss or permanent disability. The cause of the epidemic form of this disease is the Diplococcus intracellularis, which is found in the fluid procured by lumbar puncture. It is usually turbid when drawn. The manner in which the germ gains access to the cerebrospinal meninges, as well as its port of entry, appears to be uncertain. The death rate is high. The disease does not seem to be limited to any one section of the city, but generally occurs in the poorer quarters. It seems to attack by preference those living in unfavorable hygienic surroundings, or those whose systems are exhausted, especially if they live in depressing environment. It does not behave like a contagious disease, but rather appears in comparatively isolated localities. Most of the epidemics have extended principally in winter.

New York Medical Journal, June 4, 1904.

A New Operation for Puerperal Sepsis.—Swithen Chandler gives the directions for the operation as follows: Make an incision posteriorly to the cervix in the posterior vaginal wall; then pass a pair of long blunt-pointed forceps, slightly curved, in the cervical canal, up into the cavity of the uterus; then puncture the posterior wall of the uterus in the center, near the top of the uterus. Then introduce with two fingers a piece or strip of iodoform gauze through the posterior vaginal opening previously made, clasp the gauze with the forceps, and drag the same through the uterine wall and out through the vagina. Repeat this by puncturing the uterus on each side, but posteriorly and just about the middle of the body of the same, drawing the gauze through the same as in the first attempt.

Atheroma and Aneurysm of the Abdominal Aorta at the Age of Twenty-one Years.—The patient of C. R. Andrews was a young white male. He had been sick for nine weeks before coming under observation and lived only seventeen hours after admission to hospital. He was probably syphilitic, though a denial was made of this infection. Before death a mitral regurgitant murmur was present, and the autopsy showed a large warty growth capped with calcareous deposits on the upper surface of the mitral valve. The aortic cusps were also sclerotic and thickened. The arch of the aorta was atheromatous and studded with several ulcers, which had extended through the intima. The arteries of the extremities were atheromatous, though not so markedly so as the arch of the aorta. Just above the location of the cœliac axis was a sacculated aneurysm 4.5 cm. in diameter. The thrombus within the aneurysmal sac was rather firm and laminated, the blood having coagulated in concentric layers at different periods of time. The patient complained of no pain, and gave no symptoms which would have led one to suspect the condition. In addition to the above lesions there were infarctions in the spleen and kidneys, together with interstitial nephritis, pleuritic adhesions, and adhesive pericarditis.

American Medicine, June 4, 1904.

The Conservative Treatment of Acute Appendicitis.—A. W. Morton believes that the leucocytes are of importance in conjunction with the other symptoms, in not only arriving at a diagnosis, but in differentiating appendicitis from other diseases. He believes that a count of 20,000 or more not only indicates that pus has formed but in conjunction with other symptoms, that it has passed beyond the confines of the appendix, and that there is an effusion into the peritoneal cavity, and that it is one of the symptoms that not only confirms the diagnosis, but should deter the surgeon from operation as long as the count remains above 20,000. The pulse remaining above 116, and the other symptoms exaggerated are special indications that operation should be postponed until the general condition is better. This is the hopeless class of patients which give the ever-ready surgeon his mortality. The writer believes that rest is especially indicated in the treatment of appendicitis. During the past two years he has treated forty-five patients with acute appendicitis, and twenty-seven of the patients were operated upon during the first to the fifth day, with one death. Two were treated through the attack, and refused operation. Sixteen of the patients were treated from four days to two weeks, and then operated upon, with one fatality.

The Leishman-Donovan 'Blood Parasites (a'Synopsis).—Joseph McFarland, in referring to the studies of Manson and Low, states that they confirm and supplement the descriptions of the earlier observers, and seem to disprove completely Laveran's statement that these bodies are parasites of the red blood-corpuscles, and a species of piroplasma. Although the parasites are often encountered superposed on or underlying a red blood-corpuscle nothing has been at any time seen to suggest that they are inside the corpuscle. The Romanowski stain gives the best results. These workers do not doubt that the frequency with which the body was found by Donovan and the frequent occurrence of chronic febrile splenomegaly, indicate that this parasite is important in tropical pathology. The writer tapped a patient's liver, and found in the small quantity of blood so obtained, numerous single or double parasites, but no zooglea masses. This fact seems to point to the biliary ducts as the channel through which the parasites escaped to gain subsequent freedom by passing out of the body with the fæces, but repeated examination of the fæces have been negative. Centrifuged urine has yielded no parasites. In the parasites obtained from the liver, in 90 per cent. of them the nucleus was either extended and swollen, or was in process of extension. Possibly due to the dilution of the blood with normal salt solution. The parasites could not be cultivated in blood agar.

Influence of Old Age, Diabetes, Arterial Sclerosis, and Gout on the Healing of Wounds.—Wells P. Eagleton declares that the essential consideration in operating on old people, aside from damaged kidneys, heart, etc., is

guard against shock. After eliminating this, quite as apid union as in younger patients may be anticipated. he writer believes that in considering a case for surgical peration in a diabetic subject, there should be less attention paid to the presence of sugar in the urine, and ore to the technique: (1) By remembering the special ability of the tissues to infection, and so practising absolute sepsis. Antiseptics have no place here. (2) By membering the extremely low vitality of the tissues, l trauma not absolutely necessary should be avoided.) By remembering the frequent association of arterial clerosis. Interfere as little as possible with the blood-pply. (4) By remembering the liability of nerve deneration, and preventing the possibility of even slight ressure over the site of operation. Any violation of ese rules in a case of diabetes would probably terminate isastrously. The danger of a complicating atheroma ordinary senile gangrene in a diabetic patient.

The Lancet, May 28, 1904.

Three Cases of Suprarenal Apoplexy in Children.—F. angmead reports the cases, and reviews the various heories of causation. Most of these cases are due to sphyxia and trauma, but there is a third class due probbly to some toxæmia This class is characterized by a irly definite train of symptoms. A child previously ell is suddenly seized with acute abdominal pain and omiting and rapidly becomes seriously ill. The temperature rises and an exanthem is often suspected. No haracteristic rash, however, appears, although sometimes here is purpura. In a few cases there are other hemorrhages resembling the "purpura fulminans" of Henoch, onvulsions generally supervene, the patient becomes moribund, and death occurs in a period which may be ounted by hours. The toxæmia theory is favored by the close resemblance between the clinical records of these cases, and those of acute specific diseases of a malignant type, and also there is no lack of experimental evidence suggesting a toxic origin. On the other hand, bacteriological evidence is negative, and in no case is there evidence of exposure to any source of infection, and furthermore, while profound toxæmia, the result of specific infection as in diphtheria and summer diarrhœa, is a common cause of death in children, cases of hemorrhage into the suprarenals are very rare. If it be an infection, presumably it is a special infection of unknown origin.

British Medical Journal, May 21, 1904.

A Case of Acute Tetanus.—Arthur Dobson reports this case, which is of interest for several reasons. The incubation period was only eight days. The period between the first symptoms and death was twenty-four hours. This was probably accelerated by the presence of a heart lesion —there was a well-marked mitral murmur, systolic in time. The abdominal muscles remained flaccid throughout. The patient was a man of twenty-three years, suffering from injury to the right foot. Lisfranc's operation was performed with the above results. The stump looked healthy and showed no signs of suppuration. It was dressed with hot boracic fomentations from the first.

The Relative Advantages of Suprapubic and Perineal Prostatectomy.—Edward Deanesly summarizes the principal advantages which prostatectomy by the perineal method possesses compared with the suprapubic method. It is anatomically more direct; it does not inflict a double wound in the bladder, and does not open the prevesical cellular tissue. The whole operation can be performed deliberately, under the direct guidance of sight as well as touch; it permits the operator to remove as much or as little of the prostatic overgrowth as is desirable or feasible. The drainage of the bladder and subsequent wound treatment are much facilitated by the dependent opening. The writer calls attention to the conspicuous merit of Proust's operation. By this method, the bladder and prostate can be easily and safely opened from the perineum either for exploration, for removal of calculi, or for removal of the whole or parts of the prostate.

British Medical Journal, May 28, 1904.

A Method of Arresting an Epileptic Fit.—J. C. McConaghey turns the patient on to the left side as soon as the fit begins, and holds him in this position, nearly all the recorded cases were treated in the "tonic spasm" of the fit, and in most cases the muscles all became flaccid, and the color of the face improved, and no "clonic spasm" supervened. The method is very simple. The writer then notes a case showing the efficacy of tying a ligature round the limb from which a "sensory aura" takes its origin.

Leishmania Donovani in the Soudan.—Sheffield Neave reports this case of a boy of about eight or nine years. He came to be treated for chronic diarrhœa, and had recovered from this, but had a daily rise of temperature, usually remitting to normal, and commonly rising to 101° at night. His spleen extended down to the level of the navel, but well to the left of it. A blood count showed erythrocytes, 4,200,000; leucocytes, 3,000; the large mononuclears were estimated at 67 per cent. The boy's spleen had begun to enlarge while he was being suckled, but never gave any trouble. The cerebrospinal fluid was sterile. The urine was negative. The individual units, when separate, appear somewhat oval in form, and contain a nucleus, and a small rod-like body. They vary, apparently, in size.

Note on the Occurrence of Leishman-Donovan Bodies in "Cachexial Fevers," Including Kala-azar.—Leonard Rogers has done very careful work in the investigation of these bodies. He has been trying to learn how to differentiate the cases with the new bodies from chronic malarial fevers. He gives a table of comparison between fevers showing Leishman-Donovan bodies, and those showing malarial parasites. There is no point of marked difference between the two series. On the whole, it appears to be more likely that these bodies are a new form of protozoa very closely allied to the malarial parasites, and producing a very similar train of symptoms, but with a greater tendency to bring about a cachexial state very rapidly, and a greater resistance to the action of quinine in small doses. These parasites are to be found in kala-azar, and should they prove to be the actual cause of the disease, the matter will be one of great practical importance.

Deutsche medisinische Wochenschrift, May 19, 1904.

The Relations between Leucoplakia and Syphilis.—W. Lublinski discusses the almost diametrically opposite views entertained in regard to these conditions, and believes that some light may be gained by a closer insight into the pathology of leucoplasia. From his personal experience he believes that the latter is not a disease *sui generis*, but the localized expression of the reaction of the mucous membrane to long-continued irritation, which finally assumes the form of a white mucous patch. The principal irritants are tobacco and alcohol, and this seems partially confirmed by the fact that the disease affects men almost exclusively, and particularly at that age when these substances are being used. He is inclined to agree with the French authors, and conclude that syphilis is a disease which predisposes to the production of a leucoplakia. It should be noted, however, that syphilis itself may produce a papule or a gumma on the mucous membrane, but never a patch of leucoplakia. The latter only appears after some form of long-continued irritation has produced a reaction and may be designated as a parasyphilitic infection. Antisyphilitic treatment will be found to have no effect whatever on the improvement of the lesions; moreover, the already irritated mucosa becomes the seat of fresh irruptions, which for reasons not yet known, not uncommonly undergo malignant changes.

Mode of Action of Antitoxins in the Living Organism.—Wassermann and Bruck have attempted to show in the living organism, what has already been demonstrated in test-tube experiments, that the antitoxin merely unites with the toxin, but does not destroy the latter. If this view is correct, then when the combination present in the animal's body is broken up, the toxic action should be restored even in the presence of the antitoxin, and the animal again made ill. This the authors were able to do with tetanus. It is known that the paths of absorption of the tetanus toxin and antitoxin differ—the toxin being taken up by the peripheral nerve-endings, the antitoxin by the blood and lymph channels. The absorption of the antitoxin may therefore be interfered with by cutting out these channels, and this was done by applying suprarenin at the seat of injection, and thus bringing about a contraction of the capillaries. Mixtures of toxin and antitoxin so adjusted that they failed to produce symptoms resulted in typical fatal tetanus in those animals in which the suprarenin had been applied. This also shows that the avidity of the toxin for the nervous system is greater than its avidity for antitoxin. If not less than two hours be allowed to elapse after the injection of the neutralized mixture of toxin and antitoxin before the suprarenin is applied, the union between the two has become fixed and a separation no longer takes place and the animal remains well. If there is an overabundance of antitoxin in the mixture, the fixed union comes about even sooner—fifteen minutes. The action between the two substances seems therefore to be a chemical one—the antitoxin unites with the toxin and prevents the latter from attacking and causing disease in living animal cells.

Is the Syphilitic Virus Capable of Being Filtered?—Klingmüller and Baermann have made some practical experiments on their own persons in order to arrive at a definite conclusion in this matter. Excised chancres or moist condylomata were rubbed up with salt solution and sand and then passed through a Berkefeld filter which

had been carefully tested and found to be impermeable to germs of chicken cholera. This material was prepared on four different occasions, and each of the experimenters received some by injection or inoculation in either arms or legs. A local inflammatory reaction followed which subsided in a short time, but nothing characteristic of either primary or secondary syphilitic lesions. The authors eliminated all sources of error and are convinced that they brought forward sufficient evidence that syphilitic virus does not admit of filtration.

Münchener medizinische Wochenschrift, May 17, 1904.

Intestinal Conditions Associated with Achylia Gastrica.—Tabora expresses some doubt of the truth of the explanation which has been advanced by Opler, Ewald, Boas, and others to account for the diarrhœal disturbances associated with insufficient gastric digestion. It has been generally assumed that the condition is due to incomplete preliminary digestion with lack of power to bring about peristalsis. The partially digested food materials undergo decomposition, and in addition are the cause of secondary catarrhal manifestations. From observations on a large number of cases in Riedel's clinic, the author found that the diarrhœal symptoms were only present in about 20 per cent. of the patients, and does not believe that they can be entirely attributed to secretory disturbances. He claims that increased intestinal decomposition is the primary factor, and that this form of diarrhœa may be classed as a fermentative dyspepsia, in which increased carbohydrate fermentation forms the basis of the irritation He arrived at this conclusion in the following manner: persons with an achylia gastrica, and also controls with a normal secretion, were fed increasing amounts of albuminous materials, and the quantity absorbed and that decomposed carefully measured, the latter by determining the ethereal sulphates, the indican in the urine and the indol in the fæces. It was regularly found that with achylia, the degree of indol decomposition became markedly increased with the increased amounts of albumin administered. After a few days of this, a diarrhœa came on. In the control cases, such changes were not observed. The maximum excretion of indican in the urine was present at the same time as the maximum excretion of nitrogen, and sometimes even before this, while in the controls the increased indican excretion was not found until a considerably later period. By way of treatment he recommends a restricted diet of albuminoids, and the very free administration of carbohydrates. An exclusive milk diet has also been found very efficient.

The Treatment of Menière's Disease.—O. Veraguth reports two cases of aggravated Menière's disease in which good results were obtained by the application of the galvanic current. In the one the condition was undoubtedly brought about by specific changes in the middle ear; in the other, a neurasthenic individual, by an old chronic otitis media. In both of these dietetic and symptomatic treatment was instituted, but the main effects were seen to follow the galvanization of the acoustic nerve, and consisted of an early amelioration of the attacks. The cathode was placed on the back of the neck, the anode over the ear, and a current varying from ½ to 1½ milliamperes was employed for three minutes daily. It was also used with the cathode applied over the other ear. It was found that the patients were very sensitive to changes in the current, either when reversed or increased.

The Production of Tuberculosis.—Volland claims that the infection with tuberculosis occurs most often as the result of a previous scrofula. This is brought about during the period of dentition when the epithelium of the mouth is softened by excessive salivation, and also when, as a result of free nasal secretion, the outer skin has become irritated and itches. The child proceeds to relieve the latter by rubbing the area with its hands which are liable to contain the tuberculous virus. Absorption readily takes place by the blood and lymph channels. The author thinks that in order to mitigate the tuberculosis evil, it is necessary to protect the child against the infection, Among the prophylactic measures recommended, the most important is to keep the child's hands as clean as possible. He suggests that certain precautions be taken with children, which include prohibiting the child or infant from crawling around on the floor, and when teaching them to walk to hold them up by the hands, or using a proper appliance. When the child has fallen the hands should immediately be cleansed of all dry dust. Toys should also be frequently cleaned. Drooling saliva and nasal secretions should be carefully wiped away. The training of nurses should not be limited to their care of small infants, but should be extended so as to include that of children after the second year, and the cleanliness of children's hands be especially insisted on. The youngsters should also be instructed as soon as possible to avoid having dirty hands.

Berliner klinische Wochenschrift, May 16, 1904.

The Union of Diphtheria Toxin and Antitoxin.—J. Morgenroth contributes a review of recent work which has been done to establish a knowledge of the processes which take place in the union between diphtheria toxin and its specific antitoxin. This has been done for the purpose of supporting Ehrlich's theory of the complex constitution of the diphtheria toxin and the existence of toxones as disputed by Arrhenius and Madsen. The details of the author's experiments are not suitable for abstracting. By injecting mixtures of toxin and antitoxin he obtained results which convinced him that the paralyses which followed the injections could not be explained by the action of the toxins present, but that it is necessary to attribute the effects in part to the toxones. It was also found that the free paralyzing element is not subjected to resorption without hindrance, as believed to be the case by Madsen, but that a well marked reaction takes place immediately. The results obtained from these experiments leads the writer to claim that the toxones as defined by Ehrlich, really exist, and that the phenomena observed cannot be explained unless their existence is acknowledged.

Hernia in Laparotomy Scars.—M. Sperling reports two cases which he believes may be of value in serving as a warning in calling renewed attention to the necessity of avoiding this condition. In both of these patients a supravaginal amputation of the uterus had been done. In one case suppuration took place in the abdominal wall, the other healed by primary union. Herniæ through the scar followed in both. Four years after the operation in one patient, and seven years after in the other, a carcinoma developed in the thin-walled hernial sac. It was tightly adherent to a large intestinal convolution and a portion of the greater omentum. Radical operation was found to be impossible. The author is inclined to believe that the production of the carcinoma may be attributed to the irritation caused by a belt which the patients had worn to retain the hernia. In addition to this he thinks that the buried peritoneal sutures did not result in accurate approximation of the edges and so produced irregularities in the hernial sac, with subsequent intestinal adhesions. He has therefore modified the method of closing the abdominal wall by omitting the suturing of the peritoneal edges, and passes several interrupted sutures through all the layers, about 2-3 cm. away from the wound margin. These are tied after the fascia has been carefully united with fine, interrupted silk sutures. Where the abdominal wall is thick, he lays a strip of iodoform gauze on the fascia and lets it project from both ends of the wound.

A Case of Fungoid Mycosis.—Ernesto Bozzi writes on this subject, illustrating it with a case observed by him. It is a grave disease, chronic in its course, and always fatal. There may be changes in the composition of the blood. Kaposi has grouped such cases under the name of sarcoid, a generic name, but which denotes its malignity and the characters which it presents. The diagnosis is not always easy. The blood changes may be absent or late in their occurrence. Alibert named it; Bazin gave its clinical course; Ranvier studied it histologically. The patient was a sea captain, fifty years of age. Eight years before the case was observed by the author, he began to suffer with articular rheumatism. About that time he began to notice a spot on the abdomen, which gave no pain and soon disappeared. Four years after, while taking a Turkish bath, he noticed a pronounced itching in a similar plaque in the upper right hypochondrium. Here the skin became thickened and fissured with increased itching. Similar patches formed and disappeared at times. Iodide of potassium and bichloride of mercury had no effect on the disease. The glands along the pectoral muscle now became enlarged. An operation was done to remove the ulcerated patch, which did not return. The blood examination now showed 4,750,000 red blood cells, and 5,850 white blood cells to the cubic millimeter. The general condition of the patient continued to be excellent and he kept at his work. The axillary glands next became enlarged, so much so as to interfere with the deep circulation of the arm. These were later removed and did not return. The pectoral glands enlarged on both sides, and were treated by injections of Fowler's solution, with decided reduction in size. A few months later he suddenly began to fail in health, lose strength and become cachectic. Stomach symptoms supervened, vomiting, diarrhœa and emaciation, ending in death from cardiac paralysis. Pain in the abdomen was found to be connected with a swelling the size of an orange, between the spleen and the kidney. The examination of the first part removed showed it to be of fibrous consistence, with many small, round, mononucleated cells, having a small amount of protoplasm, finely granular. Blood vessels were scarce and degenerated. The structure was characteristic of fungoid micosis. Had it been a sarcoma it would have been fatal more quickly.—*Il Policlinico*, March, 1904.

Book Reviews.

MANUEL DE PATHOLOGIE GÉNÉRALE ET DE DIAGNOSTIC. Par le Dr. LÉON MOYNAC (de Bayonne), Ancien Interne des Hôpitaux de Paris, Ancien Professeur libre de Pathologie et de Clinique. Sixième Edition, revue et considérablement augmentée par Constant Hillemand, Ancein Interne des Hôpitaux de Paris, Lauréat de la Faculté. Tome Premier, Paris. G. Steinheil, 1903.

THE text of these volumes is arranged in sections and the sections are subdivided into chapters. The writer gives first certain definitions and general preliminary remarks on the subject under consideration. The first section is devoted to etiology, the subdivisions of which are, extrinsic causes, and intrinsic causes. Under the first heading the writer discusses mechanical, physical, chemical, biological, and social causes.

Perhaps the most interesting part of this section is that devoted to biology. So much attention has lately been given to the effects of venom on the human organism that a further contribution to this subject by writers with the experience of Moynac and Hillemand will receive the attention of all those interested in this branch of medicine. The larger part of the section, however, is devoted to the consideration of the vegetable organisms, including those microorganisms pathogenic to man. Under pathogeny and pathological physiology, the subjects of the next section, the rôle of the nervous system is treated from these points of view.

Gangrene, wounds, dropsy, degenerations, hemorrhages, congestion, fever, abscesses, inflammation, the action of cold and heat on the human economy, all have a place under the section devoted to morbid processes. Tumors of various kinds, both malignant and benign, are considered from various standpoints.

The general subject of the second volume is semiology. There is no part of medicine that is of more timely interest than this, which among many other themes, includes the examination of the blood and cardiovascular apparatus, the examination of the urine and of the genitourinary organs. The concluding chapter considers disease from a general view-point, the evolution, prognosis, and treatment of disease, not the least interesting of which are the parts dealing with organotherapy and serotherapy. This manual considers such a variety of subjects that it can scarcely fail to be of interest to physicians in general.

DISINFECTION AND THE PRESERVATION OF FOOD, together with an Account of the Chemical Substances Used as Antiseptics and Preservatives. By SAMUEL RIDEAL, D.Sc. (London), Fellow of University College, London; Fellow of the Institute of Chemistry; of the Chemical Society and of the Sanitary Institute of Great Britain; formerly Examiner in Chemistry to the Royal College of Physicians; Lecturer on Chemistry in St. George's Hospital Medical School; and Public Analyst for the Lewisham District Board of Works, etc.; Author of "Water and Its Purification"; Sewage and the Bacterial Purification of Sewage"; London: The Sanitary Publishing Co., Limited; New York: John Wiley Sons, 1903.

THE subject of disinfection in its various aspects is of such general interest that a book, especially by one who is so well fitted to write on this subject as the author of this volume is, is heartily welcome, in its new edition. All of the more important historical parts of the older work have been retained in the new edition which has been entirely reprinted. Some of the earlier matter has been excised while other parts have been condensed. In the present volume the writer gives the results of many researches which he has conducted since the appearance of the last edition. The section of food preservation has been enlarged so that the manual cannot fail to be of practical value to those engaged in many trades and industries. The writer believes it impossible under the modern conditions of life to do without some methods of preserving perishable foods without great loss, and he even believes that in some instances, with proper safeguards, that chemical treatment may be desirable. The details of these methods are carefully considered.

LES MALADIES DE LA NUTRITION. LES MALADIES DE L'ESTOMAC. Par ALBERT ROBIN. Second edition. Paris: J. Ruff, 1904.

THE present work of this well-known French clinician is written in a remarkably clear style. The functions of the stomach are minutely discussed, and form the basis for recognition of diseases. Robin divides the diseases of the stomach into the three following groups which can be clinically recognized: (1) Dyspepsia with exaggerated functions, or hypersthenic dyspepsias; (2) Dyspepsia with diminished functions, or hyposthenic dyspepsias; (3) Dyspepsias with pervert functions, or "gastric fermentation." The therapeusis is thoroughly discussed and forms a preëminent part of the book. We do not hesitate to highly recommend this work on the stomach to our readers.

GOLDEN RULES OF DENTAL SURGERY. By CHAS. W. GLASSINGTON, M.R.C.S., L.D.S.Ed., Senior Dental Surgeon to the Westminster Hospital, Lecturer on Dental Materia Medica and Therapeutics (late Dental Surgeon) to the National Dental Hospital and College, etc. "Golden Rule" Series No. XIII. Bristol: John Wright & Co.; London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd., 1904.

THE author of this tiny booklet has compressed many valuable suggestions into small space. The "Golden Rules" are given as the result of an experience of twenty-five years.

A TEXTBOOK OF PRACTICAL GYNECOLOGY FOR PRACTITIONERS AND STUDENTS. By D. TOD GILLIAM, M.D., Professor of Genecology in Starling Medical College, Columbus, Ohio; Gynecologist to St. Anthony and St. Francis Hospitals, Columbus, Ohio; Fellow of the American Association of Obstetricians and Gynecologists; Member of the American Medical Association, of the Ninth International Medical Congress, and of the Pan-American Medical Congress; Honorary Member of the Northwestern Medical Association; Consulting Gynecologist to Park View Sanitarium, etc. Illustrated with 350 Engravings, a Colored Frontispiece, and seven Full-Page, Half-Tone Plates. Philadelphia: F. A. Davis Company, 1903.

THIS volume contains over 600 pages, and is a very comprehensive treatise on the subject of gynecology with all that it includes. The book is divided into fifty chapters, as nearly uniform in length as possible, in order to correspond to the number of lectures and recitations generally devoted to the subject in a collegiate term. The writer considers first the general causes of diseases of women—the various social states and their effects; physics and physiology as applied to gynecology; dress; and muscular exercise. Then follow chapters on gynecological examination and technique, including case-book, preparation of the patient, methods of examination, postures, preparation for operation, the operating room, instruments, etc. Disorders of menstruation, malformations of the genital tract, and sterility are then discussed. Diseases of the vulva and vagina, injuries to the pelvic floor with their sequelæ, and genital fistulæ follow in order. The rest of the book is given up to the consideration of the genitourinary systems. Displacements of the uterus and its appendages, inflammations, malignant disease, with the treatment appropriate to these conditions form the subject matter of several chapters. Finally, the author devotes some space to the consideration of the urethra, bladder, kidneys, and rectum, with the various disorders and diseases to which they are liable, and a description of the operations for these affections. The volume is profusely illustrated with 350 engravings. There are besides seven full-page half-tone plates. An excellent index is appended. The book is a notable addition to gynecological literature.

THE MAN WHO PLEASES AND THE WOMAN WHO CHARMS. By JOHN A. CONE. New York: Hinds & Noble, 1904.

THE subjects treated in this clever little volume are of general interest. The writer emphasizes throughout the book what he mentions in the preface—"Courtesy is not the least of the Christian virtues and it should be studied as an art." The book teems with hints of how to be tact ful and agreeable in the various walks of life.

A SHORT PRACTICE OF GYNECOLOGY. By HENRY JELLETT, B.A., M.D., B.Ch., B.A.O. (Dublin University), F.R.C.P.I., L.M.; ex-Assistant Master, Rotunda Hospital; Extern Examiner in Midwifery and Gynecology, Royal University of Ireland. Second Edition, revised and enlarged, with 223 Illustrations. London: J. & A. Churchill, 1903.

THIS field of literature is already so overcrowded that it is only a noteworthy book like the one under consideration that can call forth any interest. The majority of physicians are so well acquainted with the first edition of this work, however, that they will welcome the appearance of the revised edition. This book is treated in such a masterly manner that a great amount of information has been compressed within its covers. Naturally in a book of this size, 398 pages, it is impossible to review the numerous theories concerning the modes of treatment, and operations in gynecology which are accepted at the present day. The author therefore has set forth only those which he believes to rest upon the surest foundation and to be accepted by the best recognized authorities. The teaching of the book represents essentially the methods in use ta the Rotunda Hospital. In this new edition not only has the text been enlarged, but a considerable number of new illustrations have been added. These contribute much to the clearness of the text and to the attractiveness of the book. The subheads placed at the beginning of each chapter make the book a most convenient one for reference.

Society Reports.

AMERICAN MEDICAL ASSOCIATION.

Fifty-fifth Annual Meeting, Held in Atlantic City, N. J., June 7, 8, 9, and 10, 1904.

(Special Report to the MEDICAL RECORD.)

HOUSE OF DELEGATES.

First Day—Monday, June 6.

PRESIDENT DR. FRANK BILLINGS OF CHICAGO.

The President's Address.—Dr. FRANK BILLINGS of Chicago said that he had not expected to preside again but was in the chair because of the resolution which had been passed to the effect that the retiring president should officiate until Tuesday noon, when the incoming president should assume the duties of his office. The last meeting of the House of Delegates had been marked by cordiality, by the amount of business that had been transacted and by the facility with which the work had been dispatched. Perhaps they had been too precipitous, though he would not alter anything they had done. It was sometimes very easy to legislate and very difficult to remove legislative work. They had been safeguarded by the business committee, but this committee had been overworked, and he suggested that in place of the business committee a number of reference committees be appointed. This suggestion was acted upon.

Report of Secretary.—Dr. GEORGE H. SIMMONS of Chicago reported that the membership in June, 1903, was 13,545, 2,413 new members had been added during the past year and 919 had been dropped on account of death, non-payment of dues, etc. The membership of May 1, 1904, was 15,039. The total membership of the State societies was about 44,360. There were about 232 physicians in the service of the Pension Department and the Indian Agencies who were eligible for membership but who were so situated that there were no organizations with which they could affiliate.

The Rush Monument Fund.—Dr. JAMES C. WILSON gave an itemized account of the finances of this committee, which showed that they had at present $15,969.

Report of Committee on Medical Education.—Dr. ARTHUR D. BEVAN of Chicago, in the course of his report, said that owing to the nature of our government we could expect no help from that source in raising the standard of medical education, but must depend entirely on the efforts of a well-organized association.

The Association and Senn Medals.—Dr. LEWIS S. MCMURTRY of Louisville, Ky., reported that after having printed in all the medical periodicals the conditions for competition for this prize, and after having given physicians the opportunity to choose their own subjects or to take a subject selected by the committee, only one paper had been received, and that was not of sufficient merit to permit of the award of the prize. After discussing this matter it was decided to abolish the prize and to discharge the committee. The committee on the Senn Medal had received no papers; the House decided to let the medal stand for competition, as it was costing the association nothing.

Revision of the Constitution and By-laws.—Dr. J. N. MCCORMACK of Bowling Green, Ky., submitted a revised constitution and by-laws of the American Medical Association to the House of Delegates for adoption. Final action was, however, deferred until a future meeting.

Medical Legislation.—Dr. C. A. L. REED of Cincinnati, Ohio, reported that they had arranged to have a correspondent in every county in the United States. They had succeeded in getting 1,940 such correspondents, and had issued commissions to each, urging them to use all means in their power, both political and personal, to secure such legislation as the association should desire. They had made an effort to secure the appointment of a physician on the Panama Canal Commission, and though they had failed to get the desired appointment the general response from the members of the association was most encouraging. They had secured the passage of the bill giving the Marine and Navy Hospitals nurses and dentists. Their request that a representative of the medical corps be detailed to serve on the General Staff of the Army had been granted. They urged that the entire profession make an effort to have physicians nominated and elected to Congress as the lack of such representation was the most serious obstacle encountered in their efforts in behalf of the public welfare and the profession itself.

The Report of Provisional Committee on the Establishment of a National Bureau of Medicines and Foods.—Dr. E. ELIOT HARRIS of New York reported that the five members of his committee had labored with five members appointed from the Pharmaceutical Association and had conferred with the Bureau of Agriculture of the United States. They could hope for nothing from the United States Government that the two national societies could best do the work. The drugs and foodstuffs could be referred to the Department of Agriculture for analysis or to a laboratory under the direction of the American Medical Association and the American Pharmaceutical Association. Such a bureau would be a separate entity, and while composed of members of both associations neither association would be responsible legally. The practicability of this plan could only be decided by actual trial. He recommended that five members should be elected to confer with five members from the Pharmaceutical Association, that they should act as a distinct body and that permanent directors should be appointed.

Report of Committee on National Incorporation.—Dr. JOSEPH D. BRYANT reported that they had been fortunate in securing the advice of the best legal talent, and as a result it appeared that no legal obstacle was interposed to securing actual incorporation under act of Congress of of the American Medical Association. The proposed special congressional charter was drawn up and presented to the House for approval.

The Committee on Organization.—Dr. J. N. MCCORMACK said in his report that great progress in organization had been made. Out of the 2,830 counties in the United States, 1,600 were more or less completely organized.

The Sections and Section Work.—Dr. L. S. MCMURTRY of Louisville, Ky., reported that the heads of the various sections had met and mapped out the work and systematized it so that the work of the sections no longer overlapped, and that every effort was being made to raise the standard of the scientific work.

Second Day—Tuesday, June 7.

Dr. J. B. ROBERTS of Pennsylvania called the meeting to order.

Committee on National Incorporation.—This committee presented the following resolutions: (1) That the Board of Trustees be empowered to make the present charter correspond with the changes in constitution and by-laws. (2) That the Board of Trustees should endeavor to secure from Congress a suitable and desirable national charter.

Adoption of the New Constitution and By-laws.—The new constitution and by-laws as presented at a former meeting were adopted after a few insignificant alterations and additions had been made.

Report of the Board of Trustees.—This report contained an extensive and detailed account of the finances of the association. It showed that the association owned real estate valued at over $100,000, and that they had other investments in more convertible securities, to the amount of $40,000, which almost provided for the Reserve Fund of $150,000, which the association desired should be set

aside for use in emergency before any change should be made in its fiscal policy. This fund, however, was not to be made up at the expense of the *Journal*, that was, by curtailing in any way that would effect its ideals. This report also showed that the average weekly circulation of the *Journal of the American Medical Association* was 28,615 copies weekly, which indicated an increase of 3 615 copies for the past year. The appropriation of $500 for the Rush Monument Fund was ready for the committee when needed. The treasurer, Henry P. Newman of Chicago, who had held this position for the past ten years, relinquished the funds in his possession and tendered his resignation. In February, 1903, Dr. J. N. McCormack was appointed national organizer. Nearly every State has accepted the plan of organization proposed and was complying with every requirement of the constitution and by-laws adopted at St. Paul in 1901. The work has been so completely done that it can now be left in the hands of the several State associations to complete by organizing a county society in every county in each State and territory in the Union.

Report of Committee on Branch Associations.—Dr. J. N. McCormack, to whom was assigned the duty of reporting on the advisability of dividing the country into branch associations, begged leave to recommend that permission be given for the creation of seven branches at the discretion of the governing authorities of the State associations composing them, and so arranged as to cover the entire country. A provisional division was made and a form of constitution and by-laws was submitted, under which the presidents of the respective State associations become vice-presidents of the branch associations, and the presidents of these larger bodies in turn become the vice-presidents of this association. It was also provided that membership in the branch associations should be voluntary. It was recommended that the branch associations hold their meetings at the same time with that of the State associations of the jurisdiction in which the meeting is held. Instructions were given at the last meeting to the Committee on Organization to confer with the governing authorities of the various State associations and to formulate some general plan for holding the annual meeting of these bodies in the fall, or at a time which would least conflict with the attendance of members at the sessions of the association, and in pursuance of this it was recommended that all State associations hold their annual meetings during the fall and during the winter months.

Third Day—Wednesday, June 8.

Committee on Organization.—Dr. J. N. McCormack's plan for the formation of seven branches with met considerable opposition and after much discussion was referred to the committee on organization with instructions to obtain an expression of opinion from the various state societies and to report next year.

Section and Section Work.—Dr. Elmacher recommended that a permanent committee for this work whose experience would be effective in maintaining reforms be appointed.

Prophylaxis of Venereal Diseases.—Dr. Henry D. Holden of Brattleboro, Vt., said that since the attention of the profession and the public had been drawn to the fact that effects of venereal disease upon public health and social and moral conditions was as far reaching as that of alcoholism or tuberculosis the National, State and Municipal authorities would be willing to co-operate in securing legislation for the prevention of the spread of this class of diseases. At present, thirty-three States had no laws whatever on this subject except municipal ones. All the large cities were deficient in hospital accomomdations for class of patients. The Main Society had agitated the question of reporting such cases to the Board of Health. Michigan had a law forbidding the marriage of persons affected with this class of diseases and fixing a fine of from $500 to $1,000 for its violation. In these cases a physician who had attended such parties was compelled to testify. The influence of the Association in assisting the study of venereal diseases and in securing legislation for the prevention of their dissemination was urged.

Scientific Work.—Dr. Alfred Stengel of Philadelphia reported that the Association was contributing funds to several members for the purpose of carrying on promising researches and that some satisfactory results had been obtained.

Dr. H. Woods of Baltimore recommended that recognizing the deleterious effects of wood alcohol and liquors containing it, the federal authorities be invoked to designate the substance a poison and to formulate regulations regarding its sale.

Dr. E. E. Harris of New York requested that as the New York Association and Society had affiliated, members be allowed to register as guests of the Association.

It was resolved that the Association endorse the action of the Postmaster-General in regard to the use of mails for the distribution of quack medicines and appliances, obscene lierature, etc.

GENERAL SESSION.

First Day—Tuesday, June 7.

Rev. Wm. Aikman of Atlantic City opened the meeting with prayer.

The Hon. Franklin P. Stoy, Mayor of Atlantic City, welcomed the American Medical Association to the city, and formally presented the assembly with the freedom of the city. He said that he had had the privilege of welcoming them four years ago and hoped that he might again have the privilege when they next returned, as the association was always welcome to Atlantic City.

Dr. Theodore N. Reed of Atlantic City welcomed the visiting association on behalf of the local profession.

Dr. G. C. Savage of Nashville, Tenn., the first vice-president, responded to the addresses of welcome on behalf of the association. He called special attention to the fact that the American Medical Association of to-day was a very different and a much more powerful body than that of four years ago, and took this occasion to give Dr. McCormack credit due him for this advance in organization.

The Major Walter Reed Monument.—Dr. W. W. Keen of Philadelphia informed the association that the committee of which he was chairman had been incorporated in the District of Columbia and was thoroughly equipped to take care of any funds that might be raised for the purpose of creating a memorial to Major Walter Reed. After referring to Major Reed's services to humanity, he asked that the association contribute $10,000 for the proposed memorial.

Dr. Wm. Welsh of Baltimore said that this was a matter which should awaken the enthusiasm of the association, as Major Reed's discovery was one of the first magnitude, greater than any other that has been made in this country. He had practically eliminated yellow fever from the Island of Cuba and from other sections of the West Indies and South America. The yellow fever epidemic of 1888 had cost over $1,000,000, so that aside from the saving of human life the commercial value of his work was untold. He hoped that the association would respond to the demands of the committee without further urging.

The California State Society subscribed $500 to the fund, and a number of physicians subscribed $1,000, so that at the close of the meeting Dr. Keen announced that $7,500 had been subscribed and he hoped to raise the remaining $2,500 before Friday.

The retiring president, Dr. Frank Billings, then introduced the president-elect, John H. Musser of Philadelphia.

Some Aspects of Medical Education.—This was the title of the President's Address by Dr. JOHN H. MUSSER of Philadelphia. He congratulated those present that they were on the eve of a union of all members of the profession in one harmonious organization. Thirty-four states had adopted the uniform plan of organization and membership in the reorganized states had increased 400 per cent. Reference was made to the deaths during the past year of Mac Lean, Hibbard, Johnson, Love, Engelmann, Gaston, de Schweinitz, Pearce, and others.

The past two years, he said, had shown that great responsibilities rest on the House of Delegates. The delegates had, however, nobly responded to the trust confided to them, as was shown in the more prompt transaction of business and a gain in time for purely scientific purposes.

In regard to the section work in the association the President recommended that the secretaries of the various sections should be continued in office for a term of years and that the work of the sections should be done in collaboration so that one topic might be exhaustively considered at the meetings of the association without repetition in other sections. The association should be divided into two main sections for work in the mornings, that of (*a*) *Medicine*, including pathology, diseases of children, nervous and mental diseases, materia medica, stomatology, cutaneous medicine, and sanitary science; and (*b*) *Surgery*, including obstetrics, gynecology, and the more closely related surgical specialties. The sections should take up and organize special international congresses when the time was ripe for such meetings, and finally each section should name to the President a list of its members, from which he could select, when asked, delegates to important national meetings of international congresses. Dr. Musser believed that the section on Sanitary science should receive greater support from the organization. Greater attention also should be paid to the scientific exhibit. When a section took up a subject not only should its clinical, pathological, and therapeutic aspects be discussed, but the bibliographical and historical features should be brought out. The fostering influence of the members of the association should also be given to the recently formed association of Librarians. Allusion was made to the dedication of the Rush monument. The association was to be congratulated on the completion of this tribute in perpetual bronze to one of the most distinguished of our countrymen.

Special attention was called to the subject of medical education. In fact the main object of the association, the arator said, was specified to be the elevation of the standard in this respect. In most respects it seemed now definitely settled as to the course of education a candidate for the degree of medicine shall take. Questions of pedagogy were still debatable, but the student who wished the quickest returns, the most lasting remuneration, perennial stimulation of the intellect, and continuous enjoyment in the pursuit of his labors should take a college course of three or four years, a four years course in medicine, and if possible a hospital interne-ship. The essential of success in any department of medicine was diagnostic ability which required powers of intellectual penetration and discrimination. Mathematics was reasoning and study of languages was interpretation; history was the interpretation of life. These three promoted scholarship and cultivated thought. To be a thinker was the salvation of the physician. There should be one educational requirement—the equivalent of that for which a first-class college degree stands, whether received at a high school or university.

The complaints of the public against half-educated physicians were due not alone to the medical school with its deficiencies, but partly to the public itself, particularly that portion of it acting on the boards of trustees of various hospitals which were unwilling to admit students to the wards for purposes of instruction. It was manifestly impossible for the medical schools to educate all their students properly. There must be a freer interchange of facilities between the colleges and hospitals. The latter gave every chance to a nurse to fit herself for the care of the sick under the doctor's direction, yet they refused to give corresponding facilities to those who were to command the nurse.

Finally the speaker urged that every doctor should take his sabbatical year. Money spent in well-earned recreation would prove a most valuable investment

A halt from time to time was necessary also to give opportunity for review, for sweeping out and refurnishing the mental storehouse, and for "jacking up" the mental and moral machinery. There were few who, on stopping to think, would not find in themselves an unconscious tendency to slight their work, so become slipshod, and hurry over matters. This was partly in evidence of overwork, but its cure lay in the post-graduate school; no obstacle could withstand the continuity of drill.

He then spoke of the very general neglect on the part of physicians to perform autopsies. A man who had met with unusual symptoms in a case, or who had been unable to arrive at a satisfactory diagnosis, was wrong not to secure a post-mortem examination if death occurred.

In conclusion, Dr. Musser said: "We rejoice together and cherish our history, by the warp and woof of which we are woven to the past. What heritage for us and our children! Dead must be the soul that wearies of communion with the spirits of the past; deep must be its slumber on which falls the thought of centuries; lethargic its actives that are aroused not by the deeds of heroic men! Honor and fortune exist to him who always recognizes the neighborhood of the great, always feels himself in the presence of high causes. We worship together our science, devotion to which brings forth character, smothers egotism, levels pretension, drives out solitude, develops such loftiness of thought which can see that against all appearances the nature of things works for truth and right forever.' Of our art, let us see to it that when the final summons comes it can be said of us 'Greater love hath no man than this, that a man lay down his life for his friends."'

Oration on Medicine.—Dr. GEO. DOCK of Ann Arbor, Mich., delivered this oration. (See page 949.)

Symposium.—"Institutions Doing Research Work for the Science of Medicine"

The Carnegie Institution.—Dr. JOHN S. BILLINGS of New York said that Andrew Carnegie had given $10,000,000 for the purpose of founding an institution for research, the general object of which should be to increase and diffuse knowledge. Part of the funds have been set aside for buildings, while $300,000 was allowed for annual expenses. The persons interested in the association had spent one year in studying what lines of work would be the most desirable. The two objects were to promote individual research and to find exceptional men. In biology the subject of evolution and heredity was being studied. In the physiological chemistry nutritive values of food were being investigated as well as the action of some drugs. About $10,000 had been contributed to the index medicus. It was not the object of the institution to undertake work that would likely be done by other institutions, or such work as promised to be of commercial value. They endeavored to find the exceptional man, and to that end amounts from $900 to $1,500 were allowed to some twenty-five men who might prove to be exceptional each year.

The Rockefeller Institute.—Dr. L. EMMET HOLT of New York said that the story of the discovery of the diphtheria antitoxin had interested Mr. Rockefeller, and he thought that such work could be done in this country, that the ability was here if the opportunity could be provided. The institute was incorporated in 1901, having as its object the study of the causes, prevention and treatment of disease. At first a number of fellowships were given

out in existing laboratories, but centralization seemed necessary, and a gift of $1,000,000 from Mr. Rockefeller made possible the purchase of a plot of ground in New York where a laboratory would so soon be constructed thoroughly equipped for work in bacteriology, pathology, physiological chemistry, and pharmacology. A small hospital would adjourn the laboratory in order that clinical advantages might be provided, and the work might be kept along the lines of practical medicine.

The Memorial Institute for Infectious Diseases.—Dr. FRANK BILLINGS of Chicago said that this institution had been founded by Mr. and Mrs. McCormack as a memorial to their son who had died of scarlet fever. While the study of scarlet fever was the chief object, all acute infectious diseases, with the exception of smallpox, would be investigated. A hospital had been incorporated and they had started with only ten beds. Last year they had received ground and money enough to build a pavilion which would contain fifty beds. The chief object of the work was to find the cause of scarlet fever and, if possible, a specific

The Harvard Research Work.—Dr. THOMPSON of Harvard reported for Dr. Ernst that there were in all fourteen departments and laboratories, ninety-one instructors and others intereseted in research work, 128 places in which such work could be carried on. The facilities and libraries of the department were extremely good, but only five departments had funds for such a purpose.

Appendicitis from the Standpoint of a Physician.—Dr. S. G. BONNEY of Denver, Col., said that the responsibility of the physician in appendicitis was far greater than that of the surgeon, because early diagnosis was a factor of supreme importance and afforded the solution of the problem as to the time of operation. There was no definite relation between symptoms or physical signs and the degree or nature of the actual pathological change within the abdomen; the latter was often a mere matter of conjecture. A report of selected illustrative cases from the author's personal experience was reported, and the paper itself was offered as a plea for greater definiteness of conviction among physicians as to the proper course of procedure in the various phases of the disease.

Suicides, with Some Illustrative Cases.—Dr. JOHN L. DAVIS of Cincinnati said that in twelve years there had been over 77,000 suicides recorded in the United States, and he believed the American strenuous life was having a disastrous effect upon the physical condition of our people, unbalancing them physically, causing feverish intensity and eagerness to excel to be responsible for such an alarmingly large number.

Dr. Wm. Pepper Laboratory of Clinical Medicine.—Dr. ALFRED STENGEL, of Philadelphia said that the object of William Pepper in founding this institution was to establish a bond between purely scientific and essentially practical work. The institution did not permit undergraduate work, but was open to any physician who might want to carry on research work and who had the necessary preliminary training. It had been in existence for about ten years, and was the first clinical laboratory founded in this country and as such had been the inspiration that had led to the establishment of a number of others.

Presentation of Presidents' Portraits.—Dr. J. R. PENNINGTON of Atlantic City stated that another portrait had been secured which Dr. Wyeth would present to the Association.

Dr. WYETH said that twenty-eight years ago the meeting had been presided over by Dr. Sims, whose portrait he now presented. Because of his friendship for Dr. Sims he preferred that another should speak of his noble character and should trace his wonderful career. The portrait was the gift of one of his children. If three men were named who had done most for humanity, their names would be William Jenner, George Washington and Marion Sims.

SURGICAL SECTION.

First Day—Tuesday, June 7, 2 p.m.

Chairman's Address.—Dr. CHARLES A. POWERS of Denver read an address in which he reviewed the history of the section, giving the names of the previous chairman and a résumé of their work. He referred to the progressive surgery in recent years and commented on the increase in the number of men who were devoting themselves exclusively to surgery. He detailed at some extent the history of surgery, and stated that he felt the younger men were inclined to overestimate the results to be gotten from surgical operations. He feared many operations were done without a due amount of previous study and considered that no one should perform an operation on any one else that he would not have allowed to be done on himself under the same circumstances. He urged that surgeons should have fine sensibilities, be courageous and hopeful, and of the highest character, with most delicate feeling.

The Danger of Allowing Warts and Moles to Remain Lest They Become Malignant, with Twenty-five Illustrative Cases.—W. W. KEEN of Philadelphia presented a communication with this title. The paper was chiefly a clinical one, intended to emphasize the danger of not removing warts and moles and sometimes nævi, because not uncommonly they became malignant. He pointed out that many of these moles and warts were congenital, or else, having arisen later, had persisted in apparent harmlessness for many years, and then, in consequence of injury, friction of the clothing, frequent scratching or other irritant, they began to increase in size, and were then already malignant. To wait until they began to grow would be waiting too long. He advocated that they should be removed with the skin in which they grow *before* any malignant change occurred—that is, during the period of quiescence. Twenty-five cases were reported, arising on almost all portions of the body. Of the twenty-five, eleven were known to have died, sometimes even in spite of multiple operations, or even amputation, and several others probably died.

Dr. WM. L. RODMAN of Philadelphia said he felt Dr. Keen had rendered a great service in calling attention to this matter, and that his experience had been very similar to the author's. He gave the details of three cases occurring in his own practice, the first making a good recovery after operation, the second doing fairly well for the present time, and the third dying within a year of the operation. The first was a case of a wart on the temple, the second a wart on the left hand, and the third an ulcer on the back of the hand following a wart.

Dr. GUSTAVE FUTTERER of Chicago referred at some length to the important part played by mechanical factors in producing malignant changes in cells. He commented on the close relation between metaplasia and carcinoma, and the fact that the former may occur in any part of the body. He had a number of specimens illustrating his points which he demonstrated to the members.

Dr. ROBERT F. WEIR of New York believed that every mole and wart had better be destroyed at once, but referred to the difficulty of getting the patient's permission to do so, largely on account of the resulting scar. He detailed his own method of dealing with these cases when an operation was refused, the principal point being the use of acetic acid.

Dr. ERNEST LAPLACE of Philadelphia considered that these cases usually occur in tissues of diminished resistance and believed old age to be a prominent predisposing factor. Warts proper, in his opinion, were of [a true epitheliomatous type, and a wart proper nothing more than a hypertrophy of the papillary layer of the skin. He made some remarks on tumors of an angiomatous

type where there was a great proliferation of the blood-vessels which were likely to take unto themselves what any other form of proliferation might do.

Dr. A. D. Bevan of Chicago feared the possibility of making a very rapid general involvement from the operation itself by apparently infecting the operative wound. He referred to cases of removal of melanotic sarcoma when the operation had been followed almost immediately by general involvement. To overcome this, he favored making the growth absolutely dry before operation by the use of the Paquelin cautery. Referring to cases in which a large number of moles were present, he showed how impossible it was to think of removing them all, but he favored early operation when any indication of irritation was present.

Dr. Keen, in closing, referred to a mole as a match which could set fire to a great conflagration. He agreed with Dr. Bevan as to the possibility of a general involvement following operation and urged the use of reason in these cases.

Operation for Malignancy in the External Carotid Area; Its Failures and Successes.—Dr. Robert H. M. Dawbarn of New York City read this paper, in which he gave a brief description of the technique of external carotid extirpation. He commented on the remarkable safety of the operation, and gave his deductions, which were drawn from an experience of more than fifty cases. He showed why there was such a short respite in carcinoma as compared with the much better record in sarcoma. He pointed out when and under what circumstances the operation was indicated and what was its probable future.

Dr. George N. Crile of Cleveland reported that he had never tried the operation, but was very anxious to learn more about it. He felt it was much better to close an artery temporarily to control hemorrhage rather than to use a permanent ligature. He feared the occurrence of embolism, which danger, although small, he considered avoidable.

Dr. Bristow claimed to have operated eleven times on six patients, five of which were epitheliomata and one sarcomata, the latter dying shortly after the second operation. He laid great stress on the fact that the patients were all very promptly relieved of their severe pain, so that their lives were made far more endurable. He reported never having lost a case on which he had operated for tuberculous glands, although in some cases sudden death followed almost immediately after the operation. In itself the operation could not cause death from hemorrhage, as it was practically a bloodless one, and he believed the cause of death to be due to nerve inhibition.

Dr. Dawbarn, in closing, agreed with Dr. Bristow on the sudden and complete cessation of pain following the operation and referred to one case in which a sufficient shrinkage took place to make an operation possible. He found it very difficult to make any estimate of mortality, but believed under ordinary circumstances that it would not be over 5 per cent. He called special attention to the fact that the operation was always done as a last resort, and it was simply a question between it and a coffin.

What Is the Proper Surgical Treatment of Suspicious Tumors of the Involuting Breast.—Dr. J. Clark Stewart, Minneapolis, urged the great necessity of acceptable procedure which would allow exposure and macroscopical as well as, if need be, microscopical examination of the suspected mass before deciding upon the extent and nature of the operative procedure to be carried out. He referred to the recorded cases, illustrating recurrences by grafting, which he said were too numerous to admit of any doubt of the practical value of this point. In referring to the technique of the exploratory operation, he commented on the several important details necessary, as follows: First, all tissues exposed to infection by the incision must subsequently be removed in case malignancy is not excluded. Second, the instruments used for the section of the tumor should be laid aside or resterilized before proceeding with the operation. Third, all lymphatic connections of the tumor should be cut or interrupted before making the tumor section. With these precautions he considered it difficult to see how grafting could occur. He discussed a paper on this subject by Dr. Abbe at considerable length and quoted from Dr. Abbe's paper, taking exception to several points contained therein. Reference was also made to the work of Dr. Bloodgood, at the Johns Hopkins Hospital, and attention was called to the difference in results obtained by Dr. Abbe and Dr. Bloodgood. Attention was called to an article on this same subject by Dr. A. G. Ellis of Philadelphia, and two illustrative cases were quoted in detail. In the author's opinion, these cases illustrated very well two conditions in which the surgeon may rightfully doubt of the diagnosis and proper operative procedure unless he was aided by properly performed exploratory procedure.

The author concluded his paper by stating: First, there was a lamentable and unnecessary difference of opinion among surgeons as to the treatment of doubtful tumors of the breast; second, all tumors of the breast in patients over forty must be considered malignant until proven benign; third, most of such tumors demanded amputation with exploration of the tumor, and a complete Halsted if there was then doubt as to benignancy; fourth, an exploratory procedure should be planned to avoid contact of cut lymphatics with any tissues left behind, and any chance of dissemination of cancer cells by pressure before the removal of the breast; fifth, *x*-ray treatment, aspiration, or any but radical treatment was objectionable as causing delay and dissemination.

Dr. Wm. Jepson of Iowa urged the free use of the microscope in these cases, owing to the symptomatology of the benign and malignant growths overlapping each other so much. He believed a large number of benign growths were really benign temporarily and that one-half of the sarcomas were cystic. He doubted if it was so essential to make a differential diagnosis simply to save a breast now and then from being removed on the supposition that it was malignant when it was benign. He considered that every growth in an involuted breast must be looked upon as being malignant in at least nine out of ten cases and ventured the belief that the day was not far distant when it would be considered good surgery to begin operative procedure by total extirpation at once in every breast that was the seat of a growth.

Dr. H. R. Wharton of Philadelphia agreed with the essayist on the question of malignant growths in the breast, and felt considerable difference should be made in the decision according to the age of the patient. In his opinion it did not matter so much after the menopause as it did before the age of thirty.

Dr. J. C. Bloodgood of Baltimore took the stand that the successful removal of tumors depended more upon an early diagnosis than upon operative technique. He gave some statistics of Dr. Halsted's work in Baltimore and claimed that the number of benign tumors of the breast was increasing because the public was seeking advice earlier. He stated that in young women under thirty with multiple tumors in one or both breasts there was no indication for operation, but in single tumors of the breast at any age an immediate investigation should be started. The danger of an exploratory incision followed by operation he did not think amounted to anything, and advised immediate exploration of a single tumor of the breast at any age.

Dr. R. H. Gibbons of Scranton agreed with Dr. Abbe's point of view as quoted by the author.

Dr. Morris of New York suggested a way of influencing patients to submit to operation by offering to remove a small part of the growth, make a frozen section diagnosis

on the spot, requiring but five minutes' time, and if benign, agreeing to simply remove the growth, while if malignant, total extirpation should be done at once. He believed that patients were usually as anxious to know definitely the nature of the neoplasm as the surgeon himself, and laid stress on the element of curiosity on the part of the patient.

Dr. WILLY MYER of New York gave a demonstration of his method of dealing with these cases.

Dr. STEWART, in closing, referred to the rule that at the Johns Hopkins Hospital only one person may examine a malignant tumor and stated that if there was so much danger from examination there certainly must be more from the use of the knife.

The Influence of the Adipose Tissue with Regard to the Pathology of the Knee-joint.—Prof. Dr. A. HOFFA of Berlin read this paper by invitation of the section and referred extensively to the work already done by surgeons in various parts of the world. He detailed the anatomical conditions found in a sound knee-joint with a special reference to the fat tissue, the character of which he dwelt upon quite fully. He reported having removed a number of growths larger than eggs, some of which showed clear evidence of hemorrhages. He advised the examination of all patients in a standing position so that both knees might be compared, and showed how different the crepitation elicited was from that of arthritis. He did not consider the diagnosis of these cases at all difficult, and while he admitted that some of his observations had been made by other surgeons they were mostly accidental, while operating for floating bodies or other disturbances of the knee-joint. He advised operation after massage, compression, etc., had been used without success, the incision preferably being on the medial side of the patella. The results of his experience had generally been very satisfactory as the disturbance caused by the growths was removed when they were extirpated and the operation was carried out with the necessary antiseptic precautions without danger.

Surgical Lesions of the Axillary Plexus.—JOHN A. WYETH, M.D., of New York reported in detail four cases of neuromata of the axillary nerve, all in women, and stated that temporary paralysis following a surgical operation was generally due to accident or inadvertence, which was largely his reason for calling the attention of the section to the subject.

Dr. JOHN B. MURPHY of Chicago, reported having known of a case of paralysis of the deltoid following an operation for appendicitis. He considered that cases of paralysis of the musculo-spiral were more rare than they used to be and regretted that some of them would not get well but would degenerate in spite of all one could do. He urged the avoidance of all extreme positions which produced pressure upon the nerves.

Dr. WALTER M. BRICKNER of New York felt that two things were to be avoided: the keeping of the arm in an extreme position for any length of time without change and the dangling of the arm at the side of the table. He believed that these paralyses were more often the fault of the anæsthetist than of the surgeon, and urged that the former's attention should frequently be called to the position of the arm.

Dr. E. W. HOLMES of Philadelphia related his experience while ligating the third part of the subclavian artery and common carotid for an aneurysm of the transverse part of the arch of the aorta. He explained anatomically how these conditions arise and how they may be overcome.

Dr. SOMMERS of Omaha referred to a surgical table in more or less general use at the present time which is provided with catches to hold the shoulders from the use of which paralysis has occasionally resulted, and urged that these supporters should be well padded before being used.

The Matas' Treatment of Aneurysm.—Dr. J. F. BINNIE of Kansas City, Mo., read this paper. He said that in 1892 Dr. Rudolph Matas presented to the American Surgical Association his classical paper on the radical cure of aneurysm. Matas' method of operating combined the advantages of ligation and excision, while at the same time it was easier, safer, and might be more conservative. The operation was suitable both to the fusiform and sacculated forms of the disease. After having applied a constrictor above the site of disease, if in the limb or temporarily ligating the proximal and distal trunks, if the carotid was the vessel at fault, one cut into the sac, thoroughly removed the contained clots, rubbed the serosa with gauze and proceeded to insert sutures. The sutures, preferably catgut, were first applied to the openings of all vessels entering or leaving the sac, then the deeper portions of the sac were closed by two rows of continuous Lembert sutures. The elastic constrictor was then removed, and if any blood escaped, one or two points of suture were inserted to control this. The next step consisted in folding the excess of sac wall on itself, and in so doing invert the edges of the skin wound. The operation, carried out as described, had been very successful, and in some cases, *e.g.* of sacculated aneurysm the circulation might be reëstablished through the repaired vessel. As Matas' operation had not yet been frequently performed, Dr. Binnie stated he deemed it the duty of those who had had even slight experience with it to publish their results; this was his excuse for the present short paper and report of a single case. J K., 52 years, laborer, fairly hard drinker, as evidenced by his statement and face; several attacks of gonorrhœa, syphilis at 37 with apparent cure under treatment, when 25 years old was confined to bed for six months with rheumatism; had had no recurrence of this, developed an inguinal hernia three years ago, and wore a truss. Two years ago he suffered from an acute pain shooting down the calf of the right leg; a tumor soon appeared in calf and had increased steadily in size; the affected calf measured 18 inches in circumference—the normal one having been 12 inches—upon examination was found expansile, pulsating tumor of the calf, reaching up into the popliteal space, which was well shown in an accompanying skiagram taken by Spaulding; there was a well-marked bruit over tumor; posterior tibial pulse was delayed; there was no tenderness and only a little pain, which was referred to the foot. Diagnosis—popliteal aneurysm.

November 10, 1903; Sisters' Hospital; chloroform; elastic constrictor applied to thigh; incision into the tumor, through the alternated gastroenemius, showed a cavity 6 x 3 inches in diameter, largely filled with a very dense lamellated fibrinous mass. This mass was removed. The aneurysm sac was thick walled and markedly atheramatous. Only one opening into the sac could be found and this was closed by catgut sutures. The whole sac was not obliterated by several layers of Lembert sutures and the superficial wound closed without being inverted. Dressings were applied and the patient returned to bed with his limb elevated before the elastic constrictor was removed. November 17—a slight elevation of temperature led me to change the dressings, when some bloody pus escaped from the wound. There was neither pain nor redness; drainage and cleanliness led to recovery; up to date there had been no recurrence. The above case was evidently one of sacculated aneurysm, efficient circulation was promptly reëstablished, but the posterior tibal in pulse can no longer be felt. The suppuration was undoubtedly due to some avoidable contamination acting on non-resistant tissues. The details of the operation were not exactly those of Matas. It seemed to me that complete closure of the sac by means of suture gave better assurance against recurrence than closure of a portion of it by two rows of sutures and obliteration of the rest by inverting the skin. The operation, in the case of popliteal aneurysm at least, was one of great ease, safety, and efficiency.

Dr. RUDOLPH MATAS of New Orleans expressed himself as much pleased with Dr. Binnie's paper and commented on the simplicity of the operation on poplitea

aneurysm. He did not believe that suppuration persisting in any case in any way conflicted with the final result and reported one similar case occurring in his own practice. The fundamental point at first was the free exposure of the sac with a minimum disturbance of the surrounding tissues, but he felt that as the cases multiplied modification would naturally arise. He believed that the restoration of the lumen was possible in many cases, as illustrated by those already reported, eight of which he was familiar with. Topographical distribution made certain modifications necessary, while aneurysm at the root of a limb required a different technique, according to his experience.

Dr. JOHN B. MURPHY of Chicago congratulated Dr. Binnie on his success and Dr. Matas on his operation. He believed that in trauma of the popliteal artery where aneurysm followed the mortality was very great. He gave a blackboard demonstration of his own modification of the operation in these cases.

Dr. H. O. PANTZER of Indianapolis reported a case of a patient who was shot through the thigh twelve years ago in whom a popliteal aneurysm developed and gave a blackboard demonstration of his methods of dealing with it.

Dr. BINNIE closed by criticising one or two of the points made by Dr. Murphy in his blackboard demonstration.

SECTION ON MEDICINE.

DR. ALEX. LAMBERT OF NEW YORK, CHAIRMAN.

First Day—Tuesday, June 7.

Chairman's Address: "The Adaptation of Pure Science to Medicine."—Dr. ALEXANDER LAMBERT of New York gave this address and said the most complete adaptation of scientific work to clinic medicine was that of Behring and others in the antitoxic sera for diphtheria and tetanus. The preventive inoculation against typhoid fever, plague and cholera was the practical application of our ideas of immunity, and the success so far obtained seemed to be that about fifty per cent. of those inoculated were protected against these diseases, and of those who acquire these diseases after being inoculated, the mortality was about fifty per cent. less than in the uninoculated. The practical value of the study of variations of blood pressure was just beginning to be recognized, and our therapeutic difficulties thereby increased; they promised a distinct gain in a more intelligent treatment of cardiac and renal diseases in particular. He asked for a closer co-operation between clinicians and laboratory workers.

Pernicious Anæmia and Its Relation to Gastric Digestion, Based on Twenty-five Cases.—Dr. CHAS. G. STOCKTON of Buffalo read this paper and gave the following summary: Of 24 cases reported, the youngest was 32, the oldest 70; average 45 years; there were 20 males; 13 had outdoor occupation; the longest duration of illness was five years, the shortest six months and fatal; 12 were known to be dead, five living, the others unknown. All had dyspnœa on exercise and suffered from faintness and weakness; 16 had gaseous pulse, a heart slightly enlarged, and a systolic apical bruit; 6 had bruit de diable; 8 had other bruit; 22 had a distinct lemon-colored tint of the skin; 15 had a tongue strikingly denuded of epithelium; 10 had good appetites, 7 capricious and 7 anorexia; 18 complained of symptoms of stomach trouble; 10 had constipation, 8 diarrhoea, and 6 irregularity of the bowels; in all the liver was enlarged; one had 4 periods of improvement, three 2 periods, eight 1 period, and eight no periods of improvement. After his attention was called to the subject by Billings' paper, he found signs of spinal-cord involvement in six out of nine cases. Nine cases showed slight dilatation of the stomach; in 13 the gastric digestion was absent, in 8 it was very low and in three it was fairly good. Five showed evidences of gastric catarrh. Six showed no acidity of the gastric contents, one (the highest) showed a total acidity of 46, one 26, and the average about 10. Four showed the presence of combined chlorides. One showed free hydrochloric acid .05 per cent., one .06 per cent., and one .022 per cent., in all the others it was absent. Six showed lactic acid present; four showed other organic acids. The acids salts were very low, 18 being the highest, five having none whatever; seven showed the Biuret reaction; six showed rennet present. The digestion of starch was poor in all except two cases.

Dr. R. C. CABOT of Boston said that, out of 150 cases of pernicious anæmia, five-sixths showed the absence of hydrochloric acid and yet digestion went on perfectly well. Hydrochloric acid appeared to be a luxury, but not a necessity.

Dr. ALLEN JONES of Buffalo emphasized the fact that achylia gastria was more often encountered without pernicious anæmia than with it.

Dr. WM. OSLER of Baltimore said that we were still much at sea in our efforts in finding an exact pathology of this disease.

Dr. G. N. HELL of Denver, Col., had seen striking improvement when hydrochloric acid was given in large doses.

Dr. GEO. DOCK of Ann Arbor, Mich., had met with success in the treatment of pernicious anæmia with large doses of dilute hydrochloric acid, given after meals, fresh air and diet.

Dr. CHAS. G. STOCKTON of Buffalo thought that a distinct line should be drawn between achylia gastria with atrophy of the mucosa and cases of pernicious anæmia.

The Diagnosis and Treatment of Perforation in Typhoid Fever, with a Report of Nineteen Cases, of which Sixteen Were Operated upon with Five Recoveries.—Dr. MORRIS MANGES of New York read this paper. An analysis of the clinical and diagnostic features of the cases were given with the conclusions which these warranted. The relations of perforations and perforation peritonitis were considered. He said that in drawing practical conclusions from this analysis of the varied clinical features of perforation, it would at once be seen that there was no pathognomonic symptom. In suspected perforation the condition of the abdomen should be routinely observed, especially as regards tenderness, rigidity, distension, respiratory excursions, and liver dulness. Physicians expected too many and too pronounced symptoms for an early diagnosis of perforation. The best results ever claimed for nature's method has been 5 per cent., whereas by operation there has been a recovery of 26 per cent. The only exception to the rule of early operaton was that moribund patients should not be operated upon. The indications for treatment were distinctly corroborative of the importance of early operation. Condensed histories of the perforation period of the cases were appended.

A Case of Typhoid Fever with an Unusual Complication.—Dr. WM. EDGAR DARNELL of Atlantic City reported a case in which the uterine flow occurred in the third week of the fever with fatal result.

Dr. WM. OSLER of Baltimore said that the most essential and important thing was intelligent watchfulness on the part of the physician, and, in hospitals, explicit directions to be laid down for the guidance of the house physician, who thus could be on the alert for unfavorable changes in the typhoid cases which pointed to the possibility of intestinal perforation.

Dr. J. C. WILSON of Philadelphia said that in his hospitals in Philadelphia, as a matter of routine, rigidity of the abdominal muscles was always looked for. If pain, especially when associated with rigidity, was present, the patient was immediately removed to the operating room. His experience had lead him to believe that perforation of the bowel was preceded in a considerable number of cases by hemorrhage, but seldom did they occur coincidentally.

The Mortality and Management of Pneumonia.—Dr. EDWARD F. WELLS of Chicago said that pneumonia was a very prevalent disease and its prevalence was increasing; that this increasing prevalence was probably due to the wider diffusion of the more vigorous strains of the pneumococcus, made possible by the increasing commingling of people; that the pneumococcus was to be found in the upper respiratory passages of a very large proportion of healthy persons, and it was the migration of these ever present germs into the pulmonary alveoli which caused pneumonia; that pneumonia was a very fatal disease and its mortality was increasing; that the increase in mortality was probably due to the greater average virulency of the pneumococcus. He advocated the following prophylactic measures: (1) Pneumococcic sputum should be destroyed before it became dry; (2) the nostrils, mouth, and throat should be kept as clean as possible; (3) the room occupied by a pneumonic patient should be afterward disinfected; (4) respiratory catarrh should be avoided and, if contracted, should be relieved; (5) physical and mental exhaustion, privation, undue exposure to cold and inclement weather should be avoided. Among other measures employed in the treatment of pneumonia. he gave during the first few hours only three to five drops of veratrum viride every two or three hours until nausea had been produced, or the initiatory surprise of the attack had passed To combat high fever he used the ice cap and fifteen to twenty drops of guaiacol externally. He treated pulmonary œdema by energetic stimulation of the nervous system, by strychnine, of the capillaries by adrenalin, and of the heart by small doses of morphine. He approved of oxygen inhalations

A Study of a Series of Cases of Pneumonia, with Special Reference to Diagnosis and Complications.—Dr. JOSEPH SAILER of Philadelphia read this paper, basing his study on 65 cases seen in the Philadelphia Hospital in the past winter. Nearly 40 per cent. were over sixty years of age and the mortality was correspondingly high. Thirty-five cases died and 30 survived. The distribution, as determined by physical signs and confirmed by autopsy when possible, was: left lower lobe alone, 16; left upper alone, 2; right lower lobe, 12; right lower lobe, 13. The entire left lung was involved in four cases and the entire right lung in three cases. It had been asserted that leucocytosis rendered the prognosis more favorable, but from the leucocytic count in his cases no definite conclusions could be drawn. From the quantity of chlorides in the urine it was not an indication of the subsequent course of the disease, but the comparison of the excretion of chlorides in pneumonia and in other febrile diseases had shown that in the latter states the reduction was comparatively insignificant and in pneumonia always considerable, so that we could place the highest value upon it in the diagnosis of pneumonia. Of late years the importance of Skoda's sign had almost been forgotten. Two forms of bronchial breathing could be distinguished the difference being one of degree. Wooden tympany was only observed in two cases, herpes in four, icterus in three. Feeble heart action and albuminuria were comparatively common. Profound synosis was present in two cases, and in one was temporarily relieved by venesection. If severe abdominal pain was present, it was associated with tenderness in the hyperchondrium on the same side as pneumonia. The complications were numerous. There were three deaths and seven recoveries among the cases treated with antipneumococcic serum. On the whole results of the serum treatment were regarded as distinctly favorable.

Dr. DELANCY ROCHESTER of Buffalo approved early bleeding in sthenic cases, but he disapproved the administration of opium in the beginning of the disease. The poison of the disease should be gotten rid of by the proper use of laxatives, particularly calomel. Sweating was of great benefit, and he approved of venesection in certain cases.

Dr. BABCOCK of Chicago referred to the work of an Italian experimenter who attempted to demonstrate that pulmonary œdema was not due to heart failure, but to the action of the pneumococcic infection upon the pulmonary alveoli. Viratrum viride was contraindicated as were all cardiac depressants, when the blood pressure was low. Digitalis was of the greatest possible utility in the form of fresh infusions injected hypodermatically.

Dr. S. SOLIS COHEN of Philadelphia said that venesection might be employed in the commencement of the attack when it reduced the toxæmia and toward the end of the attack when the right heart was overloaded. Th keynote of success in the treatment of this disea se we individualization.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

First Day—Tuesday, June 7.

Chairman's Address: "Last Year's Progress in Gynecology —Senile Endometritis."—Dr. L. H. DUNNING of Indianapolis briefly stated the tendencies which this branch had assumed during the past year, and said that he believed that every man should devote himself to the working out of some particular problem, and in accordance with this idea he had devoted himself to the question as announced in the title of his paper. He claimed that senile endometritis was not as uncommon as ordinarily supposed, and found that about 3 per cent. of the cases in his general practice were thus afflicted. The condition was either acute or chronic; the former he observed in a woman of fifty-four, in whom the infection was of a mixed type, one of the elements having been gonorrhœa. He also described the pathology of two chronic cases, which might have been difficult to differentiate from carcinoma or adenoma. He believed that some of the severe cases required complete extirpation of both uterus and appendages to produce a cure. His usual treatment of the ordinary cases is by gentle dilatation with a tent, followed if necessary by curettage. It was always necessary to first cure the vaginitis.

Invasion of Carcinoma of the Cervix into the Surrounding Tissues.—Dr. J. A. SAMPSON of Baltimore referred to the high percentage of recurrences following the operative treatment of carcinoma of the uterine cervix and claimed that it showed that the growth had already invaded the surrounding tissues at the time of operation and that hysterectomy alone could therefore cure the disease in but a very small percentage of the cases. A study of the anatomic relations between the cervix and the neighboring parts showed that this relation is varied by the position of the uterus in the pelvis and that the growth does not have to extend far anteriorly in order to involve the bladder, or laterally to reach or extend beyond the ureters. A study of the specimens obtained from the more radical operations demonstrated how the above took place and emphasized the importance of a wide excision of the primary growth. The reader believed that the only hope in bettering the results from the operation lay in an early diagnosis and then doing the most radical operation possible in such early cases, in which there is the best chance for a cure. A microscopical examination was always necessary to determine to what extent the lymphatics were intact. He found that where the lower ends of the ureters were involved, it was advisable to resect them and implant them through the medium of the ureteral sheath directly into the bladder. The danger of an ascending renal infection could, to some extent, also be avoided by producing a vesicovaginal fistula, artificially.

Electrothermic Clamps in the Treatment of Cancer of the Uterus.—Dr. C. P. NOBLE of Philadelphia presented a critical analysis of the results secured by the use of this instrument, together with detailed statements of the various accidents which are liable to take place in employing the method. Up to the present time he had

treated nine cases, all unfavorable and unsuited to other operative procedures, with but one death as the direct result of the operation and that from secondary hemorrhage. The main objection to the use of the method was the danger of creating fistulous communications between the vagina and the ureters or bladder. This took place in five of his cases, two of which healed, one probably will and the other two remained open. The most unfavorable cases were the ones which thus far had shown no recurrences. Concluded that early diagnosis was most important, but that in those cases which were advanced, the electrothermic clamps offered a good chance for successfully treating the disease.

Primary Chorioe-epithelioma Malignum Outside the Placental Site.—Dr. PALMER FINDLEY of Chicago after a review of published cases, reported two cases, in one of which the growth was primary in the uterine wall, in the other, in the cervix. Both presented metastatic deposits in the vagina. He found, however, that further observation on the second case proved that it was carcinoma. The case which he reported was the 21st thus far reported. The woman had had amenorrhoea for three years, followed by a return of the menses, and then intermenstrual flow, accompanied by pain and vaginal discharge. Operation was followed by cure and no recurrences were noted four months after operation. He advocated a radical operation but the prognosis should always be guarded, as there was much uncertainty regarding the appearance of metastases in distant parts.

careful pathological examination should also be made to determine the true nature of the growth, for in his second case, the collections of giant cells in the carcinamatous tumor closely resembled syncytial masses.

Dr. WATHEN of Louisville said that although he recognized the value of hysterectomy, he was entirely opposed to the removal of the chain of glands and lymphatics, on account of the time it took, the consequent danger to the patient and the fact that it was impossible to reach or to distinguish every infected lymphatic structure. He considered that the high attendant mortality rendered such a procedure unjustifiable.

Dr. CLARK of Philadelphia referred to the commendable spirit which animated Dr. Sampson's work. He considered that the removal of the glands was of prognostic value only, as their examination would reveal to what extent the disease had advanced. He believed that the cautery was usually superior to the knife, as it was possible to cook certain cells beyond the line of actual application of the cautery which would escape the dividing line of the knife.

Dr. MASSEY of Philadelphia called attention to the danger of auto-infection from metastatic deposits when employing the knife, by opening up new lymph channels. This was avoided by cauterization and he claimed that a patient could endure a current of 300 milliamperes on the cervix without anæsthesia. He considered that regular applications of the local cautery were an advantage to doing the entire procedure at one sitting.

Dr. SMITH of Montreal stated that he did not always find it advisable to wait for a pathological report but to operate on the basis of clinical symptoms of a suspicious character. He spoke of a case in which the examination of scrapings had proved negative and yet after hysterectomy the suspected disease was plainly demonstrated.

Dr. LAWRENCE of Columbus also referred to the uncertainty of the information to be derived from curettings. In selected cases he considered high amputation and thorough cauterization better than hysterectomy.

Dr. SANDBERG of Chicago stated that he believed that many cases diagnosed as cancer were in reality chorioepithelioma, but that the latter were of a lesser degree of malignancy.

Dr. CORDIER of Kansas City thought that the Pacquelin cautery afforded the casual operator a very good chance of getting good results. Cauterization also does away with the chances of infection and that had considerable to do with the liability of recurrence. After converting the elevated mass into a conical ulcer, he found the application of calcium carbide of value as a cleansing and detergent agent.

Dr. CARSTENS of Detroit insisted that our knowledge of the anatomy of the lymphatics of this region was too imperfect to warrant our being certain of the more or less complete removal of these glands. He referred to Schauta's work, who showed that the lymphatic system of the uterus was more extensive than formerly supposed. In many autopsies it was found that the recurrences took place in the cellular tissue around the lymph channels, and this could not be removed. He thought that where the diagnosis had not been made sufficiently early to permit of a vaginal hysterectomy, the case had better be left alone.

Dr. GOLDSPOHN of Chicago believed that the recurrences were so often found in the upper part of the vagina, that should be resected in great part in preference to the extensive dissection of the glands. He also recommended removing the uterus through the vagina after it had been freed from above and the abdominal wall closed.

Dr. DOWNES of Philadelphia reported on two cases of his own in which the clamp had been used, with the formation of fistulæ. He considered, however, that this was not the fault of the clamp, but of the fact that the neighboring tissues were too much infiltrated.

Drs. CAREY, CHANDLER, HUMISTON, and THEINHAUS also discussed this paper.

Technique of Wounds Incident to Laparotomy.—Dr. H. O. MARCY of Boston referred to the modifications which resulted from the introduction of the antiseptic and aseptic methods in surgery. He called particular attention to the importance of closing as far as possible all peritoneal rents and tears, or abrasions, leaving no wounded surfaces within the abdominal cavity uncovered by healthy peritoneum. The fascial layers must be most carefully approximated and the skin be united with subcuticular catgut stitch. The wound is then covered with a solution of iodoform in collodion. The skin suture should be in the deeper layers and sufficiently thin to avoid the contamination of the sweat glands. Drainage should be reserved for septic cases. Strapping or bandaging he thought was only necessary where it was expected much nausea or vomiting would take place.

Drs. GOLDSPOHN, ORTON, LONGYEAR, DORSETT, and the CHAIRMAN participated in the discussion.

Clinical Experience with the Appendiculo-Ovarian Ligament.—Dr. D. H. CRAIG of Boston after describing the anatomy of this structure, called attention to the mechanical effect on the pelvic organs of the female which resulted when the ligament was in a state of pathologic thickening and contraction. He believed that contraction probably rarely, if ever, produced pure retroversion. Six cases were reported, in one of which the diagnosis had been made before operation. In about one-third of the cases examined the structure can be demonstrated, in the remainder it is present in a varying degree. The most marked symptom which he observed was a line of continuous tenderness from the ovarian region up to McBurney's point, with pain radiating up into the hypochondrium.

SECTION ON DISEASES OF CHILDREN.

First Day—Tuesday, June 7.

CHAIRMAN, Dr. CHARLES G. KERLEY of New York.

Chairman's Address: "The Demands of the Child by Virtue of Right."—By Dr. CHARLES GILMORE KERLEY of New York City The speaker stated that so far as its physical characteristics were concerned, the child was a young animal In order that a vigorous adult might be produced, suitable nutrition, plenty of fresh air and cleanliness were absolutely necessary. In his daily life,

ere must be an absence of worry and anxiety; an sence, to a great degree, of responsibility; an absence of ork of an exhausting nature until the adult period was ached. The child should make its first year's growth id development during the first year; its second year's owth and development during the second, and so on. order to make the best adult, both physically and entally, every year of the growing period must supply its ota of physical and mental development. The child ould never do its first or second year's growing satisctorily during the fifth or sixth year, nor its fifth or xth year's growing during its tenth or twelfth year. rotracted, faulty nutrition, overwork at school, emloyment of an arduous nature in mines, stores or factories uring the developmental period left their indelible stamp n the adult, as evidenced by stunted growth, lack of idurance, lack of resistance to disease and lack of apacity for work, together with an absence of a high order f mental capacity. Those of the rising generation who ould do the nation's work, fight the nation's battles, do he nation's thinking, were those who were now receiving hat we all admitted the child had a right to demand. hey were getting food suited to the development of their odies: they received the benefit of fresh air and cleanliess, and their life was devoid of care. They were getting he benefit of secular and religious instruction. Those who were treated otherwise would form a large proportion f the future dependants, criminals and degenerates.

Erythema Nodosum in Children.—Dr. ISAAC A. ABT of Chicago read this paper. He stated that erythema nodosum was a disease of childhood which was of interest to the dermatologist as well as to the practitioner who treated children. Modern dermatologists differed among themselves as to the relation of erythema multiforme and erythema nodosum. The disease undoubtedly belonged to or was to be classified as one of the exanthematous fevers. In spite of the typical course of the prodromata and complications—among them conjunctivitis, pharyngitis, joint lesions, and, more rarely, endo -or pericarditis —Lewin was inclined to believe that the disease occurred on an angioneurotic basis. The eruption might occur after one of the infectious diseases, like rheumatism or malaria, or might arise in the midst of perfect health. The patients were for the most part children, ranging in age from two to fourteen years. The disease usually began with vague pains, gastrointestinal disturbance and fever. The temperature was usually continuous, and the disease rarely ran its course without some fever. The eruption generally occurred in the form of node-like swellings, most frequently located on the shin bones, though in some cases on the forearms and thighs, rarely on the tongue and face. The lesions were round or oval in shape, and varied in size from that of a walnut to a hen's egg. They were at first painful and tender to the touch, and tense and firm in consistence. They did not produce itching nor tend to suppurate. They were of a bright red color, and the overlying skin was tense and glossy, as though it had been polished. These nodules remained for a day or two, when the brilliant redness disappeared and was replaced by a dusky red or bluish color. In their involution, the lesions resembled those observed in a bruise, and it might take a week or ten days for a single nodule to go through its cycle.

Dr. DAVID LIEBERTHAL of Chicago said that these cases of erythema nodosum were observed more frequently by the pediatrist than by the dermatologist. The differentiation between the two affections, erythema nodosum and erythema multiforme, was very important, and it was surprising that there were some who still regarded them as identical.

Whooping-cough: a Study of Eighteen Cases Treated with the Elastic Abdominal Belt.—Dr. THERON W. KILMER of New York City read this paper. The method consisted in the application of a slightly constricted silk elastic abdominal belt to all children having pertussis. The method of applying the belt was as follows: A stockinette band was placed upon a baby with whooping-cough in the same manner as was done by orthopedists before applying the plaster-of-Paris jacket. This band extended from the axillæ to the pubes, and fitted snugly. Two muslin shoulder-straps were used to prevent the band from slipping down. Upon this stockinette a single width of silk elastic bandage was sewn, extending entirely around the body, and covering the abdomen. In a child under a year old it would be found necessary to use but one width (5 inches) of this elastic bandage; in an older child, two widths would often be found necessary to entirely cover the abdomen. This silk elastic bandage was pinned in place while very slightly on the stretch. After it had been pinned in place, it should be sewn to the stockinette band underlying it, all around its entire edge. The lower projecting portion of the stockinette band should be pinned down to the outside of the diaper or other clothing thus keeping the elastic belt smooth over the abdomen. Dr. Kilmer said he had used this belt with great success to control the obstinate vomiting of pertussis. Should the vomiting continue after the belt had been applied, the latter should be tightened slightly. In some of the most aggravated cases the vomiting had been seen to stop at once with the application of the belt.

The Chairman, Dr. KERLEY, thought the method was especially valuable in the treatment of whooping-cough in very young children, because on account of the tender age of those patients the usual strong remedies in this disease were apt to injure the stomach.

Dr. LOUIS FISCHER of New York City said that in three cases in which he had employed a modification of the method, which consisted in putting a stout binder around the chest, marked benefit resulted. In one case it was beneficial after bromoform, belladonna and morphine, in good-sized doses, had failed to control the paroxysms.

Dr. GILBERT of Louisville, Ky., said that the method, which was entirely new to him, was apparently based on a mechanical theory. He asked if there was any danger of a hernia as a result of the tight pressure?

Dr. KILMER, in closing, said he thought the *rationale* of the method was entirely mechanical, so far as he could explain it. He had never seen a hernia result from the application of the belt.

Prophylaxis of Tuberculosis in Children.—Dr. LOUIS FISCHER of New York read this paper, which was based upon a study of 5,000 cases from the children's service of a large outdoor dispensary in New York City. These children had been brought to the dispensary for the treatment of various infantile disorders, and were examined for the presence or absence or pulmonary lesions, with special reference to tuberculosis. Of these 5,000 cases, 1,700 suffered from adenoids, pharyngeal disease and catarrh of the nasopharyngeal tract. Fifty-nine showed distinct evidence of pulmonary tuberculosis, and in 9 cases tubercle bacilli were found in the sputum. Of the 59 cases that showed evidences of pulmonary tuberculosis, 43 had bone or joint tuberculous disease and 5 had Pott's disease in addition to the pulmonary manifestations. Of the 59 tuberculous cases, 2 were breast fed. Their mothers were very anæmic and dyspeptic, and showed evidences of malnutrition. Thirty-seven were bottle fed, the food consisting of grocer's milk. Eighteen were fed exclusively on condensed milk, and 2 were fed on modified cow's milk. The writer emphasized the necessity of removing mechanical impediments, such as adenoids and enlarged tonsils in the upper respiratory tract of children, and stated that such deformities as pigeon breast were the result of imperfect oxygenation of the lungs. Breast milk and fresh air he regarded as the most important factors in the prevention of infantile tuberculosis.

Dr. D. JACOBI of New York said that if the mother was tubercular, she should not be allowed to nurse her baby. In such a case, while he did not exclude the possibility of

even the probability of the milk being directly injurious to the child, the chief danger of infection was by transmission through the sputum and general environment. Numerous examples of this had been reported. Children of tubercular parents had been placed in institutions, where they had remained well, while healthy children who were brought up in tubercular families had contracted the disease simply from their surroundings.

Dr. B. ULRICH of Pennsylvaina said that he was a great believer in the hereditary transmission of disease, and yet he agreed with Dr. Jacobi that tuberculosis, *per se*, was not transmitted from parcnt to child, but the tendency, the weakness or the diathesis was transmitted, and under comparatively slight provocation, the disease developed. The best prophylactic treatment was to control the marriages of the world. At least as much care should be shown in breeding children as was shown in breeding horses.

Dr. CHARLES C. BROWNING of Highland, Cal., said that the idea of separating an infant from its tuberculous mother was impracticable, at least among the poorer classes. Those people were not able to put their children out, nor were they willing to do so, nor could they be compelled to do so, and he was not sure that it would be right if they were compelled to do so.

Dr. C. F. WAHRER of Fort Madison, Iowa, stated the case in this way: Given, the birth of a healthy child by two healthy parents. Given, the birth of a diseased child by one or two diseased parents. Let us then trade children Let the unhealthy parents take tare of the healthy child and let the healthy parents take care of the child born of unhealthy parents. Query; which of these two children would have the best chance of life? The speaker expressed the opinion that the child that was reared by the healthy parents, in spite of its inheritance, would have a far better chance than the child born of healthy parents, but brought up by the unhealthy parents.

Dr. PAULUS A. IRVING of Richmond, Va., cited the following instance as an example of the possible transmission of bovine tuberculosis to the human family: In an infant asylum in the South, the children were fed upon the milk of a single cow that had been presented to the institution. Within a year twenty-nine out of the thirty inmates gradually drooped and died. The milk was finally suspected as the cause of the high mortality, and upon slaughtering the animal, it was found to be suffering from tuberculosis.

GENERAL MEETINGS.

Second Day—Wednesday, June 8.

Oration on Surgery.—Dr. W. J. MAYO, Rochester, Minn. (See page 945.)

Symposium.—"Mutual Relations and Duties of the Government Medical Service and the Profession."

What Can the Medical Departments of the Army, of the Navy and of the Public Health and Marine Hospital Service do for Medical Science?—Dr. VICTOR C VAUGHAN of Ann Arbor, Mich. spoke for the profession. He said that the history of what the Medical Corps of the Army had given the profession in the past would serve as an indication of what might be expected from them in the future. He gave a résume of the contributions to medical knowledge that had been the result of the work of surgeons n the United States Army. He likewise reviewed the history of medicine and surgery in the Navy and Marine Hospital service. He referred to the valuable aid that the extensive library of the Surgeon-General gave to the members of the profession. He said that no greater services could have been rendered to the profession than that of the Reed commission, the application of the discovery to, by Gorgas and Ross and Carval by which Havana was tranformed from one of the dirtiest cities to a condition better than that of Philadelphia or New York, and the administrative work that had been carried on under Dr. Woods He said that we might expect good work from the consumption hospitals established by the government. Scientific research should be encouraged among men in the army by giving them facilities for carrying on original work and by breveting them for meritorious achievements in scientific work. Men should be detailed to study in the best laboratories in this country and in Europe. Special commissions for the Army or mixed commissions for both the Army and the outside profession should be appointed to study tropical diseases. The Public Health and Marine Hospital should be equipped with the best apparatus and the best men. A research laboratory should be established in the south which could be thrown open to competent men in civil life. The Naval Service should have a complete clinical laboratory. The medical profession acknowledged and was grateful for the work of the past and expected these government services to be the birth of knowledge in the future.

What Can the Medical Profession Do for the Army?—Major Surgeon WILLIAM C. BORDIN said that the fact that this subject had been brought up showed that the profession was disposed to shoulder its duties and responsibilities to the nation. To be successful in war we must be prepared beforehand, and this was as true of the medical corps as of any other department of the army. A medical corps that was insufficient to do the work of the army in peace could not be expected to do it in times of war. Victory or defeat might depend on the health of the army so the necessity for an increase in the number of surgeons in the army could not be questioned. The medical profession should be the teacher and leader of the people and should show them why this increase in the corps of surgeons was important, not only that we might have efficient services in times of war but that many difficult sanitary problems were to be solved in times of peace. A properly trained reserve corps should be established to take the place of the contract surgeons, as aside from fitness a surgeon could not perform his duties effectively unless he had rank. This question was before Congress and the American Medical Association could lend its influence in furthering this reform.

What Can the Medical Profession Do for the Navy?—Surgeon C. F. STOKES of the United States Navy said that an increase in the navy had been provided for, and the medical profession could best serve the navy by acquainting its promising young men with the inducements that the navy held out to them and by sending some of these young men to the examining board. The work on the Naval Hospital was superb and the impression that a surgeon hibernated while on board ship was very erroneous, in illustration of which he gave an idea of the scope of his work, showing that it was as broad as that of the busiest practitioner. The surgeons of the navy contributed but little to literature because of their onerous duties and their isolation, being, as they were, out of touch with all medical bodies.

What Can the Medical Profession Do for the Public Health and the Marine Hospital Service?—Surgeon General WALTER WYMAN, U. S. P. H. and M. H. S., said that the Marine Hospital Service had been founded in 1798 and had grown until it now had 300 medical officers, 22 government hospitals and 125 relief stations and 37 quarantine stations in the United States. It made visual examinations of pilots and physical examinations of life savers and immigrants. It established detention camps in times of epidemics, delved into the causes of disease in its laboratories, settled local disputes in diagnosis and passed opinion on the purity of vaccine and serums. It prevented the side entrance of immigrants and had stations all over the world where emigrants were inspected and quarantine administered. They considered themselves a product of the medical profession of the United States and the medical profession could assist them by considering them a part of itself. The service

should be in contact with the rest of the profession. The profession could assist them by maintaining a high standard of professional excellence and by raising the standard of medical education in the colleges. Coöperation with State Boards of Health officers associated with the Marine Hospital corps would be of advantage to general sanitation. They could assist the Marine Hospital service in its aspirations for a slumless country by aiding in education in sanitation and hygiene. They could give support in legislation and sympathy in aspiration.

SECTION ON MEDICINE.

Second Day—June 8.

Pathology of Arteriosclerosis.—Dr. WM. WELCH of Baltimore made a historical review of the subject. He said that in the cicatricial form of arteriosclerosis there seemed to be a peculiar localization chiefly affecting the thoracic arch in its ascending portion, and had but little tendency to extend. It was characterized by changes in the adventitia and media, and also by scar-like depressions seen especially in the intima, and associated with this were elevated plaques. At present three anatomical distinct affections, which might occur separately but more often combined, were as follows: (1) That form with inflammatory thickening of the intima resembling scar tissue; (2) That form called by some atrue arteriosclerosis, and which applied naturally to a thickening of the inner coat and a splitting of the internal elastic membrane, or the elastic muscular coat, and associated with necrotic, fatty, and hyaline degenerations; (3) That form due to syphilis or, as called by Keller and his students, syphilitic aortitis. He believed the most important underlying cause was the functional strain upon the arteries, and it was a matter of the greatest importance to learn what were the conditions associated with arteriosclerosis which were responsible for the rise of arterial pressure and cardiac hypertrophy.

Arteriosclerosis from Acute Infectious Diseases.—Dr. WM. S. THAYER of Baltimore referred to sixty-two autopsies in cases of typhoid fever in nineteen of which definite sclerotic changes were made out and in thirteen early and fresh sclerotic changes were noted, and this led him to believe that typhoid fever played some causal part in the thickening of the radial arteries. The histories of a large number of cases in Dr. Osler's wards, gone over consecutively, numbering 3,894, were examined regarding the general presence of palpable radials in cases with histories of certain diseases. The results obtained and which were shown by charts showed where no causal factor existed a general percentage of 18.9 was shown, in cases of diphtheria a slightly lower percentage, pneumonia with 19.6, malaria, 22.6, syphilis 23, scarlet fever 24, rheumatism 41, alcoholism 53.3, and heavy work 62.2. The part played by physical labor in the production of arteriosclerosis appeared to be far greater than that played by alcohol.

Arteriosclerosis of Syphilitic Origin.—Dr. C. TRAVIS DRENNEN of Hot Springs said that the connection between arteriosclerosis and syphilis, if any, was obscure. The routine treatment adopted by the profession at large in the treatment of syphilis be believed was responsible for the production of arteriorsclerosis, and the tendency of the disease itself was to produce sclerosis in various organs. He pleaded for a more rational treatment of syphilis that would lessen the danger from mercury and iodides, and possibly might eliminate the agents used in the treatment of syphilis as causative factors in the production of arteriosclerosis.

Arteriosclerosis of Nephritic Origin.—Dr. GEORGE DOCK of Ann Arbor, Mich., said that it was doubtless true that in many cases the arterial disease caused the renal disease and that it was of great clinical importance that the kidney lesion be very severe, yet latent. We often saw how under the influence of an acute intoxication, as in acute infectious diseases, severe symptoms might suddenly develop and quickly cause death, when advanced renal degeneration was discovered. It was generally accepted that a chronic nephritis in a person with previously healthy blood-vessels might cause arteriosclerosis by retention of injurious substances. The importance of hypertension in causing vascular disease was now well recognized. If there was hypertension in acute nephritis, we must admit that it might lead to disease of the intima, followed by compensatory, and later by degenerative, changes. Many cases of acute nephritis apparently severe, recovered, and he thought we must believe that when this occurred vascular sclerosis might follow. He wished to assert the possiblity of renal diseases of all kinds assisting in the production of arterial disease, and to plead for more extensive clinical investigation in order to show the extent and if possible the explanation.

Arteriosclerosis Due to Lead.—Dr. FRANK BILLINGS of Chicago said that lead readily gained an entrance into the body, and probably directly affected the blood and other tissues. It might act directly upon the cells of the vessel wall and produce a proliferative endarteritis. This was associated with degenerative processes and thickening of the media, and especially a degeneration with proliferation and thickening of the muscular coat. There was caused a chronic degeneration of the kidney substance, with well-known fibroid changes and hypertrophy of the muscular coat of the arteries. In a large number of cases brought to autopsy with nephritis a great proportion of them was associated with lead. Lead predisposed to gout, and it was a well known fact that arteriosclerosis was common in gout.

The Significance of Alcohol in Relation to Arteriosclerosis.—Dr. RICHARD CABOT of Boston said that in reviewing the literature on this subject he had found that the textbooks all asserted the importance of the excessive use of alcoholic liquors as a causative agent in the production of arteriosclerosis. In his investigation of 283 cases at the Massachusetts General Hospital, only eighteen or 6 per cent. showed arterial sclerosis so far as could be ascertained by an examination of the heart and peripheral vessels. This investigation excluded syphilitics and those over fifty years of age; if those over forty years of age were excluded the percentage would fall to less than 1½ per cent. Investigations carried on at the Massachusetts Hospital for Inebriates and at the Long Island Hospital showed very definitely that alcoholism exerted very little influence as one of the causative factors of this condition. All the post-mortem evidence that could be obtained gave that same result. He said that we must conclude that alcoholism was of slight importance as a causative factor in arteriosclerosis.

Arteriosclerosis and Angina Pectoris.—Dr. WM. OSLER of Baltimore said that there was no question about the association of angina pectoris and arterioslerosis in a very considerable number of cases. He said that arteriosclerosis presented many phases of interest; when the blood-vessels of the head were affected severe pain was produced associated with migraine. In arteriosclerosis of the abdominal blood-vessels, severe pain was rarely met with, and yet there were cases of angina pectoris in which the pain was almost entirely abdominal. The numbness and tingling of the lower extremities met with in old people, in diabetes, and in Bright's disease, was due to senile arteriosclerosis. Dr. Osler divided the cases into four groups: (1) Those in which the angina attacks were definite, distinct, and severe in young persons, in neurotic conditions recurring over long periods of years, terminating fatally, and in which the arteries showed no sclerosis whatever. (2) Cases in which the angina pectoris was associated with syphilitic arteriosclerois; these were

amenable to treatment, occurred in young men with signs of cardiac lesions, but with evidences of syphilis definite and distinct. (3) A large group of cases occurring in the presenile. (4) A group of cases occurring between the ages of fifty, sixty, and eighty.

Treatment of Arteriosclerosis.—Dr. JAMES M. ANDERS of Philadelphia divided the cases into: (1) Those due to toxic agencies in the blood, (2) those caused by the constant ingestion of either carbohydrates or nitrogenous food, and (3) those dependent upon constant hypertension, due to muscular over-exercise. The maintenance of a complete nutritive equilibrium was a potent means of preventing pathological processes which lead to arterial changes. A suitable and considerable restriction of the amount of food was the prime requisite. Massage was a useful means of prophylaxis and exercised a beneficial influence upon glandular secretions on the nervous as well as upon the vascular systems. Warm baths were serviceable in lowering the tension of both the arteries and veins. The remedies employed to restore the normal rapidity of the blood and lower the blood pressure, by dilating the arterioles, were nitroglycerin, the nitrites and potassum iodide. He believed the nitrites were strongly indicated and most effective in that category of cases in which there was an early and marked increase in arterial pressure and the heart was hypertrophied.

Dr. ALFRED STENGEL of Philadelphia emphasized the importance of the early treatment of the disease.

Dr. FREDERICK SHATTUCK of Boston referred to the multiplicity of causes of arteriosclerosis and referred particularly to the high arterial tension in men who were under very great strain.

Dr. WM. KRAUS of Memphis, Tenn., said that the etological features of the disease seemed to be associated with the circulation of toxins.

Dr. CHAS. G. STOCKTON of Buffalo thought better results were obtained from short, hot, or vapor baths. He did not believe that such favorable results could be had in the treatment of arteriosclerosis without the use of the iodides.

Dr. BABCOCK of Chicago did not think that we should attribute any special etiological influence to any one factor in the production of arteriosclerosis. The form of the alcohol should be considered as well as the excessive amounts of fluid consumed and nutritive materials.

Dr. F. R. WEBER of Milwaukee referred to certain salts which had effect upon the blood pressure, and he said he was experimenting at present with barium chloride which, like adrenalin, markedly increased the blood pressure.

Dr. BOARDMAN REED of Philadelphia said that toxins that are formed in the alimentary tract might produce arteriosclerosis, and these toxins might be formed as a sult of alcohol upon the gastrointestinal tract.

Dr. A. M. PHEDREN of Toronto, Canada, referred to an epidemic of peripheral neuritis at Birmingham and called attention to the fact that it was not due to alcohol but to arsenic. which contaminated the alcohol. He thought that other factors might be present in causation of arteriosclerosis than alcohol.

Dr. A. JACOBI of New York said that we should expect to be successful in the treatment of arteriosclerosis dependent upon syphilis by the use of mercury and the iodides. He referred to cases of congenital smallness of large and small arteries, and also to a peculiar form of congenital sclerosis that gave rise to obstruction in the peripheral circulation and which was attended by cardiac hypertrophy.

A Study of One Hundred and Eighty-Six Cases of Mitral and Tricuspid Stenosis.—Dr. JUDSON DALAND and Dr. E. L. MCDANIEL of Philadelphia made a report on a heart showing mitral and tricuspid stenosis, and gave an analytical and statistical study of 186 cases of this affection that had appeared in literature from 1809 to 1904.

Pleural Effusions in Heart Disease.—Dr. J. DUTTON STEELE of Philadelphia presented this paper and said that pleural effusions were more often unilateral with a preference for the right side. It was the general opinion that hydrothorax was apt to occur before general œdema, though many observers had reported isolated cases of right-sided cardiac hydrothorax. The theory that appeared to explain most satisfactorily the preference of these pleura effusions for the right supposed that enlargement of the heart, and especially the right auricle, could press upon the root of the right lung and obstruct the vena azygos major. However, the pressure of a dilated auricle upon the root of the left lung would not obstruct any large venous trunk analogous of the vena azygos major.

Prolonged Delirium in Pericarditis and Endocarditis, with a Report of a Case.—Dr E. M. GREENE of Easton, Pa., reported a case of acute rheumatism followed by endocarditis and pleurisy with effusion, which was marked by delirium lasting for five weeks and in which the fever was not sufficient to account for it A subsequent physical examination revealed no marked lesion.

The Limitations of Digitalis in Mitral and Aortic Regurgitation.—Dr. FRANK JONES of Memphis, Tenn., read this paper and stated that in compensatory mitral regurgitation, digitalis was indicated, and was contraindicated in aortic regurgitation. He said that there was no justification for the use of digitalis in aortic regurgitation, no matter what the condition of the heart muscle might be.

Some Points in the Acoustics of Respiration.—Dr. CHAS. E. QUIMBY of New York demonstrated the following propositions: (1) The trachial note represented the interference of pitch limit, of respiratory sounds, and that limit might be defined by a letter of the musical scale, as might every other respiratory pitch. (2) In vesicular respiration, the inspiratory sound represented the superior pitch limit of respiratory sound. (3) The passage from vesicular respiration to bronchial breathing was attended, at first, by a lowering in pitch of the inspiratory note, and later by lowering of both inspiration and expiration. (4) In vesicular breathing the inspiration was of higher pitch than expiration; in rude, bronchial and tracheal breathing, the inspiration was of a higher pitch than, or the same pitch as, expiration. There was no respiration resulting from consolidation in which expiration was of higher pitch than inspiration.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

Second day—Wednesday, June 8.

Diagnosis and Treatment of Pelvic Deformity.—Dr. GEO. BOYD of Philadelphia directed attention to the frequency of pelvic deformity in America at the present day. To avoid unnecessary complications, it was essential that a careful study of the size and position of the fetal ovoid be made, and in addition to this the relative disproportion between the latter and the pelvic canal. The induction of premature labor would be the ideal treatment for this condition were it possible to accurately estimate the length of gestation. His experiences had not been satisfactory and he felt inclined to allow most of these cases go to term. Each case must be studied by itself. He believed that the fetal head was the most trustworthy pelvimeter and that in cases of moderate deformity, the test of previous labors should be taken as the guide. In multiparae where there was a history of previously born dead children, cesarian section should be performed.

Dr. BACON, of Chicago, said that it was not so difficult to estimate the exact length of gestation, if the time when the morning sickness first appeared and also the fetal movements. The former came on from 3 to 4 weeks after conception and the latter during the 18th week, in the majority of cases. He believed it advisable to induce

labor at about the third week and considered that the high infant mortality was entirely due to insufficient preparations having been made for the case.

Dr. CAREY, of Chicago, claimed that the prognosis depended on the size of the head as well as on the dimensions of the pelvis, and moreover on the degree of ossification to which the skull had advanced.

Heart Disease as an Obstetric Complication.—Dr. C. S. BACON, of Chicago, read this paper. He said that heart disease might be due to pregnancy or to labor, *e. g.*, myocarditis, due to toxemia of eclampsia, endocarditis due to puerperal infection. As pre-existing heart disease did not interfere with pregnancy, its frequency corresponded to the frequency of the disease. Abortion was the usual effect of heart disease on pregnancy, while dyspnœa, bronchitis, edema, palpitation, indigestion, etc. were the effects of pregnancy on heart disease. Labor itself might cause sudden death. During the puerperium one of the principal dangers in addition to the weak heart was the liability to infection, especially of the air passages. In the management of these early cases the question of inducing abortion depends to a large extent on the patient's knowledge of her condition and her circumstances. It is not advisable, however, in most cases to await spontaneous abortion. Where it has been decided to carry pregnancy to term, on the slightest indication of uterine contractions, quiet in the horizontal position should be insisted on. Corsets are dangerious on account of the pelvic congestion induced. To avoid the effects of inactivity, bed exercises should be employed. Opium might be necessary for considerable periods where abortion was imminent. The immediate indications for abortion were increased pulse and heart action and cyanosis. The administration of oxygen was most important, as it was found to be soothing and anaesthetic. Ether was the best anaesthetic for operations. Treatment should be kept up during the puerperium, no nursing permitted and the patient under observation for at least three months.

Dr. HOLMES, of Chicago, said that morphine should be stopped as soon as labor begins, as in his experience he had often found babies completely under its influence. In the third stage he believed that much relief to the woman was secured by letting her bleed, and that this could be readily accomplished by removing the placenta manually. For dilatation a small bag only should be used, as the larger sizes materially increase the intrauterine pressure. He favored the methods advocated for inducing labor in the following order: (1) bougie, (2) Vorhees bag, (3) incision of cervix, manual dilatation, Bossi dilator.

Dr. HOTCHKISS claimed that in mitral disease, the earlier the induction of labor, the safer for the patient. Such cases lost less blood than normally, and venesection might prove of advantage to relieve the condition.

Dr. CAREY, of Chicago, protested against the immediate taking away of the placenta, as the control of the hemorrhage was incomplete and the possibilities of infection great.

Dr. HASTINGS, of Toronto, also advised slow resort to the early manual separation of the placenta and was rather inclined to rely on venesection. He had no bad experiences with morphine and considered it invaluable for the dyspnoea. The symptoms were often more alarming at the seventh month, than later, and he believed that we should proceed slowly in the matter of inducing labor.

Dr. BACON, in closing the discussion, said among other things, that he believed that the patient needed stimuants and tonics after labor, rather than blood letting. Oxygen was of particular value in his estimation. The danger of the child seemed to him to be due rather to imperfect placental circulation than to the morphine administered.

The Difficulties and Dangers of Accouchement Forcé.—Dr. H. G. WETHERILL of Denver claimed that the present manual methods were dangerous, slow, and tiresome, and that the instrumental methods were likewise so, and in addition required expensive special instruments, which were often unavailable when most needed. In place of these he proposed a new method of securing dilatation of the cervix by means of a tenaculum forceps and the Sym's duck bill speculum. After dilatation of the cervix by uterine dilatators, the successive sizes of specula were introduced, while the cervix was held by the tenacula. Two specula were thus held above and below, and the stretching was secured by what was described as a rocking motion. Two cases were reported of general toxæmia, with albuminuric retinitis, but no convulsions in which the method was successfully employed.

Dr. CARSTENS of Detroit considered that the method was too slow for such cases and preferred vaginal cæsarean section.

Dr. HOLMES of Chicago thought that the method was inapplicable when the cervix was high, as it could not be reached by the blades of the instruments, and the tenacula were apt to be pulled out. The hand, in his experience, was the most available means.

Dr. BACON of Chicago thought that contamination from the anus was readily possible by the inferior speculum and doubted any advantages which the method might present.

Dr. HASTINGS of Toronto believed that the Harris was the ideal method, and that instrumental interference was only indicated in cases in which there was concealed accidental hemorrhage. Digital dilatation should, moreover, never be done without gloves.

Dr. FRY of Washington announced that Dr. Harris himself had lately realized the necessities of instrumental dilatation and had advised an instrument which was described. The speaker thought that the general adverse criticism directed against Dr. Wetherill was unfair and insufficient. It might be employed in selected cases and would seem of value in multiparæ.

Is Cæsarean Section a Rational Method of Treatment in Placenta Prævia?—Dr. J. F. MORAN of Washington, brought up this important question. He found that among twenty-four operations by twenty-one operators, the maternal mortality was 20.5 per cent. and the infant mortality 24 per cent. These were all emergency cases, but statistics of cases treated by other methods give only a slightly lower maternal mortality and a decidedly greater infant mortality. He considered that statistics were altogether insufficient to allow the formulation of rules for guidance in treating this condition. There was only a limited field for the operation.

Dr. HARRISON of New York stated that in his experience he had never seen a case of placenta prævia which he would have considered suitable for operation, and believed that surgical intevention was unsuitable, and opposed the method for thus relieving the condition.

Dr. DUDLEY of New York claimed that indications were undoubtedly present which would indicate this operation in placenta prævia and believed that every obstetrician should be fully prepared to undertake this procedure.

Dr. LAWRENCE of Columbus favored cæsarean section, because it gave absolute control of the bleeding, which could not be gained by tamponing with the foot pulled down after a version, for in these cases uterine inertia is always present.

Dr. HOLMES of Chicago believed that the operation was only applicable in rare cases. Such would be rigid os, or a contracted pelvis. The statistics have been furnished by gynecologists rather than by obstetricians, and he claimed that the cases should be turned over to the latter for the exercise of their own methods.

Dr. DORSEY considered that the presence of a placenta prævia was serious enough to warrant the induction of premature labor. The time when the patient was seen, however, dictated what operation was to be done.

Primary, Intermediate and Secondary Repair of the Anterior Vaginal Wall After Labor.—Dr. B. C. HIRST of Philadelphia called attention to the importance of examining all women after delivery to detect injuries of the urogenital diaphragm in the anterior wall of the vagina, the urogenital muscle, and its fascia. This should be done by digital examination, and it was feasible to repair even submucous injuries primarily. He advocated under certain circumstances an intermediate repair for the correction of a cystocele about the fifth day.

Dr. HOLMES of Chicago claimed that a cystocele present during the first week of the puerperium was physiological and that more time should, therefore, be allowed to elapse before undertaking operation.

Etiology and Pathology of Cystocele with a New Operation for Its Relief.—Dr. J. R. GOFFE of New York read this paper in which he stated that cystocele in virgins and nulliparæ was usually due to supravaginal elongation of the cervix, and was accompanied by a general descensus of the upper support of the vagina and the anterior vaginal wall, and a falling of the bladder. In multiparæ, cystocele was a frequent accompaniment of retroposition of the uterus, sometimes decensus and prolapse of that organ. Cystocele partook of the character of a true hernia when these conditions did not exist. The reasons for the inefficiency of previous operations was commented on, and the reader thought that the suggestions which he presented would overcome the objections. In this operation the bladder is freed in all directions through a T-shaped incision in the anterior wall of the vagina, and stitched to the uterus and the broad ligament at three points. It was claimed that by this procedure, folding of the base of the bladder was avoided and no shortening of the anterior wall resulted. Eight cases were reported in which the operation had been successfully done.

Dr. PRICE of Philadelphia said he was distinctly opposed to any operation done during the puerperium on the vagina. It was bad surgery to operate in a septic canal, and unsafe.

Repair of Pelvic Floor Lacerations.—Dr. J. H. BURTENSHAW of New York, in calling attention to the advantages of immediate repair of lacerations of the pelvic floor, claimed that the failure to obtain good results was usually due to failure to appreciate the pathology of the condition. Moreover few modern operations of secondary perineorrhapy accomplished what was alleged for them. Vaginal sulci might frequently be demonstrated without laceration of the levator ani, and their presence was not pathognomonic. To close muscular rents, the edges of the muscles must not be raw and held in close approximation until united. He believed that nothing more was gained by Emmet's operation than by Hegar's, because the deundation in each was superficial. He thought that the introduction of sutures into the sulci in the Emmet operation had a marked tendency to draw the vaginal wall downward, and to increase the traction on an already retrodisplaced womb.

Treatment of Complete Vaginal and Uterine Prolapse.—Dr. F. H. WIGGIN of New York described this condition as a reducible hernia through the pelvic floor, due primarily to the separation of the tendons of the muscles formlng this floor and the formation of a rectocele as result. He summed up the indications for treatment as, the reduction of the hernia, the obliberation of the sac (which in his experience could best be accomplished by intra-abdominal support obtained by means of purse strings sutures passed through the body of the uterus and the broad ligaments on either side), the repair of the pelvic floor, and the removal of the redundant tissue on the anterior vaginal wall.

Mutiple Abscesses of the Omentu Following Grave Septic Peritonitis.—Dr. H. O. PANTZER of Indianapolis, read this paper and reported two cases.

(To be continued.)

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending June 4, 1904:

	Cases.	Deaths.
Measles	1042	21
Diphtheria and croup	398	51
Scarlet fever	321	18
Smallpox	2	...
Varicella	86	...
Tuberculosis	407	170
Typhoid fever	34	6
Cerebrospinal meningitis	...	63

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended October 10, 1903:

SMALLPOX—UNITED STATES.

			CASES	DEATHS
Alaska, Roonah	May	17	3	..
Juneau	May	15	1	..
Killisnoo	May	17	2	..
Florida, Jacksonville	May	22–28	2	..
Georgia, Macon	May	22–28	3	..
Illinois, Chicago	May	22–28	6	..
Iowa, Des Moines	Apr.	1–30	6	..
Dubuque	May	15–28	1	..
Kentucky, Covington	May	22–28	1	..
Louisiana, New Orleans	May	22–28	11	2
Maine, Jonesport	May	26	23	imd'pt
Maryland, Baltimore	May	22–28	5	1
Michigan, Detroit	May	22–28	2	..
Grand Rapids	May	22–28	2	..
Missouri, Saint Louis	May	22–28	4	2
New Hampshire, Manchester	May	22–28	3	..
New York, New York	May	22–28	1	..
Ohio, Bucyrus	May	22–28	13	..
Cincinnati	May	21–27	11	2
Cleveland	May	21–27	2	..
Dayton	May	22–28	4	
Hamilton	Apr.	24–30	6	..
Pennsylvania, Butler	Apr.	24–30	1	..
Johnstown	May	22–28	5	..
Philadelphia	May	22–28	11	2
Pittsburgh	May	22–28	1	1
South Carolina, Greenville	May	15–28	5	..
Tennessee, Memphis	May	22–28	7	..
Nashville	May	22–28	8	..
Utah, Salt Lake City	May	15–21	2	..
Virginia, Pocahontas	May	1–31	2	..
Washington, Tacoma	May	17–23	1	..
West Virginia, Martinsburg	Apr.	4–May 13	20	1
Wisconsin. Milwaukee	May	22–28	7	..

SMALLPOX—FOREIGN.

Austria-Hungary, Prague	May	1–7	4	..
Belgium, Antwerp	May	8–14	2	3
Colombia, Barranquilla	May	2–16	..	3
France, Lyons	May	8–14	..	2
Paris	May	8–14	17	3
Great Britain, Dundee	May	8–14	2	..
Edinburgh	May	8–14	2	..
Glasgow	May	14–20	11	3
Leith	May	8–14	1	..
Liverpool	May	15–21	1	..
London	May	8–14	23	..
New Castle on Tyne	May	8–14	5	..
Nottingham	May	8–14	12	1
Sheffield	May	1–14	4	1
India Bombay	Apr.	27–May 3	..	17
Calcutta	Apr.	24–30	..	5
Karachi	Apr.	25–May 1	4	2
Japan, Nagasaki	Apr.	21–30	125	23
Java, Batavia	Apr.	17–23	12	1
Mexico, Mexico	May	9–15	7	2
Netherlands, Amsterdam	May	15–21	1	..
Rotterdam	May	15–21	4	..
Russia, Moscow	May	1–7	12	3
Spain, Barcelona	May	1–10	..	6
Straits, Settlements, Singapore	Apr.	10–16	..	1
Turkey, Constantinople	May	0–15	..	3
Smyrna	Apr.	25–May 1	..	2

YELLOW FEVER.

Costa Rica, Limon	May	28	Present	
Mexico, Coatzacoalcos	May	15–21	4	1
			Two cases imported.	
Jalupan	May	27	1	..
Merida	May	15–21	..	3
Tehuantepec	May	15–21	3	2

CHOLERA.

India Calcutta	Apr.	23–30	..	103

PLAGUE.

Arabia, Aden	May	31	Present	
China, Canton	May	26	Spreading	
Fu Shan	Apr.	15	..	50
Sun Ui	Apr.	15	..	20

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Original Articles.

MYELOPATHIC ALBUMOSURIA.*

(KAHLER'S DISEASE; MULTIPLE MYELOMA).

By S. J. MELTZER, M.D.,
NEW YORK.

THE disease I am going to discuss, has, as far as I know, never yet been the subject of a paper or a discussion in this city. Although the first case was described over fifty years ago, there are at present not many more than thirty cases on record. There are reasons for the belief that the disease occurs more frequently, but is not recognized. It surely was often confounded with nephritis and probably also with rheumatism.

The essential clinical points of the disease, to state them briefly at the outset, are: pain of the bones, especially those of the trunk, the presence of Bence Jones' albumose in the urine, and a more or less rapid decline leading invariably to a fatal termination. The occurrence of the albumose in the urine is pathognomonic for this disease. With this knowledge in mind such cases will not escape recognition by the careful physician.

The underlying basis for my communication is the report of a case of this disease which occurred in my private practice about a year ago. As far as I know it is the first case to be recorded in this city.

A. B. R. was a tall, well-built man, forty-five years of age, of a dark, sallow complexion. He had a chronic pharyngitis due to excessive smoking and frequently suffered from spasmodic laryngeal coughs. During the five years I knew him he had one mild attack of bronchitis lasting about a week. His lungs were sound as were all his other organs.

In the first week of May, 1902, he consulted me for a pain on the left side in about the sixth intercostal space, one or two finger breadths to the left of the mamillary line. As he was then troubled with laryngeal coughs this pain annoyed him greatly. The application of a local sedative relieved him completely within two days. A few weeks later he again consulted me for a pain which was now located further back, extending about between the fifth and seventh intercostal spaces. This time the pain was severer than before and there was also an elevation of temperature to nearly 102° F. Physical examination revealed the presence of a pleuritic effusion of moderate extension. I considered it of rheumatic origin and treated it with salicylate of sodium. Pain, fever, and effusion disappeared completely at the end of a week. For about five months I heard no more of him. Then at the end of October I was called to see him for a very severe pain in his thigh at about the juncture of the middle and upper thirds. He told me that for the last few months he had often had pains in various parts of his trunk, but two or three of the salicylate powders had relieved him each time. The present pain, however, exceeded in severity all previous attacks. He had already tried local applications of heat, and of various liniments, and he had taken a number of the salicylate powders with no relief whatever. The soft tissues were not even tender, the pain was apparently located within the bone. I thought of osteomyelitis; there was, however, no fever nor any other sign of an infection. I tried aspirin, and again he was completely relieved. He was a traveling salesman and soon after went on the road. The next time I saw him was on the 11th of January, 1903. He told me he had never felt entirely well again. The pain in his thigh had not returned, but now his back troubled him. The pain was dull but continuous and was not relieved by aspirin. He located his pain in the lumbar region. He looked paler than usual and said that he felt tired. Examination of the lungs, heart, etc., was perfectly negative. But examination of the urine revealed the presence of a large quantity of albumin. I have no record, but am fairly sure that the urine was examined during his attack in May, and that it did not contain any albumin. The examination of the urine was made in the office by the routine method of heat and nitric acid. On subsequent examination of the test-tubes the albumin seemed to have increased in bulk. Nevertheless the microscopical examination revealed nothing indicative of a disease of the kidneys; there were neither casts nor renal epithelia nor any other formed elements. Within a short period, however, the problem was answered, the "albumin" was essentially Bence Jones' albumose. Now the diagnosis became clear, the poor man had what is termed by the majority of writers multiple myeloma, and with it the prognosis also became frightfully clear: there were no hopes for him.

The pains which the man variously had in his ribs, in other bones of his trunk and in his thigh were not rheumatic, and the relief which the various drugs had apparently afforded him was not due to these drugs. They were the pains which were observed in nearly all the cases of myeloma, and which appeared and disappeared regardless of any treatment.

Within a week after I saw the patient he took to his bed, where he remained till his death, which occurred about five weeks later. The pains in the back became very severe, they were confined, at first at least, to the left side of the upper two lumbar vertebræ. The eleventh rib also soon became very painful. The patient could not move, and even each breath gave him pain. His chronic pharyngitis now became a source of great suffering. He could not clear his throat from the accumulated mucus, which led to a continual sense of suffocation and to a laryngeal cough with agonizing pains. Opiates made matters still worse. Salicylates had not the slightest effect. For nearly two weeks the pains did not let up and the patient had no sleep and no rest. Finally, however, I found a reliable remedy for his pains in the continual application of ice on all the tender spots. As time passed many circumscript spots on the various bony parts of the thorax became very tender, especially the fifth and sixth dorsal vertebræ; but the application of ice afforded an infallible relief in all cases. Strong pressure or rough handling of any part of the chest caused prolonged pains. An energetic percussion by a phy-

*Read at the meeting of the Harlem Medical Association.

sician over the upper part of the sternum caused such an intense pain that the place had to be kept covered with ice for about ten days. No swelling nor palpable roughness could be discovered on the ribs or other bones of the body, and no spontaneous fractures occurred. When the patient occasionally sat up he carried himself as erect as ever. But he had no strength to sit up longer than five minutes at a time.

The patient frequently had diarrhœa accompanied by colic, both independent of any medication. And even when free from diarrhœa and colic, he continually complained of a sense of a heavy weight in his stomach. He also had occasional attacks of nausea and vomiting. At no period of the disease was the temperature above 99° F. There was no œdema. The lungs remained free. There was no enlargement of the lymphatic glands, the spleen, or the liver. The heart sounds were at first perfectly clear. Then a systolic murmur developed which gradually became louder and extended over the entire cardiac region. His natural pallor increased, but by no means to any striking degree. The pulse rose gradually to 120, the respirations became rapid and shallow. The patient became sleepless and very restless, and died apparently in an attack of pulmonary œdema on the 24th of February, 1903. While I was from the start quite sure of the fatal end, the final decline set in and terminated with unexpected rapidity. It is possible that an intense excitement which prevailed among the family at that time might have hastened the unavoidable end.

I regret that no blood examinations were made, and that no *x*-ray picture was taken. Especially the latter I consider a great loss, since no autopsy was obtainable, and there is nothing to support the diagnosis of myeloma in this case except the clinical evidence.

To recapitulate briefly, we have here a case with no other symptoms except pains occurring at intervals, especially in the ribs and vertebræ, the presence of Bence Jones' albumose in the urine, a rapid course and fatal termination. The essential diagnostic point is, as stated above, the presence of the albumose in large quantities in the urine. Before giving some details about the behavior of the urine in this case, we might say a few words regarding albumoses and their reactions in general.

The end product of a gastric digestion of albumin is, as you know, peptone, But in the gradual transition from albumin to peptone a number of intermediary products make their appearance; they are all termed albumoses. There are primary albumoses: proto- and heteroalbumoses, and secondary albumoses: the various deuteroalbumoses. We are not interested here in the particulars of these chemical bodies. It will suffice to state that in general they have some characteristics in common with albumin, and others in common with peptone. Thus, for instance, like albumin they coagulate, or are precipitated by mineral acids, and like peptone they remain fluid at the boiling temperature.

The following procedures will bring out rapidly and easily the essential characteristics of the albumose in the urine. Addition of nitric acid to some of the urine in a test-tube will cause a bulky precipitate, more bulky than a precipitate of albumin. This precipitate redissolves on being heated to the boiling temperature—coagulated albumin is not redissolved again by heat; on the contrary it becomes more compact. When urine containing the Bence Jones' albumose is heated up slowly it will be noticed that at a comparatively low temperature of about 130° F. the urine becomes turbid, and coagulates when heated only a little more. However, when the temperature approaches the boiling point the coagulum dissolves again to a great extent, the urine remaining only slightly turbid. When cooled, a heavy precipitate reappears, to disappear again on reheating the urine to the boiling point. It is characteristic for albumose to coagulate at a comparatively low temperature, redissolve at the boiling point, to precipitate when cooled, and dissolve again on heating. As in our routine work we never gauge the temperature, it is practical never to be satisfied with the appearance of a coagulum but to wait until the urine starts to boil; we will thus never overlook the presence of an albumose. For the differential diagnosis between the Bence Jones' albumose and the other albumose bodies we may bear in mind the following points: It differs from the secondary albumoses (deuteroalbumoses) by being precipitated by copper sulphate or copper acetate. It differs from protoalbumose by being precipitated by sodium chloride even in a neutral solution, which it has in common with heteroalbumose, with which it was, indeed, thought to be identical by many writers. Bence Jones' albumose, however, differs from the heteroalbumose by not becoming precipitated by dialysis, or still simpler by remaining in solution even when considerably diluted with water. However, for practical purposes, it is sufficient to establish by the simple heat-tests that we have to deal with an albumose. The presence of a large quantity of albumose in the urine is, according to the present state of our experience, indicative of a malignant disease of the bone-marrow or of multiple myeloma. We shall return to this point later.

The quantities of urine which my patient voided varied between 1500 and 2500 c.c. in twenty-four hours, and depended upon the quantity of fluid he had taken. He was from the start very thirsty. The urine had an acid reaction, the specific gravity varied between 1015 and 1023. The urine seemed to resist the usual decomposition; even after weeks it did not become ammoniacal. But a urine which was kept for a year without the addition of an antiseptic was now found to contain hardly a trace of albumose. The urine to which crystals of thymol were added is still in good condition in every respect. The albumose which it still contains amounts to 12 p. mille. In a note on a specimen of the urine which was examined on the 14th of January, 1903, it is stated that the albumose amounted to about 5 p. mille. The quantity of albumose was estimated by the Esbach solution, which is reliable, since picric acid coagulates albumose as well as albumin. The few reactions we are going to demonstrate to you to-night will be made on the urine preserved by thymol. The laboratory of physiological chemistry of the College of Physicians and Surgeons is still in possession of a considerable quantity of this rare urine. A further report on certain chemical details will be rendered some time later by Dr. John Auer.

The albumose under discussion was first described by Bence Jones[1] in 1847, who found it in a urine sent to him by a Dr. Watson from a patient of his. The clinical history of the case was described later, in 1850, by Dr. MacIntire.[2] A man of forty-five years suffered at intervals for more than a year excruciating pains in the chest, back, and loins. At the post mortem it was found that the ribs were soft and brittle. The anatomical diagnosis was osteomalacia.

The next case was described in 1883 by W. Kühne.[8] The historical background of this case is not without interest. Virchow di cove ed in the bone-marrow of a case of osteomalacia a substance which he considered similar to the albuminous body found by Bence Jones in the urine of a patient suffering presumably from the same disease. Kühne, who became chemical assistant to Virchow in 1861, grew greatly interested in that subject, and was continually on the lookout for a urine in os'eomalacia. When he was called to the University of Amsterdam he unearthed there by the aid of Stokvis a case under the care of Merkus Doornik, the urine of which contained the Bence Jones' albuminous body. When Kühne later went to Heidelberg the urine was collected and sent to him by Stokvis. The albuminous body was precipitated by alcohol, and preserved for fourteen years. Kühne's studies of that substance were not made known until his classical and celebrated studies on albumoses were completed. His article on the albumose of the urine of that case followed immediately after the publication by him and Chittenden of their studies of the albumoses of gastric digestion.

The patient, whose urine Kühne investigated, was a man of forty who suffered from pains, increasing weakness, and a gradually developing deformity of the bones of the trunk. There was no autopsy, but the diagnosis was osteomalacia.

The third case on record was described by Kahler[4] in 1889. It was that of a physician (Dr. Loos), with a sad history of suffering for about e ght years—the longest period on record. The essential symptoms were again intermittent agonizing pains, increasing deformity of the spine, increasing weakness, and the presence of the albumose in the urine. The chemistry of this urine was studied by Huppert,[6] the clinical symptoms were scrutinized by Kahler, and the post mortem was made by Chiari, all three celebrated men in their lines. It was found that in this case the seat of the disease was in the marrow of the sternum, ribs, and vertebræ. There was extreme osteoporosis, caused by tissue containing large round cells. The diagnosis during life was osteomalacia. However, in 1873, a malignant disease of the bone-marrow was described by v. Rustitzky,[9] which he termed multiple myeloma, and which was apparsently similar to the condition found in this case. Similar cases were described by Zahn[7] in 1885. The disease consists in a more or less diffuse neoplasm, sarcomatous in character, appearing simultaneously in several bones of the trunk without forming any metastases. The tumor consists of round cells which do not differ greatly from the normal cells of the bone-marrow. It replaces the bony structure in the cavity of the bone, erodes also the cortex, causes sometimes external swellings of the bone, and also spontaneous fractures. Kahler now changed the diagnosis of the case to that of multiple myeloma. Analyzing further the cases of Bence Jones and Kühne, Kahler came to the conclusion that these also were multiple myeloma and not osteomalacia. Furthermore, in no case of osteomalacia was the urine found to contain albumose. Led by all these considerations, Kahler put forward the statement that the presence of Bence Jones' albumose in the urine is pathognomonic for multiple myeloma. Subsequent experience has, so far at least, justified this assumption. Most of the Italian writers and some Germans designate the pathological condition under discussion as Kahler's Disease.

Since Kahler's publication the number of reports of such cases is rapidly growing. I need not enter upon an enumeration and analysis of these cases, since this was done recently in publications in this country by Charles E. S mon[5] and by F. Parkes Weber.[6] The latter author has enumerated in his article of last June, twenty-eight reliable cases. In these were not included one of Milroy,[10] three cases of Anders and Boston,[11] one of Boston[12] alone, and one of Vickery.[13] Counting also my present case there would then be about thirty-five cases on record. There are cases on record of multiple myeloma, with "albumin" in the urine, while at the post mortem the kidneys were found to be normal. Again pathological cases were reported recently of characteristic multiple myeloma without any clinical notes whatsoever There is one fact in the history of these cases which indicates that the disease is probably more frequent than the number of publications might show. Of these cases two occurred in the clinic of Lichtheim in Königsberg, three came from Amsterdam, three from Boston, four from Philadelphia, two were reported by Hamburger,[14] two by Bradshaw, and two by Weber. It is instructive that Weber, even in his second case, d'd not discover until a ter two months that the albumin in the urine was really albumose. Jochmann and Schumm[17] have, as late as 1901, described their typical case even after the post mortem as one of the osteomalacia, and only after a remonstrance by Bradshaw have they published it again under the head of multiple myeloma.

Most of the reports came from Germany. From this country nine cases were reported. Not a single report of an unquestionable case seems to exist in the French literature. The sad case of Dr. Calrat,[15] a prominent physician in Lyon, was only briefly described by Bradshaw in the *British Medical Journal*. It is not probable that the disease exists more frequently in those places from which more frequent reports come.

As to the diagnosis of these cases, we may, for the present, state that, in general, myeloma and the presence of albumose in the urine belong together. Although there are cases of myeloma in which no albumose was found in the urine, the latter it seems was not examined continually and long enough to make sure that there was no albumose at any time of the disease. In some of the reported cases of myelopathic albumosuria the albumose set in late or disappeared again. There is one case on record in which the urine contained the Bence Jones' albumose while the bones contained no myeloma; it is the one reported by Askanazy,[20] it was a case of lymphatic leukæmia. A few cases have had complications. Ellinger's[21] patient had a febrile disease with jaundice; Fitz's[22] first case had myxœdema; Vickery's[23] case had pernicious anæmia. In most of the uncomplicated cases in which a blood examination was made the conditions were found to be not much altered. Except for a reduction in the hæmoglobin, there were nearly the normal number of reds, no poikilocytosis, only few nucleated reds, the normal proportion between white and red cells and also a normal proportion between the polymorphonuclear leucocytes and mononuclear lymphocytes.

In some cases there were swellings of the bones, spontaneous fractures and considerable deformity. It seems that these complications occurred more frequently in cases in which the disease was protracted.

Nervous symptoms like paralysis and anæsthesia of circumscribed parts have been mentioned by many observers. Some ascribe it to anæmia and others (Coriat,[24] for instance) attach to it a prime importance. However it does not seem that these

nervous phenomena are essential symptoms in this disease.

The kidneys were found affected in only a few cases. In quite a number of cases there were intraocular hemorrhages. Pains in the bones of the trunk have been present in nearly all the cases. I may therefore state again that for the present intermittent pains of the bones, the presence of albumose in the urine in considerable quantity and a steady decline in health warrant the diagnosis of multiple myeloma or myelopathic albumosuria. The last mentioned term has been given to the disease by Bradshaw,[25] and I prefer it to multiple myeloma since it comprises the anatomical as well as the clinical findings of the disease.

The course of the disease is variable. The longest was that of Dr. Loos; it lasted eight years. In some cases it lasted less than a year Death is caused by exhaustion or by an intercurrent disease.

One word with regard to treatment. We know for the present of no remedy for it. I have tried bone-marrow with some perseverance; it had apparently no favorable effect whatsoever.

It is worth recalling that in this case ice relieved the pain, and t was the only remedy which did relieve it.

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107 West One Hundred Twenty-second Street.

Kentucky State Homœopathic Association.—At a recent meeting of the Association of Lexington, Ky., officers were elected as follows: *President*, George C. Coon, Louisville; *Vice-President*, C. E. Smoot, Richmond; *Secretary*, H. M. Clendenin, Louisville; *Treasurer*, J. H. Boute, Somerset; *Board of Curators*, H. T. Smizer, Cynthiana; A. H. Kleiser, Eminence, and R. L. Milton, Fox Creek.

THE PRESENT STATUS OF THE SURGICAL TREATMENT OF CHRONIC BRIGHT'S DISEASE.*

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Newer methods of investigations have materially aided the study of chronic diseases of the kidneys. The separate collection of the urines, with the ureteral catheters, enables us to determine with absolute certainty whether one or both kidneys are diseased; the chemical, microscopical, and bacteriological examinations of the separated urines collected by the ureteral catheters throw light upon the character of the kidney inflammation; whilst the determination of the freezing point of the combined and separated urines and of the blood gives us accurate information of the function of both organs and of each individually.

The intimate knowledge it is thus possible to obtain of the condition of the kidney and its function, enables us to apply our therapeutic procedures much more rationally than has heretofore been possible. Of late the surgical treatment of chronic nephritis has come prominently before the profession.

It is to the indications for such surgical therapy, and to the operative procedures that are employed, that this paper is devoted.

At the very outset the writer desires to clear the atmosphere of the inaccurate terms which are commonly associated with the chronic diseases of the kidneys.

It is our custom to apply the generic term of chronic Bright's disease to the chronic parenchymatous nephritis (large or small white kidney) and the chronic interstitial nephritis (contracted kidney). These chronic parenchymatous and interstitial forms of nephritis have been erroneously called medical nephritis, "Nephritis Médicales" by the French and American writers, in contradistinction to those chronic affections of the kidneys, in which the formation of pus, or the retention of urinary and inflammatory products within the pelvis or substance of the organ demand operative treatment viz., in incision and drainage. To these latter the name of surgical nephritis has been given.

Chronic Bright's disease is, however, a generic term, and by it we understand definite pathological conditions of the kidneys. It cannot be used synonomously with the term medical nephritis, because hitherto we have employed only medical treatment in the cases of chronic Bright's disease. In the last decade operative therapy has been used with success in some of the cases of chronic Bright's disease.

This proven value of surgical measures in *some cases* of this disease has led Edehohls to advise operative treatment for *all cases* that are fit surgical risks. He would make chronic Bright's disease of the kidney "a surgical nephritis."

It will be shown, in the further course of this paper, that chronic parenchymatous and chronic interstitial nephritis, follow a variety of causes; and that it is impossible either by pathological anatomy, or by the chemical examination of the urine, or by the clinical symptoms, to determine to which cause the chronic nephritis is due. It will be also shown that the chronic Bright's which is due to some of these etiological factors is improved—yes, even cured—by operation, whereas the chronic Bright's due to other of these causes is not only not improved but is even made worse by such therapy.

Because of the favorable effect of operation upon some cases of this disease, we are not entitled to

*Read before the Eastern Medical Society.

accept Edebohls' suggestion that all the cases of chronic Bright's disease should be treated by operation. Our experience does not permit of the entertainment of such a proposition. Chronic Bright's disease is neither exclusively a medical nor a surgical nephritis. As we learn more of the kidneys in health and disease, we will apply our therapeutic procedures more intelligently and more rationally. Both the medical and surgical therapy have their value, and the indications for the employment of the one or the other will be the duty of the clinician and scientist to ascertain.

Method of selection of cases which are to be treated medically or surgically.—Since Edebohls first proposed the operation of renal decapsulation for the cure of chronic Bright's disease, some of his followers have tried to determine, both from their own experience and from that of other workers, the value of this operation in the different pathological varieties of this affection.

However good a division of the cases of chronic nephritis from a pathological standpoint may be, in order to differentiate those in which the parenchyma is chiefly involved from those in which the interstitial tissue is the main site of disease, such a classification is absolutely worthless as a basis and guide for the rational employment of our therapeutic measures. For, in the first place, it is not always possible to state from the clinical symptoms and the urinary examination the exact pathological changes in the diseased kidneys, and in the second place, and much more important, is the fact that in their pathological anatomy, both macroscopically and microscopically, two kidneys may present exactly the same lesions; and yet in the one case operation would be followed by an excellent result, and in the other it would not. Thus it has been shown by Rovsing* that bacteria may occasion in the kidney to a chronic parenchymatous or interstitial nephritis that resembles in every detail the chronic nephritis due to disturbances in metabolism. Yet the former are often curable by operation whilst the latter are not.

It is thus evident that a pathological division of the cases does not afford a basis for fixing the indications for the employment of the medical or surgical treatment.

To aid us toward this end, the writer begs to suggest an arrangement of the cases according to their etiology: Thus:

(*a*) Those due to malposition, either congenital or acquired.

(*b*) Those due to the irritation of a foreign body, as a stone.

(*c*) Those due to the toxins of bacterial life, *e.g.* scarlatinal nephritis, nephritis of measles, rheumatism, etc.

(*d*) Those due to bacterial action, exclusive of the tubercle bacillus, *e.g.* coli group, staphylococcus, streptococcus, etc.

(*e*) Those due to general metabolic disturbances resulting in sclerosis of the internal organs, and blood-vessels. (Dr. Alfred Meyer has suggested the name of organo-sclerosis for this condition.)

(*f*) Those due to new growths.

(*g*) Those due to disturbances in the general circulatory system.

(*h*) Those due to chronic suppuration and chronic exhaustive diseases.

Such a classification helps us to appreciate the fact that the chronic disease may affect one kidney or both, depending upon whether one or both organs are subjected to the factors which produce the disease. It is to be especially noted that the same cause does not always occasion the same lesions in the two fellow organs; thus in one kidney there may be a chronic parenchymatous nephritis, while in the fellow organ there is a chronic interstitial nephritis, or a chronic degeneration or minute multiple abscesses. (See case of Edebohls quoted below.)

Let us consider a little more in detail these various etiological factors in the production of chronic Bright's disease.

An acquired or congenital displacement of a kidney usually causes a chronic nephritis in the malposed organ alone; the fellow organ may later on also become the seat of a chronic inflammation.

If a stone occupy the pelvis of one kidney the irritation and congestion it causes will excite in that organ alone a chronic nephritis.

The chronic nephritis, secondary to the toxins of the acute and chronic infectious diseases, is usually bilateral, though one organ may be more markedly affected than the other.

Thus a case reported by Rovsing,† page 298, Case 5: Young male, thirty-four years old, had typhoid fever eight years before he came under observation, otherwise his previous history was entirely negative. Four weeks after his convalescence from typhoid fever, he was suddenly taken with severe pain in the right lumbar region, and noticed at the same time that his urine was cloudy as though it contained sand. He consulted a physician, who diagnosed nephritis, and put him to bed. Urination at the time was somewhat painful, and the urine continued to be highly colored and contained a sediment. After a week's rest in bed, he got about but continued to suffer from pain in his right lumbar and right pelvic regions. He never had any hæmaturia macroscopically, though on one occasion red blood cells were found in the urine. He had been on internal and dietary and hydrotherapeutic treatment without deriving any beneficial result therefrom. Physical examination revealed a pale, thin, but otherwise healthy man. Kidneys not enlarged. The urine, taken separately from each kidney by sterile ureteral catheter, was acid clear, contained slight amount of albumin in both. Microscopical examination of the centrifugalized specimens showed in both, few uric acid crystals, numerous epithelia and few lencocytes and few granular casts. No bacteria, either in spreads or culture.

The constant pain in the right kidney region gave the indication for surgical exploration. The kidney was found enlarged; its lower pole appeared to be normal; the upper pole embedded in dense fibrous perinephritic adhesions. The kidney tissue corresponding to upper pole was cyanotic and somewhat friable. No calculi present. A section was excised for examination. Acupuncture and nephrolysis were carried out.

Microscopical examination of the excised section showed it to be the seat of a glomerulo-nephritis and proliferation of the interstitial tissue. The result of the operation was entire disappearance of the pain. The albuminuria disappeared after the operation, but when the patient resumed his usual work, the albuminuria returned and has persisted ever since. This will be referred to again under the consideration of treatment.

In this case, the post typhoidal toxic nephritis was a bilateral one, but the right seemed to give the more marked clinical evidences of disease.

When bacteria, exclusive of the tubercle bacillus, themselves attack the kidneys they may cause in them a variety of lesions; *e.g.* an acute degeneration, single or multiple abscesses, and chronic nephritis. As far as recent searches would go to

*"Operationen bei chronischer Nephritiden," *Mitteilungen aus der Grenzgebieten der Medizin und Chirurgie.*

†Already cited.

show, the pyocyaneus produces a contracted kidney; the coli bacteria may remain a long time without inducing any alteration of the kidneys; but certain virulent members of the coli and typhoid groups produce disseminated chronic abscesses. The staphylococcus produces a large white kidney; likewise the proteus group. The streptococcus a contracted kidney. Rovsing attributes the chronic nephritis not to the bacteria themselves, but to the decomposition of the urine they cause, and the consequent irritation of the kidney these products of decomposition give rise to.

Both organs may be similarly affected or the lesions may differ in the two kidneys. Further, the disease may be unilateral or bilateral.

As evidence of a unilateral bacterial disease of the kidney, the following history is cited:

Walter B., six weeks before he came under observation had a small wound of the foot from the pressure of a tight shoe. The wound became infected and healed slowly. During the course of its healing he commenced to have fever, pain in the left lumbar region, sweating, and gradual emaciation. Urine was clear and contained some albumin.

Suspicion of acute miliary tuberculosis was entertained. Two weeks before he came under our treatment an abscess, presumably of the prostate, was incised and much pus evacuated; no gonococci or tubercle bacilli were found in the pus.

At the time of his admission to the hospital he was emaciated, pale; temperature between 103°-105°; internal organs normal. In left hypochondrium and left lumber region was a large tender mass, fluctuating, corresponding to the left kidney; urine acid, clear, trace of albumin; microscopically many bacteria; only once hyaline casts. Rectally, the prostate felt of normal size and consistency. Just above it was the scar of the incision which had been made to evacuate a purulent collection. The induration which remained surrounded the lower end of the left ureter.

Diagnosis.—Left pyonephrosis, occluded left ureter, periureteral abscess. Cystoscopy revealed a normal bladder. *Right ureteral orifice* normal, clear urine discharged from it. Easily catheterized. *Left ureteral orifice* congested and swollen. Discharges nothing. A catheter could not be passed further than one-half inch into the left ureter, on account of some obstruction. Urine from right kidney was amber, cloudy, acid, faint trace of albumin, no sugar, 2 per cent. urea; microscopically urates. Operation was advised. Left kidney region exposed by a lumbar incision; a high perinephritic abscess was evacuated. Pus was thick, white creamy, no odor; culture, sterile.

The kidney was felt to be enlarged, and soft and friable; aspiration yielded thick pus. It was decided to drain the perinephritic abscess for a few days before the kidney was exposed, lest the manipuations attendant upon a satisfactory delivery of the organ spread the infection to the surrounding cellular and peritoneal tissues. The perinephritic tissues under frequent change of dressings and with good drainage, cast off the sloughing parts. The patient had a number of chills and very high temperatures during the next few days, and a week later the kidney was attacked. The perinephritic abscess cavity was thoroughly curetted and irrigated; and the previous incision was enlarged forward. Kidney was high *in situ;* it was much enlarged and friable; considerable adhesions at the upper pole. It was delivered on to the back. It was found to be riddled with small abscesses, between which the cut surface had a pale, waxy, jelly-like appearance. Nephrectomy was decided upon. Function of the other kidney good. The pedicle of the left kidney was secured with a mass rubber ligature and the organ ablated. Open treatment of the wound. The temperature abated at once—no further chills. The amount and character of urine secreted by right kidney were entirely normal. Uninterrupted convalescence.

Discharged, cured.

Specimen.—Kidney enlarged, pale gray in color; fibrous capsule adherent; contained two large infarcts, located one in the middle and the other in lower pole—each holding about 2 ℥ of thick pus.

Pathological report: Purulent inflammation.

As evidence of unilateral chronic kidney disease from bacterial infection, resembling in every way the kidney of chronic Bright's disease, the following history of Rovsing is quoted: A male, thirty-five years old, with negative previous history, suffered for one-half year with constant pain in the left kidney region, hæmaturia, and frequent, burning urination. He was, when he came under observation, pale, anæmic, and emaciated. The left kidney was enlarged and tender to palpation. The urine was ammoniacal, contained blood, epithetial and granular casts; white and red blood cells, and staphylococci. *Cystoscopy* showed cystitis, hemorrhage from left kidney, clear urine from right. Diagnosis of renal calculus was made. Exposure of left kidney showed it to be large and white; on section it was of jelly consistency, just as in the diffuse parenchymatous nephritis. Kidney was drained; a sudden severe hemorrhage from an anoded artery, two weeks after the operation, necessitated nephrectomy. Right kidney proved itself normal. Left kidney, diffuse parenchymatous *nephritis*, and in the tubules and interstitial tissue numerous *staphylococci*.

As evidence of the bacterial infection producing different lesions in the kidneys of the same patient, the following history is quoted from Edebohls: In the one kidney are all the evidences of chronic Bright's disease, in the other multiple *abscesses*.

Case No. 18—In abstract: Mrs. C. B.; thirty-nine years old, during puerperium developed septic symptoms, from a sloughing uterine fibroid. Abdominal hysterectomy was performed; during the convalescence, from which she passed through a severe pneumonia. Two weeks after defervescence from pneumonia an acute infection of right kidney developed, characterized by painful swelling with pyuria and increased amount of albumin and casts. Her severe sepsis forbade immediate operation, which, however, had to be undertaken several months later on account of the continuance of the sepsis. The right kidney was found riddled with innumerable abscesses and its pelvis filled with pus. Nephrectomy was done. Professor Brooks reported on the microscopical examination of the kidney. Sections showed typical histological characteristics of multiple abscesses. In the abscess area was found a thick bacillus corresponding morphologically to a species of the Proteus.

After the operation the patient's condition improved, and she gained flesh and strength, but her urine contained albumin and casts. *Gradual evidences of chronic Bright's disease developed and Edebohls performed decapsulation on the remaining kidney.* A bit of kidney tissue came along with the capsule and it was examined by Dr. Brooks, who reported as follows: Sections show decided histologic evidences of multiple foci of nephritis of infectious septic type. As far as was possible to determine, these foci were confined to the areas corresponding to terminal arteries, and consequently had a wedge-shaped outline. In the diseased areas the tubules presented granular and partially disintegrated epithelia often detached from the mem-

brana propria; and the lumena were frequently filled with polynuclear leucocytes, fragments of epithelial and blood cells and detritus. In some were hyaline casts.

It is to be regretted that in this case Edebohls gives no description of the gross macroscopical appearance of the second kidney, but this is certainly an example of a bacterial infection of both kidneys (although the incomplete examination of the urines for bacteria does not permit us to state this *absolutely*, for the second kidney) producing multiple abscesses in the one organ, which necessitated its removal, and the lesions of chronic Bright's disease in the other, which led Edebohls to decapsulate it. He was under the impression that he was dealing with an ordinary form of Bright's disease, instead of a chronic bacterial nephritis.

These three histories have been detailed in order to show that the action of bacteria upon the kidneys causes lesions that may be in the nature of multiple abscesses, or of a chronic Bright's disease (parenchymatous or interstitial nephritis). The clinical symptoms in the last two cases were exactly the same as those given by chronic Bright's disease, and the urine showed changes of a similar kind, Even Edebohls diagnosed his case as one of chronic Bright's disease, and was led to perform decapsulation in the hope of curing the patient. What the writer wishes to impress is that bacteria, and the toxins of bacterial life can cause a chronic nephritis, that pathologically and clinically resembles the cases of chronic parenchymatous and chronic interstitial nephritis, which are classed as chronic Bright's disease; and that the lesion may be unilateral or bilateral.

We now come to a group of cases of chronic nephritis, in which the disease from its very incipiency, seems to be of a bilateral character. There is no clinical evidence afforded by separation or segregation of the urines which permits us to conclude that the affection is at its very beginning unilateral, though we cannot deny the possibility of such an occurrence. Of the real cause of the disease in this group of cases we know practically nothing. For some reason or other, usually ascribed to metabolic disturbances, there sets in a gradual sclerosis of the connective tissue structures of the various organs; of the heart, blood-vessels, lungs, liver, kidneys, etc. The sclerosis may develop in all these organs simultaneously, or commence in one and gradually affect the others. Thus it is quite frequent for the sclerosis to develop first in the kidneys, which become, as a consequence, the seat of a chronic interstitial inflammation.

The *disease* seems to be a *general constitutional one*, with *local lesions* in the *connective tissue membranes* of the *various organs*. It occurs in the young or old, it may originate and develop in a number of organs at the same time or start in one organ, *e.g.* the kidneys, and gradually become manifest in the others. In the kidneys the affection seems to be always bilateral. The writer need give no concrete examples of this form of chronic nephritis. Numerous cases are familiar to you all, for here are grouped those cases of chronic Bright's disease with emphysema, arteriosclerosis, myocarditis, cirrhosis of the liver, etc.

New growths affecting one or both kidneys may induce in the affected organs a chronic nephritis. Such a chronic nephritis may for a time entirely obscure the symptoms of the neoplasm.

The chronic nephritis due to disturbances in the general circulation, *e.g.* from heart disease, is well known. It is always bilateral, and the pathological lesions of both organs are of a similar type. Likewise the chronic nephritis due to prolonged suppuration and other chronic exhaustive diseases (the waxy and fatty nephritis) is of a bilateral character, from the very outset.

That chronic nephritis may affect one or both kidneys, that the lesions in the two organs may or may not be similar though produced by the same cause, is very evident when the disease is considered in the light of its etiology.

Indications for medical and surgical treatment.——The greatest advantage of a classification of the cases of chronic nephritis, according to their etiology, lies in the aid it affords us in determining the proper therapeutic procedure to employ. Thus: The chronic nephritis due to malposition or ectopy will be certainly cured if the faulty position is corrected. This is clearly shown in Edebohls' cases of nephroptosis with associated chronic nephritis. Nephropexy in these cases brought about a cure of the chronic kidney disease. Likewise the removal of an irrtiating foreign body, *e.g.* stone from the pelvis or substance of the kidney, will result in a cure of the chronic nephritis it has given rise to. The following history is an instance of such an occurrence:

Left renal calculus. Left chronic parenchymatous nephritis; nephrolithotomy; secondary ureterolysoorthosis for persistent kidney fistula. Cure. Schalom B., thirty-four years old, was admitted to Mt. Sinai Hospital, June 24, 1899.

For twenty months he had suffered with pain in the left lumbar region radiating to testicle; these pains came on two or three times a week, and continued for several hours. During attacks of pain, urination was frequent and painful. He had no chills or sweats, occasionally fever. No hæmaturia. Lost some weight in past twenty months. Examination revealed a well-nourished man; conjunctival icterus. Internal organs normal. Kidneys not to be felt.

Urine, alkaline, 1,014, cloudy, contained albumin. Microscopic examination: pus cells, epithelial cells, granular matter, few hyaline casts. Urea 5 grains to ounce. Cystoscopic examination revealed pus descending from left ureter.

August 18, 1899, *nephrolithotomy*. Kidney exposed and delivered on external surface of back.

It was enlarged to one-half again the normal size; surface smooth; a calculus was felt in the pelvis. Kidney was bisected. The cut surface pale, whitish color, very soft consistency, markings indefinite. (Parenchymatous nephritis.) Oxalate of lime stone removed from pelvis; latter contained a few drachms of cloudy urine. Drainage of kidney; closure of rest of section by deep sutures.

Patient reacted well from the operation. Passed sufficient urine; October 3, 1899; *Casts have disappeared from urine;* but pus and epithelia are still present. The kidney fistula persists.

October 12: Cystoscopy revealed clear urine coming from right ureter; from left ureter some pus. Left kidney discharges all its secretion through the fistula in the loin.

October 23: As kidney sinus still persisted, it was decided to again expose the organ, on the supposition that an obstruction in the ureter was the cause of the persistent patency of the fistula. Incision was made in the old scar. *The kidney* was buried in scar tissue; *it was of normal size and appearance. No evidence of disease within it was found.* The ureter was embedded in adhesions and kinked at one point. These adhesions were separated and the kink straightened out. Anchoring of kidney, drainage and closure of abdominal extraperitoneal wound.

November 3: Urine acid, faint trace of albumin, no casts, considerable number of pus cells. Kidney fistula discharges very little.

January 8: Urine normal—acid, no albumin or pus, no casts—kidney sinus closed.

It is to be regretted in this case, that the writer, under whose care the patient was, did not in 1899 possess the skill necessary for ureteral catheterization, and that a bacteriological examination of the urine from the left kidney was consequently not made.

The change in the appearance of the kidney at the two operations separated by a period of about two months, was especially noted; the total disappearance of casts and albumin from the urine at the time of his discharge, further substantiated the cure of chronic nephritis. The patient reported for observation four years later. He has maintained perfect health; his urine is *normal*—the cure of the chronic nephritis was therefore a lasting *one*.

The chronic nephritis due to the toxins of the infectious diseases, is sometimes favorably influenced by operation. Especially favorable are those cases for operation in which the chronic nephritis has not existed too long a time. Thus Harrison was enabled to effect a cure in his three cases of subacute nephritis, following scarlet fever. In the history cited above, in which the chronic nephritis was of eight years' standing and followed an attack of typhoid fever, the albumin and casts disappeared after operation, but reappeared as soon as the patient resumed his customary work. The temporary improvement might, as Rovsing declares, be attributed to his rest in bed. Of the three cases of toxic nephritis reported by Rovsing two were unimproved by operation and one died, from a bilateral hemorrhagic nephritis.

The bacterial nephritides of chronic character are at times favorably affected by operation. Of Rovsing's eight cases, two, in which the disease was unilateral were cured by nephrectomy, one (unilateral disease) by nephrotomy,* two (unilateral disease) by nephrolysis, two (unilateral partial disease) by resection of the diseased portion; and one (bilateral disease) was improved by unilateral nephrolysis.

Edebohls' case (cited above) of bilateral bacterial nephritis in which one kidney was removed and decapsulation performed upon the remaining one, was only temporarily improved, the patient finally succumbing to the disease. The promise of a successful result depends on the character of the infecting organism, its virulence and the type of operation which is employed. Further reference will be made to this latter point.

The chronic nephritides which result from a sclerosis of the interstitial tissue, due to some disturbance in metabolism, have not shown any improvement from operative therapy. The writer knows of no case reported in the literature in which the kidney lesion was associated with arteriosclerosis, myocarditis, emphysema, and cirrhosis of the liver that has been improved by decapsulation or nephrotomy. It seems to be immaterial whether the sclerotic changes are present only in the kidney, or also in other organs. As stated elsewhere, the disease appears to be a *general, constitutional one*, with *local lesions in the kidneys, liver, lungs, heart, arteries*, etc., and could evidently not be influenced by any surgical procedure upon one of these local organs. In the case of the liver an anastomotic circulation may be established to relieve portal congestion and consequent ascites. Were there any indication for an anastomotic circulation in the diseased kidney, this might be established by renal decapsulation; but such an indication never exists. The only condition that could arise, demanding capsule splitting, would be an increased tension within the kidney from shrinkage of the capsule, and consequent anuria.

Rarely, however, in these forms of nephritis, is the shrinkage of the capsule sufficient to call for its splitting; the anuria in these cases is due to degeneration of the parenchyma, which, in turn, is due to the constitutional cause, and which is neither improved nor relieved nor modified nor cured by capsule splitting.

The nephritides, which are secondary to disturbances of the general circulation, *e.g.* myocarditis, valvular and endocardial disease, need no surgical interference—in fact, are made worse by it. If our efforts at regulation and the reëstablishment of the compensation of the circulation by rest, diet, and internal remedies fail, we can expect no good results from decapsulation of the kidneys.

The anæsthetic, the traumatism to the kidneys, and the shock of the operation increase the difficulties of the circulatory organs, and so render the patient's condition worse than before. Likewise the fatty and waxy nephritides that follow upon chronic suppuration, and exhaustive diseases will not be benefited by operation. As long as the primary cause exists, the nephritis will not be improved by any method of treatment. If we remove the cause, and sufficient healthy substance remains, we may expect sufficient hypertrophy of these cells to satisfactorily perform the work of the organ. The chronic nephritis that is associated with new growths of this organ will evidently not be relieved by decapsulation or nephrotomy.

We find, then, that operative interference has been found of value only in those forms of chronic nephritis due to (*a*) malposition of the organ or (*b*) to the irritation of foreign bodies, *e.g.* stones, or (*c*) to the irritation of toxins, or (*d*) to the action of bacteria. It is to be especially noted that even those cases which are not cured by operation are, as a rule, relieved of the severe pain and hæmaturia, which often are the only symptoms that cause these patients to seek the physician's aid.

It is at once evident, from the above facts, that it is our duty not only to establish the existence of a chronic nephritis, but also to ascertain its cause. And, further, to ascertain whether one or both kidneys are involved in the diseased process.

This is possible by careful elicitation of the anamnesis; by thorough physical examination of the patient, and by repeated examinations of the urines. In each case the urine from each kidney should be collected by ureteral catheterization, under strict aseptic precautions, and submitted to a careful bacteriological and chemical examination. Segregation of the urines by any one of the various instruments, besides its uncertainty, is unavailable in these cases, for the segregated urines must pass through the bladder, where they may be infected or contaminated with the bacteria resident therein.

The importance of a careful bacteriological examination of the urine collected by the ureteral catheter is very great. For in the bacterial nephritides the operation that is to be done depends very much on the organism present in the kidney. In some renal decapsulation is practised, in others nephrotomy.

One other fact our examination must elicit, and that is, the combined and separated renal function. Of all the methods, the best is undoubtedly that of cryoscopy. The determination of the freezing point of the blood will indicate whether it is advisable to

*In the latter case Rovsing notes, that the splitting of a kidney, the seat of hemorrhagic inflammation, is a dangerous operation.

undertake any operative interference. With a marked lowering below the normal—say to .60 or lower—the advisability of any surgical attack may be strongly questioned. The kidneys in such cases are already functionating insufficiently, and would very likely be still further impaired in their work, by an operation upon them; an impairment that would probably decide a fatal issue. The determination of the freezing point of the urines gathered separately by the ureteral catheters, would help us to determine the unilateral or bilateral character of the disease and the extent of the involvement of each organ.

The careful investigation into the anamnesis, the thorough physical examination of the patient, and the examination of the separated urines, in all the respects outlined above, is necessary in every case of chronic nephritis that presents itself for treatment. Only in this way can we scientifically and rationally apply the proper therapeutic procedures. And yet in looking over the literature we find only one author who has proceeded in this fashion, and that one, Rovsing of Copenhagen. All the others, Edebohls, Pousson, Bassan, Lenonene, etc., have operated their cases indiscriminately, and their results are of little account in testing the value of surgical interference in chronic nephritis. They have made no distinction, in their cases, between the different causative factors in the production of the disease. They have not collected the separated urines by ureteral catheters, have not made any bacteriological examinations of such separated urines, and have not examined into renal function, either combined or separated. So that we have no data as to the value of surgical therapy in improving the functional power of the diseased organs.

A few words only as to symptomatology. As stated above, neither clinically nor anatomically, nor by examination of the urines chemically, can we differentiate the groups of nephritis from one another. The well-known symptoms of chronic nephritis may be all of them present. Very often the only indications of the disease are severe nephralgia and hæmaturia.

Surgical treatment.—As regards the surgical treatment, we will consider (*a*) The objects of surgical therapy. (*b*) The time at which it is best to advise operation to be done. (*c*) The nature of the operation to be performed.

The aim of all therapy is either to cure radically or to relieve symptoms. As already stated, it is possible in some cases to bring about an entire lasting cure of the chronic Bright's disease by operation. There are certain cases, however, in which the surgical therapy serves only to relieve some of the symptoms of the disease; and especially the pain and hæmaturia. Severe nephralgia and hæmaturia are often the only clinical evidences of the chronic nephritis; they are usually relieved by capsulectomy, though this operation may not in any way influence the diseased process in the kidney.

As to the time at which it is best to advise operation.—Those cases in which the chronic nephritis is secondary to a malposition, or to the irritation of a foreign body, the sooner the position is corrected or the foreign body removed the better. The nephritis in these instances will not be improved by medical treatment, until its cause is removed. In the chronic nephritis of toxic and bacterial origin, internal medication, diet, and good hygiene may bring about a cure. As to its permanency we have as yet no data. Those cases, however, that resist this method of treatment should not be denied the possibility of cure by early operation. If this be too long deferred, the kidney changes become so marked that it is not likely they will be favorably influenced by it. Furthermore, the bad effect of a chronic nephritis upon the heart and body tissues generally makes the resisting power worse, and the patients are much more likely to succumb to the immediate effects of the operation. In the late stages of the disease the patients have become exhausted, the circulation is bad, and the general condition poor, and death is likely to occur from shock or suspension of kidney function.

The following case affords an instance of the inadvisability of late surgical therapy in chronic nephritis: Sarah F., twenty-nine years old, housewife, Austrian by birth, was admitted to Mt. Sinai Hospital, in the service of Dr. Gerster on October 27, 1903. She had been in the hospital for three months about ten years before, suffering with headaches, shortness of breath, œdema of face and hands and feet, and ascites. She had one child five years ago. One other pregnancy in 1901, in which she aborted at second month. When she was five months pregnant with her first child the symptoms of her former illness returned. Three months before her admission in October, 1903, she commenced to suffer with an exacerbation of her disease, marked by dizziness, headaches, poor eyesight, dyspnœa, palpitation; swelling of feet and hands and abdomen.

On admission, physical examination showed her to be pale, anæmic, face swollen, markedly dyspnœic. No uræmic odor to breath or perspiration. There was fluid in both pleural cavities up to level of angle of scapula.

The heart was hypertrophied, especially left ventricle. Soft systolic murmur at apex, transmitted to axilla. Pulse, good quality; regular; increased tension.

Abdomen.—Circumferance 102.5 cm. Contained large amount of fluid.

Liver and *Spleen* normal. Extremities, markedly œdematous.

Vulva œdematous; marked by enlarged hemorrhoidal veins.

Eyes.—Albuminuric retinitis,

Urine.—Acid, albumin, hyalogranular casts.

Kidneys.—Not palpable.

Hæmoglobin, 26 per cent.

The patient came to the hospital to be operated upon for chronic Bright's disease.

Her condition was so poor, however, that it was decided to wait and try to improve the circulation by medical means.

Paracentesis abdominis was at once done: ℥ 155 were withdrawn.

The usual remedies were resorted to, but little improvement followed. The low hæmoglobin count, poor heart's action, and general poor condition, caused us to further postpone operative interference. Dr. Alfred Meyer was asked in consultation to see the patient. He agreed as to the advisability of further medical treatment, with the hope of bettering the general condition and circulation.

December 11: Hæmoglobin 29 per cent. Heart's action better; dyspnœa not so marked; arterial tension not so high. It was thought that as much had been accomplished by internal therapy as could be, and that if ever the patient was to be operated upon, now was the time to do it. We all of us had our grave misgivings, as to her ability to stand the shock of a decapsulation, but the patient and her family earnestly begged that the operation be done.

December 11, 1903: Preliminary paracentesis abdominis. With careful administration of gas and ether the right kidney was first exposed by a lumbar incision. The organ was rapidly delivered. It was of medium size, surface irregular and congested. Consistency moderately hard. Its capsule was

split and stripped off and excised, without difficulty. The operation had taken just five minutes. The patient suddenly collapsed and died of cardiac paralysis. No post-mortem permitted.

Patients in such condition as this one was in, are not fit surgical risks. In them operation is attended with gravest risks to life without hopes of effecting much good.

The following rule seems to the writer to be a fair one:

Establish, first of all, the causation of the nephritis, and so ascertain whether or not the case is at all fit for operation.

Secondly, put the patient for a reasonable time upon internal treatment, with restricted dietary and good hygiene. If improvement is noticed, continue with this treatment; but as soon as the patient reaches a stationary stage or gets worse, then resort to operative treatment without delay.

The Nature of the Operation.—We practise four types of operation for the relief and cure of chronic nephritis, each of which has its indications. These operations are: Nephrolysis, decapsulation, nephrotomy, and nephrectomy.

Nephrolysis, or the breaking down of adhesions between the kidney capsule and the surrounding soft parts, relieves the pain that often attends chronic Bright's disease. This nephralgia, due to a stretching of the kidney capsule, which alone contains the sensitive nerves of the organ, is, as was heretofore stated, frequently the only clinical manifestation of the disease. It is constant in character, deep-seated in the lumbar region, and does not radiate. It is not identical with a true kidney colic. The perinephritic adhesions, by stretching and pulling upon the sensitive capsule, excite the pain. It is doubtful whether one should content himself with the division of the adhesions; as it is not more dangerous to strip off the kidney capsule and excise it, capsulectomy is to be preferred to nephrolysis.

Renal decapsulation, or capsulectomy, was first proposed by Edebohls for the cure of chronic Bright's disease. It consists in stripping off and excising the fibrous capsule of the kidney. The explanation of the good effects of decapsulation is to be found, according to Edebohls, in the formation of new blood-vessels running from the perinephritic tissues toward the kidney cortex. An increased blood supply (hyperhæmatization) is thus produced, in virtue of which the "degenerated parenchyma cells are regenerated, and the inflammatory connective tissue removed by absorption."

As regards the regeneration of kidney parenchyma cells,* Wolff has shown that this never occurs. Healthy kidney parenchyma cells may hypertrophy so as functionally to replace the cells that have become degenerated or been destroyed. But kidney cells once destroyed are never replaced by new ones.

The formation of new blood-vessels which decapsulation is supposed to bring about, must still be regarded as unproven. In a recent discussion before the Genito-urinary Section of the New York Academy of Medicine, Edebohls gave the gross post-mortem findings in a patient that had died four months after capsulectomy, for chronic nephritis. The arteries had been well injected. Numerous newly formed vessels were found passing from the fatty capsule toward the kidney cortex. If this finding is substantiated by others, then these newly formed vessels must be only temporary; for the writer has not found them in a patient upon whom decapsulation and nephrorrhaphy had been done two and one-half years before. The patient's history was:

S. S., twenty-five years old, had been operated upon by the writer two and one-half years before for floating kidney. The capsule was stripped according to Edebohls' method, and the flaps sutured to the lumbar muscles. The wound healed per primam. For two years the patient felt relieved; then owing to emaciation, the kidney again became loose. Kinking of the ureter with intermittent hydronephrosis demanded a second interference. At this second operation especial care was taken to note, firstly, whether the capsule had regenerated over those parts of the kidney from which it had been stripped. And, secondly, the vascular connections between the lumbar perinephritic tissues and the kidney capsule and cortex.

It was found that the kidney was completely enclosed in a fibrous capsule, showing that regeneration had taken place. Secondly, my assistants and I noted that the delivery of the kidney from its remaining fatty capsule was practically devoid of bleeding, and that the stripping off of the fibrous capsule was not attended with the free bloody oozing that usually occurs with this procedure.

This experience would go to show that even though an increased vascularization of the kidney is brought about by capsulectomy, such hyperhæmatization is only a temporary affair. Consequently if the cure depends entirely upon it, then this must be also transient, and recurrences should follow.

The writer does not think that this hypothesis is the correct one. New blood-vessels take time to form—several weeks or even months. Yet the improvement in the symptoms follows very soon upon the operation—from a few days to a week—a period much too soon for new vascular channels to have been established. A more plausible hypothesis for the good effects of decapsulation is the following:

It permits of a freer circulation of blood within the kidney; the arteries bring more blood, the veins carry it away quicker. This increased rapidity of circulation within the organ favors drainage and resorption of inflammatory products; it brings renewed vitality to the degenerated parenchyma cells, and carries off those cellular parts that are dead. The remaining healthy and revitalized cells undergo hypertrophy and so take up the function of those that have been lost. This freer circulation, brought about by decapsulation is not dependent upon a relief of tension within the organ. It may be compared to the better circulation in the thickened edges of a varicose ulcer brought about by multiple incisions.

If we accept the views of Edebohls, that the cure is due to a hyperhæmatization of the kidneys, then we must expect that there should be with the disappearance of the new blood-vessels (as was shown in the writer's case just cited) a return of the chronic nephritis. If, however, we recognize that only the toxic and bacterial chronic nephritides are benefited by renal decapsulation, and that in these cases the good results are owing to a freer circulation within the organ and the opportunity the latter affords for the resorption of degenerated and inflammatory material, and the elimination of the toxic and bacterial material, then we should expect the cure to be a *lasting one*.

The operation of Edebohls has been compared to the Thalma operation for the relief of ascites due to hepatic cirrhosis. This is again a fallacy. The Thalma operation seeks merely to establish a collateral portal circulation. It makes no claim to cure the hepatic cirrhosis.

Nephrotomy acts in about the same way as capsulectomy; it relieves stagnation of the circulation, favors recuperation and hypertrophy of the paren-

* "Über Nierenresectionen und ihre Erfolgen."

chyma cells, resorption of inflammatory and degenerated cells, and drainage, externally of the toxic or bacterial causes of the diseases. Nephrotomy does this even better than decapsulation; but it has its disadvantages. Thus, it damages and renders functionless a portion of secreting tissue, thereby favoring the uræmic state; it is especially to be avoided then in bilateral chronic nephritis.

Again, nephrotomy opens up a large raw surface in the kidney, which may become infected either from the bacteria already resident within the kidney or through other channels, and so favors destruction of the organ. Nephrotomy therefore is only practised for exploratory purposes, or for drainage of disseminated abscesses.

Nephrectomy is, of course, only applicable to unilateral disease, and that only when the affected organ is so far destroyed that its removal is demanded.

The writer has broadly attempted to fix the indications for the rational surgical or medical treatment of chronic nephritis. As more material conducted with exhaustive methods of examinations is accumulated, we may, from its study and analysis, be able to narrow down or widen out our indications for the employment of the one or other of these methods of treatment.

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A FEW WORDS CONCERNING RADIUM.*

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In view of the vast amount of misinformation concerning radium that has been circulated not only by the lay press, but also by the medical, it seems to the writer that a plain statement should be made of the few facts that appear to be positively determined; that some erroneous and misleading assertions should be controverted; and that the lines of research to be undertaken with special reference to the utilization of radium as a therapeutic agent should be indicated.

According to the researches of Rutherford, Crookes, Ramsay, Mme. Curie, and others, radium emits both "Radiations" and "Emanations." The radiations or so-called rays are not simple and uniform in character, but are a mixture of rays exhibiting widely different physical phenomena, and by Rutherford have been called *alpha*, *beta*, and *gamma* rays. The *alpha* rays appear to be electrons, carrying a charge of positive electricity slightly deviable by the magnet. They constitute the largest proportion of the total, but possess but little penetrative power. Glass presents an almost insurmountable barrier to their passage.

The *beta* rays are electrons carrying a negative charge and are strongly deviable by the magnet, but in a direction opposite to that of the *alpha* rays. They exist in a comparatively smaller proportion than the *alpha* rays, but possess a greater penetrative power. They appear to be similar to, if not identical with, the "rays" projected from the cathode of a Crookes' tube when excited by a suitable electric current.

The *gamma* rays exist in a much smaller proportion than the others, are non-deviable and possess penetrating power to a high degree. They exhibit phenomena similar to, if not identical with, the Röntgen, or *x*-rays.

The so-called radio-activity of radium is due to the combined influence of the *alpha*, *beta*, and *gamma* rays. The first two are undoubtedly material particles projected with great velocity. The *gamma* rays, on the other hand, are not material particles, but undulations of exceeding small wave-length, and correspondingly high frequency.

The *emanations* of radium differ wholly in character from the radiations above mentioned. The emanation is a gas continually given off by radium, and may be collected in a separate receptacle and its properties examined. After it has been separated for a few days from the original radium it exhibits properties that heretofore had been associated with element helium (Ramsay). This emanation is not only of itself radio-active, but possesses the power of exciting radio-activity in other bodies in its immediate neighborhood—that is, it confers on them the ability to emit Becquerel rays similar in character to those of radium. This induced or secondary activity is not permanent, but rapidly decays and in a few days leaves but hardly appreciable traces. These emanations of radium will not pass through glass.

Radium, as is well known, is obtained from pitchblende, the mineral that for many years has been the commercial source of uranium. While experimenting with a preparation of uranium, M. Henri Becquerel† made the accidental discovery that the substance emitted radiations capable of affecting the silver compounds contained in the photographic film. An examination of pitchblende revealed the fact that it was also radio-active and even to a higher degree than uranium. Mme. Curie then took up the search for the original source of the radiations, and operating on Bohemian pitchblende finally succeeded in producing compounds of varying degrees of activity, which are assumed to be more or less pure preparations of the hypothetical element to which the provisional name of *Radium* has been given.‡ For more than a year these preparations have been placed on a commerical basis, and can be obtained at prices varying with their supposed purity or radio-activity. A preparation rated at "7000 activity" was that many more times as active as uranium, and so on for the asserted degrees of higher activity. The *fact* of radio-activity is readily ascertained by the aid of a photographic plate, but the *degree* is not so readily determined. The process in vogue is an electrical one, depending on the ionization of air, and is assumed to be reasonably accurate so far as the lower activities up to possibly 100,000 are concerned; beyond that its readings are somewhat doubtful, and cannot be depended on at all in connection with the activities rated at one million or more. These later being more or less accurate determinations deduced from entirely different data.

The various preparations of radium in general circulation are self-luminous—that is, they shine in the dark. The intensity of this luminescence, however, bears no ascertained ratio to the radio-activity of the specimen under examination. Whether absolutely pure radium (not yet produced) or pure radium bromide are self luminous I have not been able to satisfy myself. On theoretical grounds it seems to me that pure radium, emitting only the *alpha*, *beta*, and *gamma* rays, should not be luminous, as neither of these forms of radiation or undulation are singly visible to the eye. Until we have more certain information on the subject it is a fair presumption that the observed luminescence is due to

*Read at a meeting of the New York Academy of Medicine May 19, 1904.

†Born 1852, son of Edward Becquerel, whose treatise, "*La Lumière, ses causes et ses effets*," Paris, 1867, was studied, and many of the experiments detailed therein, repeated by the present writer, more than thirty years ago.

‡Mme. Curie first discovered "polonium," and later, in collaboration with M. Bemont, discovered radium.

the action of the radium on some of the impurities present, notably barium, with which the radium preparations, except those of the very highest purity, are constantly associated.* Possibly it is due to the fluorescence of nitrogen in the tube.

The luminescence of a radium preparation of medium or low activity can be notably increased by mixing with it certain substances in which it excites fluorescence. This in no way increases the activity of the preparation—in fact, it tends to debase it.

Among the interesting phenomena associated with radium, is its ability to excite fluorescence and even phosphorescence, in certain other bodies, notably zinc sulphide, strontium sulphide, barium platinocyanide, willemite, diamond, kunzite, etc. If a tube, of say 20 M. activity, be brought into immediate proximity to any of these, in a dark room, a faint glow will be perceived (fluorescence), and in some cases this will persist after the withdrawal of the radium (phosphorescence). The effect, however, is far inferior to the fluorescence or phosphorescence developed in the same bodies by the ultraviolet rays as neither the green of willemite or the red of calcite are appreciable. A tube of 300 M. activity brings out the green, and a faint pink in the calcite.

A large crystal of kunsite 8 mm. thick, and a block of rock salt 15 mm. thick, are both transparent to ordinary light but both are opaque to *x*-rays, while the kunsite is also opaque to ultraviolet rays. Both specimens, however, are transparent to the luminescence of radium (20 M. activity).

During the past few months a few gentlemen have given the profession and the public to understand that they could render water, salt solutions, and other media radio-active, by simply immersing therein a glass tube containing radium, and which solution then became a potent agent for good in the treatment of various maladies. The importance of this discovery(?) if true, would be inconceivable, but, so far as I can learn, the gentlemen referred to are the only ones who have succeeded in accomplishing this feat. Personally I experimented in the manner indicated with radium of 7 M. and 20 M. activity with negative results. Dr. Robt Abbe, with a tube containing 100 mg. of 300 M. activity, also failed to find any evidence of induced radio-activity in the solutions in which the tube was immersed. Dr. Geo. B. Pegram of the Department of Physics of Columbia University has stated to me that his efforts to produce radio-active water by the means referred to were unproductive of results; and so far as I am aware no physicist or other competent observer has succeeded in bringing about this marvelous phenomenon.

Mme. Curie in her "*Recherches sur les substances radio-actives*" (Paris, 1903), states that if a receptacle containing radium, *open at the top*, be placed in a confined space together with other substances, plates of metal, etc., these will all, in a day or so, become radio-active. If, however, the experiment is repeated with the vessel containing the radium *closely stopped*, the results will be negative.†

In view of the foregoing, it seems to me that the gentlemen referred to owe it to themselves and to the profession to demonstrate publicly their ability to perform the feat they have described or else admit that the statements were made on insufficient evidences or were perhaps evolved from their inner consciousness. Until this is done I confess I prefer to accept the negative evidence of competent physicists. A recent experience bearing on this point was for a short time somewhat disconcerting. I took a piece of pitchblende, laid it on a protected plate, covered it with a watch glass, and on the same plate laid a tube of 20 M. activity also covered with a watch glass. The radium tube was removed after two hours, but the pitchblende was left in position for thirty-five and one half hours. The plate was then developed. In this experiment I hoped to demonstrate the fact that the pitchblende, being free, would endow the inner surface of the glass with induced radio-activity, which in turn would affect the photographic plate; while the other wine glass would be free from induced radio-activity. On developing the plate, however, it was manifest that both wine-glasses were well coated with radio-active matter. This for a moment seemed to prove that the emanations could go through the original glass tube in which the radium was confined. An examination of the tube, however, with a good lens, revealed a minute perforation in the tube, the result of an air bubble in the glass. Since then I have heard of several other gentlemen who have met with a similar experience.*

If one really desires to prepare radio-active water, it can be readily accomplished by simply dissolving radium in the water. What the physiological effect of such a preparation taken internally or applied externally would be, no one, so far as I am aware, has as yet ascertained. Radio-active water may also be obtained by exposing the water or any other fluid to the emanations of radium contained in an open vessel. In a few days the water will have acquired all the induced radio-activity of which it is capable, but the radium preparation will in equal measure have lost its own radio-active properties. These, however, may be regained if the radium be thoroughly dried, then heated, and finally replaced in a tight glass tube. In a month or so it will have recovered its former activity. If the radio-active water be placed in a vial and hermetically sealed the radio-activity will slowly decay, and at the end of a month or so it will virtually have disappeared.

Unfortunately, imperfect or ruptured tubes have been used much more frequently than is generally known, and this has been ascertained to arise from two quite different causes:

(1) The emanation that is constantly form-

*As early as 1603 Vincenzo Casciorolo of Bologna (Italy) discovered the phosphorescence of sulphide of barium, and in 1663 Robt. Boyle discovered the fact that certain diamonds would shine in the dark after exposure to a strong light. (E. Becquerel, *op. cit.*)

†"Si l'on repète l'expérience précédente avec l'ampoule fermée on obtient aucune activité induite." Recherches, etc., p.106.

*Since the foregoing was written, Dr. M. Metzenbaum has published the following in the *Cleveland Medical Journal*, May, 1904:

"It has been stated that if a sealed tube containing radium of high activity be suspended in a normal salt solution, and solutions containing various drugs, that these solutions become radio-active and are capable of affecting photographic plates.

"It has further been intimated that if radium has a therapeutic value, then these solutions which have been rendered radio-active might likewise have a therapeutic action, and since solutions can be taken internally, the possibilities of these radio-active solutions might be of considerable value.

"In view of this fact, I conducted a very large series of experiments, from which the following negative results have been obtained:

"Two tubes of radium of 1,000,000 activity, each containing 5 milligrams, and two other tubes of lesser activity, each containing 50 milligrams, were placed in a normal salt solution and remained there for ten days.

"This solution was placed in test-tubes of very thin glass and in the small vials in which hypodermic tablets are contained. These were then strapped with adhesive plaster on to the film side of photographic plates. Some of the plates had first been covered with black paper.

"These tubes remained from a period of twenty-four hours up to twenty-one days, and in no case was there the faintest sign that the photographic plates had been affected."

ing being (so to speak) one of the catabolic or disintegration products of radium, is a gas, and as it forms it exerts pressure on the walls of the tube. This pressure increases with time and may finally burst some specially weak portion of the glass (location of an air bubble, etc.) and thus escape. Accompanying this escape there will be a deterioration of the activity of the radium, which will not regain its former power until the perforation has been closed. This accident appears to be unavoidable, and there is no means, so far as I know, by which it can be guarded against.

A remedy for this will, of course, immediately suggest itself; namely, the transfer of the radium to a sound tube. Glass utterly absorbs the alpha radiations, and in a great measure also absorbs both the beta and the gamma. In consequence of this, the efficiency of the preparation is very greatly impaired; that is, from a tube of given activity one is able to utilize only a portion of the activity. A number of substitutes for glass have been tried, and among them aluminum appears to have found most favor. An aluminum tube devised by Mr. Hugo Lieber appears to fulfil the required conditions more fully than any I have seen. The metal is .004 inch in thickness, and radium in such a tube displays a higher activity than it did in the original glass tube from which it was transferred. Furthermore such a tube will not rupture from the pressure of the gaseous emanation. This is due to the fact that when the pressure becomes sufficiently high, a portion of the emanation is forced through the pores of the metal. The loss of emanation is to be regretted, but it can be remedied in a measure by having another safety tube of silver into which the aluminum tube is fitted, with a closed joint, and in which it should be kept except when in actual use.

(2) The second cause for the perforation of a glass tube is the increase of electric potential within the tube. Just as soon as this becomes sufficiently high the electricity sparks through, as not infrequently happens in x-ray and other vacuum tubes.

To guard against this accident I would propose what appears to me a very simple and effective remedy, namely sealing a small piece of platinum wire into the glass tube. It need only project a very short distance into the tube, and externally may be flush with the glass.*

In view of the foregoing, it would certainly seem wise for the operator from time to time to test his tubes for punctures. This can be readily done with the aid of a photographic plate. To do this: take a plate protected from the light by the customary non-actinic envelopes and lay the tube on it for an hour or more, then move the tube to another part of the plate and cover it with a large watch glass or Petri dish and expose for an equal length of time. The plate is then developed and the evidence of induced radio-activity, if present, will be readily perceived.

Radio-activity, using the term in a broad sense, is a phenomenon that in a minor degree is recognizable in connection with a large number of substances and conditions. The air is feebly radio-active, as also a tea-kettle of boiling water, as Captain Abney has photographed one (in a dark room) by its own infra-red radiations.

In a more restricted sense, however, it is a property produced by a few elementary substances which, without apparent access of energy from without continually throw out radiations, and display manifestations that constitute one of the most interesting scientific problems of the present day. The substances specially endowed with these qualities are, uranium, thorium, actinium, polonium (?) and radium, and the ores and minerals with which they are associated†

The radio-activity of these substances manifests itself by its chemical or actinic effects on a photographic plate, by its ability to ionize gases, including ordinary air, and by its power of producing fluorescence and phosphorescence in certain minerals and other substances. These several manifestations of activity do not pertain alone to radium and the other substances named, but some of them are in evidence under divers other circumstances. I, therefore, think it well to here compare the radio-activities of radium with some of the phenomena dependent on other sources of radiant energy:

(1) SUN-LIGHT.		
Affects a naked photographic plate, but not one protected by an opaque shield.	Excites phosphorescence in polysulphide of calcium and a few other substances.	Does not ionize the air or other gases, and, consequently, will not discharge an electroscope when either positively or negatively electrified.
(2) 50 CANDLE-POWER INCANDESCENT.		
Same as above.	Causes slight phosphorescence of polysulphide of calcium—no effect on willemite or calcite.	Does not discharge the electroscope.
(3) 50 CANDLE-POWER INCANDESCENT WITH BLUE BULB (MININ LAMP)		
Same as above.	Same as above.	Same as above.
(4) ARC-LIGHT WITH CARBON ELECTRODES.		
Same as above.	Causes fluorescence and phosphorescence in many substances.	Ionizes the air slightly, and discharges electroscope slowly when charged negatively, but not when charged positively.
(5) ARC-LIGHT WITH IRON ELECTRODES.		
Same as above.	Fluorescence and phosphorescence more intense than the above.	Ionizes the air more rapidly and discharges a negatively-charged electroscope more promptly, but does not affect one positively charged.
(6) ULTRAVIOLET RAYS FROM HIGH TENSION CONDENSER SPARK.		
Same as above.	All fluorescence and phosphorescent phenomena greatly intensified, certain calcites fluoresce bright red.	Discharges negatively-charged electroscope instantly, but does not affect one positively charged. The high tension condenser spark contains rays other than ultraviolet that will discharge electroscope bearing a positive charge. These rays are largely absorbed by quartz.
(7) X-RAYS.		
Affects photographic plate, although protected by opaque screens.	Fluorescent and phosphorescent phenomena much less pronounced and does not affect all of the radio-responsive substances in the same manner as the ultraviolet rays.	Discharges electroscope, whether charged negatively or positively.
(8) RADIUM.		
Same as above.	Phenomena much less noticeable, perhaps due to the inability to procure a mass of radium that will give a sufficient volume of radiations.	Instantly discharges electroscope, whether charged negatively or positively.

When we compare the manifestations of radium with those of the x-ray we are immediately struck by the similarity between them.

In the first place they are both capable of penetrating many substances that are opaque to the

*Since this was written Prof. Chas. Baskerville has informed me that he had already adopted this expedient. This is such a simple remedy that probably others also have made use of it.

†It is more than possible that polonium is not an element, or gifted with potential continuous activity. It may be simply bismuth which has acquired temporary activity from its close association with radium. By some it is thought to be radio-active tellurium, or it may simply be one of the disintegration products of radium (Rutherford). Quite recently Professor Baskerville has determined the presence of two new elementary substances in commercial thorium, and has ascertained that they are radioactive, while the purified thorium is not. He has given the names carolinium and berzelium to these elements.

luminous rays of either natural or artificial sources. They both induce fluorescence and phosphorescence In practically the same class of radio-responsive bodies, though the manifestations of this property differ widely in degree rather than kind. Their behavior to the electroscope is relatively the same. When we study the characteristics of the two more intently, and from the standpoint of the physicist rather than that of the casual observer, a still closer resemblance will be noticed. In the ordinary *x*-ray tube we have a positive and a negative electrode and also a target, which at the same time may be the positive electrode or it may be wholly independent of it. The radiations (negative electrons) from the cathode, which is usually curved and focussed on the target (anti-cathode), are hurled against it with astounding velocity. These electrons (cathode rays) are material bodies (not undulations), or rather, perhaps, material substances charged with negative electricity. When they encounter the target three things happen: (1) a portion of the energy is transformed into heat; (2) another portion of energy gives rise to radiations or probably undulations—the true *x*-rays—which leave the target in straight lines and pass outward without swerving or capability of being swerved, until they encounter bodies capable of wholly absorbing them. (3) What is left of the cathode rays are reflected outward, where in great, perhaps in greater, part they are absorbed by the glass of the tube, rendering it fluorescent. A part of them, however, pass out (Sir Oliver Lodge) and dissipate their energy on bodies they encounter in their path. These radiations can be swerved or deflected from their course by means of a magnet. The radiations from the anode of the tube, being negligible from the practical standpoint, and, so far as known, unable to escape from the tube, have not been so fully studied.

An examination of radium develops the fact that here also we have three kinds of radiation, the so-called *alpha*, *beta*, and *gamma* rays. The first are positive electrons, the second negative electrons, and the third probably undulations of exceeding short wave length, and with almost unmeasurable frequency. The *alpha* rays are masses of matter of about twice the size of the hydrogen atom; the *beta* rays are also masses of matter of sub-atomic size and having a bulk of about one-thousandth that of the *alpha* rays. The *gamma* rays are presumably not masses of matter but etheric undulations.

The *alpha* and *beta* rays are in continual motion, but the first are sluggish in their movement, their velocity not exceeding sixteen thousand miles per second. The *beta* rays are pretty active and lively particles with a velocity ten times that of the *alpha*. The penetrating power of these several rays is likewise not the same. The *alpha* rays possess this power to but a limited degree, being almost wholly absorbed by the glass walls of the ordinary radium tube. The *beta* rays will traverse a limited thickness of glass or aluminum, one-half millimeter of the latter absorbing about 50 per cent. of the activity; while the *gamma* rays will traverse one hundred times that thickness with no more loss. The velocity of the *beta* rays exceeds that of the cathode rays, as does also their penetrating power. The frequency of the *gamma* rays exceeds that of the *x*-rays and they also surpass them in penetrating power.

The lesions of the skin that follow a too strenuous application of radium are similar in character to those that are encountered after an excessive application of the rays from a Crookes' tube. Williams has shown that the lesions are in the main due to the *beta* rays of radium, while the reactionary effects of the *x*-ray tube are due, I believe, chiefly, if not wholly, to the cathode and not to the *x*-rays.

If we were to draw an analogy between these two sources of energy we might compare the *x*-ray tube to a good road-horse, radium to a thoroughbred, or we might say that radium is a transcendentalized pocket edition of the *x*-ray.

In buying radium certain precautions should be taken. In the first place I would advise that the purchase be made (when possible) direct from the manufacturers' accredited agent.*

And second, that the tube be tested as to its ability to produce induced radio-activity. If it should do so, examine it carefully for some defect, and if found, have the salt transferred to another tube, as any escape of the emanation temporarily degrades the activity, which, however, becomes fully restored in three or four weeks if again enclosed in a perfect tube. The actual radio-activity of any given specimen—that is, the activity on which the sales price is based—can be determined only by opening the tube and testing the naked radium by means of an electrometer, but a rough estimate of the efficient activity of an unopened tube can be made with the aid of an electroscope. A suitable electrometer with the necessary accessories is a complicated and expensive piece of apparatus and requires the skill of a trained

*Radium coming from the laboratories of the Curies of Paris or Sthamer of Hamburg can be relied on as possessing the activity that is claimed for it. This, however, is distinctly not true of radium coming from at least one other source. Some months since, the writer purchased a tube of radium, stated by its maker to be of 40 M. activity and labelled "höchst concentrirt" (highest concentration). On testing the tube with the electroscope I found it to be of very low activity, discharging the electroscope much more slowly than a tube of Curie 7 M. I then tested it photographically in comparison with a tube of 1 M. Curie and found it slightly inferior to it. On reporting my findings to the importer, he sent a tube from the same lot to Paris to be tested, and it was then reported to be of less than 1 M. activity, thus confirming my earlier determinations.

The detection of radio-activity with a suitable electroscope takes but a moment's time, and will enable one to form a rough estimate of the degree of activity, especially within the range of the lower activities. It also enables one to test the various lamps for ultraviolet radiations.

Not finding on the market, either here or abroad, an electroscope that conveniently met my requirements, I designed the one here shown (Fig. 1).

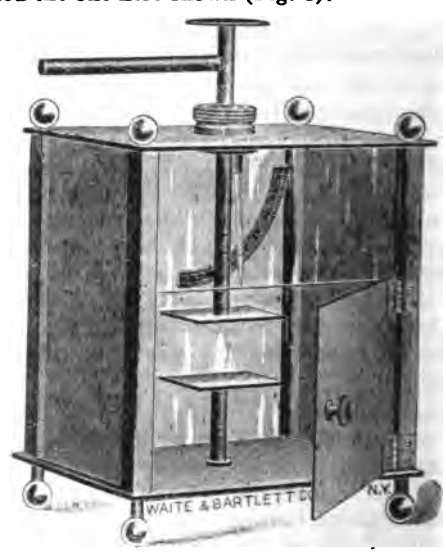

FIG. 1. The author's electroscope.

With the aid of an electroscope the writer recently discovered some radiations (possibly of therapeutic value), of which I find no previous account (see *Journal of Cutaneous Diseases*, June, 1904).

It should be distinctly understood that it is not possible accurately to determine with an *electroscope* the higher grades of activity in uranium units; for this purpose an *electro-meter* must be employed.

physicist to manipulate it properly and arrive at an accurate determination. I possess neither the instrument nor the skill. A little practice with an electroscope, however, will enable anyone to note any marked discrepancy between the assigned activity and the performance of the tube. This instrument is inexpensive and can be obtained in the market in different forms, and enables one in a moment to differentiate bodies that are, and that are not, radio-active and roughly to judge the value of the various uranium ores (chiefly pitchblende, carnotite, and autunite) that are being searched for and found on our own continent. It also enables one to roughly estimate the richness in ultraviolet of the radiations from different luminous sources.*

For many years uranium has been employed in the manufacture of Bohemian glass, and was obtained from the Bohemian deposits of pitchblende. The residue left after the extraction of the uranium was deemed of little value until the discovery was made that it was the richest source of radium, and nearly all of the radium commercially produced has been obtained from these accumulated residues which are now exhausted. As the glass industry is of more importance to Bohemia than radium, the Austrian Government will not permit the export of native pitchblende to France or Germany, and the only available present source of radium is the uranium residues that are obtainable from the current manufacture.

The extraordinary demand for radium and the now very limited supply, has naturally led to a marked advance in price. A certain quantity of radium for which $80 was charged in January is now held at $300; and for another for which $35 was asked in January now (May) costs $150.

Europe does not appear to have any other radiferous deposits of sufficient richness to pay for working, and the present hopes of supply center on the asserted discovery of pitchblende and carnotite in our Western States and elsewhere. I have examined carnotite from Colorado and from Utah, which possess but slight activity, but have obtained specimens of Colorado pitchblende that possessed activities ranging from two to four as compared with uranium.

The complete physical history of radium has by no means as yet been fully worked out, and physicists themselves are not wholly agreed as to the observed facts, and less so as to some of the theoretic questions that are involved. It has been, therefore, no easy task for the present writer to sift the mass of material at his command and obtain even a fairly clear idea on the subject, and it would be surprising, indeed, if here and there some inaccuracy had not crept in.

When we turn from the physical to the therapeutical investigation the task of arriving at a fair approximation to the truth is still more difficult. The reports from different observers are in most instances of little or no value as guides to the surgeon who is about to make his first essays with this remarkable substance, and to-day we are but little better off in this respect than we were a year ago, when the present writer expressed himself as follows:

"Knowing the powerful destructive effects of these radiations on normal tissues, we are naturally fascinated by the thought that we may be able to utilize their powers for the modification of the carcinomatous and lupoid processes, and thus avoid the inconvenience and expense of the present *x*-ray technique. There is, however, one serious difficulty in the way, namely, our inability to determine the precise amount of radiant energy exerted by any given preparation. In other words, we cannot exactly dose the application. Great as is the difficulty in dosing the *x*-ray exposure, it is vastly greater when we undertake to utilize the radio-active substances that at present are furnished commercially." (MEDICAL RECORD, March 7, 1903.)

History has shown that wherever a new or powerful therapeutic agent has been introduced, the early reports of its use are extremely favorable, especially from those who appear to be anxious to have their names connected with it as being among the first to use it. More conservative operators reserve their opinions until they have accumulated a wider experience and have learned not only the advantages but also the limitations of its therapeutical action.

The pathogenic effects (wrongly termed "physiological action") of a drug should be studied and understood in advance of its therapeutic use, and in like manner the pathogenic action of radium should be investigated prior to its application as a curative agent. As a matter of fact the pathogenic action of radium was discovered early, and by accident, and by physicists, and not by physicians. This much we know: that when radium is applied to the skin it may simply produce a temporary hyperæmia, or, on the other hand, an extensive necrosis followed by an intractable and long enduring ulcer. The different degrees of reaction or of destructive effects depend directly on the dosage, modified by the specific resistance of the part operated on. It has been further noticed that the character of the reaction closely resembles that which follows the use of the *x*-ray tube, which, of course, was to be expected, when we consider that the physical agencies involved are similiar if not identical.

The most unsatisfactory problem in connection with radium to-day is that which concerns dosage. Thus far our knowledge of radium will permit us to say, that on the one hand we can produce a rapid and thorough destruction of so much of the lesion as is within the immediate sphere of influence of the preparation (if a strong one); or on the other hand we may in some instances slowly bring about its disappearance by bringing into action certain physiological processes (local leucocytosis, etc.). This again is simply a question of dosage.

Radium affects the photographic film and also the electroscope and electrometer, but it is by no means certain that the radiations that are most active photographically are the ones that most strongly ionize the air in the electrical apparatus, and it is still less certain as to which is the more efficient in its action on the human tissues. As the photographic film and the electroscope give but rough approximations as to the radio-activity of any given preparation, reliance is placed on the more accurate determinations of the electrometer. This determines the actual radio-activity of the *naked* radium, and is ascertained in advance and before sale by the manufacturer. The *efficient* radio-activity is quite another thing and will depend largely on the nature of the material (glass, aluminum, celluloid, mica, etc.) in which the radium is contained. As the actual *radio-activity* as given by a reliable manufacturer can in general be relied on, it only remains to determine the actual *efficiency* in the manner above indicated. The unit of radio-activity generally adopted is that of one gram of metallic uranium, but the efficiency of a given tube will depend on the radio-activity by the above standard multiplied by

*"The electroscope is the best test you can have for certain kinds of radiation."—Sir Oliver Lodge, *Archives of the Röntgen Ray*, May, 1904.

The presence of less than $\frac{1}{10,000}$th of a grain of thorium can be detected with the electroscope (Rutherford).

the quantity of radium preparation in the tube, be the same more or less than one gram, minus the absorption by the container. If we indicate the radio-activity of a given preparation by A, and the absorption of energy by the container by x, the actual efficiency by E, we can readily construct the equation E = A-x. Now, the efficiency being the same, the reaction will not necessarily be the same for any two persons or for tissues of a different character, and as what might be termed the physiological inertia varies with each person and with each tissue, it constitutes in the main the unknown factor and may be represented therefore by X. If two applications be made, say one of five minutes and the other of ten, we would naturally expect (other factors being the same) a more intense reaction from the latter, and such we find to be the case. As the factor X, however, does not necessarily remain the same, the ten-minute application cannot be depended on to have exactly twice the effect of the other. With the data given above, however, we can readily construct a temporary working equation in which R will represent the reaction and M the mass of the radium employed expressed in grams, and T the time in seconds.

This will give us:

$$R = \frac{E \times M \times T}{X}$$

I do not for one moment suppose that, in actual practice, the equation will work out as simply as it is here expressed; but it certainly contains elements that should be borne in mind, and should be recorded in connection with reports of clinical experience. The equation as given assumes that 100 mg. of the 100 M. activity would equal in effect 10 mg. of the millionth. I do not know whether any one has ascertained whether such is the case or not, but it is a line of inquiry that should be taken up. One thing, however, is certain, the mere statement that an experimenter has or has not cured a case of cancer, lupus, or anything else with radium without at the same time giving as fully as possible the data called for in the above equation, is of little value to anyone but the operator himself. It is clearly of little value to anyone reading the report.

In the foregoing pages I have endeavored to present in the fewest words an outline of the principal facts that have been ascertained concerning radium. The student, however, who desires more comprehensive information; and the practitioner who wishes to obtain a good working knowledge of the subject is strongly advised to consult the following monographs and articles: Mme. Curie "Recherches sur les Substances Radio-actives," Paris, 1904; Soddy, Lectures on Radio-activity in *The Electrician*, October, 1903, to February, 1904 (announced for early publication in book form); Sir Olive Lodge, "Lectures to Medical Practitioners on Physics Applied to Medicine," now being published in the *Archives of the Röntgen Ray;* Foveau de Courmelles, "Le Radium et les Corps Radio-actifs," *Revue Internationale de Thérapie Physique*, November 1, 1903; Halkin, "Über den Einfluss der Becquerelstrahlen auf die Haut," *Archiv für Dermalogie und Syphilis*, 1903; Scholtz, "Über die physiologische Wirkung der Radiumstrahlen und ihre therapeutische Verwendung," *Deutsche medizinische Wochenschrift*, January 14, 1904; Rollins, "Some Principles Involved in the Therapeutic Applications of Radio-activity," *Boston Medical and Surgical Journal*, November 12, 1903; Articles by Williams, *Medical News*, February 6, 1904; and *Boston Medical and Surgical Journal*, February 25, 1904; J. Mackenzie Davidson, *British Medical Journal*, January 23, 1904; Plimmer, *Lancet*, April 16, 1904, and Darier in the same issue; Bergonié, "Le Radium au Point de Vue Médical, etc.," *Archives d'Élecricité Médical*, February 25 and March 10, 1904; Goodspeed, "The Trend of Modern Thought on the Sub-atomic Structure of Matter," *Archives of Electrology and Radiology*, March and April, 1904; Rutherford, "Radio-activity," Cambridge, England, 1904. Danne, Le Radium, sa préparation et ses propriétés, Paris, 1904.

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HYDROCELE OF THE CORD; REPORT OF CASES.*

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My reason for reporting this subject has been actuated by the fact, that it has been brought so notably to my attention by the several patients who have presented themselves to my clinic lately. The matter has also been forcibly impressed upon me by the reason that all three cases had been referred to me as ones of oblique inguinal hernia, when neither showed any evidence of this complication. It is not at all surprising that it should be coupled with hernia, however, since the external evidence resembles very closely a scrotal hernia, because the tumor is continuous into the inguinal canal, and is reducible. These are the first cases that I have seen for some time, and I believe that the condition is infrequent or unrecognized, so that it is worthy of some remarks.

Indeed, the subject does not seem worthy of much consideration by our textbooks, and the manner in which it is discussed would lead one to believe that it is either rare or of slight moment. There seems to be little literature on the subject, and yet cases are not infrequently seen, especially in the baby clinics.

Hydrocele of the cord is due to a serous exudation in an unobliterated portion of the processes vaginalis. It may be either encysted or funicular; in the former the funicular process is obliterated above and below, but is open between these two points, in which fluid collects, while in the latter the funicular process is closed only below, and in raising the pelvis the fluid flows back into the peritoneal cavity. In some cases they are circumscribed, while in others they involve the entire length of the spermatic cord or inguinal canal. They may communicate with either the cavity of the tunica vaginalis propria or with the abdominal cavity. In the three cases, to which I shall refer, they communicated with the abdominal cavity, so far as I could judge, and, therefore, belong to the funicular variety.

There does not seem to be any definite cause for this condition. The most frequent is trauma, while gonorrhœa does not seem to play any great part. All three cases referred to the fact that they did heavy lifting, and two stated that they felt that this trouble had developed after straining to raise some heavy article. In one case, the patient had not noticed the trouble until he had an attack of gonorrhœa, to which I could not attribute the cause. None of them had remembered receiving any blow in this region. They were all young, and had noticed the swelling only a short time before coming to the clinic.

The diagnosis does not seem difficult, and it appears strange that a previous diagnosis of hernia should have been made. The tumor is usually soft, elastic, and translucent, and most frequently

*Read at a meeting of the Orleans Parish Medical Society on March 26, 1904.

found on the left side. Fluctuation is very evident; it readily pushes up into the inguinal canal, and can be well outlined. As a rule, judging from my experience entirely, the fluid gravitates back into the inguinal canal or abdominal cavity, when the patient is made to lie on his back, and the pelvis raised, whereupon all evidence of a tumor disappears. Unless the hernia exists as a complication, we usually find the external ring of normal size, and slight or no impulse of the intestine upon coughing.

The three boys, I may say, who presented themselves to my clinic, two of whom were eighteen and one seventeen respectively. The one who was seventeen had a marked double varicocele, and the hydrocele, in this instance, was of the right cord. He had been sent by his physician from the country to be operated upon for hernia. Dr. Parham concurred in the diagnosis of hydrocele of the cord and suggested operation, to which the patient refused, after learning the real nature of his trouble. He had never been sick in his life, nor had he had any venereal disease.

The other two, who were eighteen years each, had hydrocele of the left cord, and were referred to the hospital for confirmation of a previous diagnosis of hernia, and for suggestion as to a line of treatment. One denied ever having had any venereal disease, but said, on the contrary, that he had always been well. Both he and the previous patient reported remarked that they had noticed this swelling, or had felt something give way after exerting themselves in lifting some heavy article. The other patient, however, had developed acute gonorrhœa on December 25, 1903, but did not notice this enlargement until January 4, 1904. He was then treated for gonorrhœa in the venereal clinic, and later referred for further attention to me. Though in this clinic a diagnosis of hernia had been made, I could only determine a slight enlargement of the external inguinal ring, and a slight impulse of the intestine against the index-finger when the patient coughed.

The treatment may be divided into three classes: First, the use of a truss; second, removal of the fluid, with or without the injection of an irritant; third, the radical methods (*a*) incision and drainage, (*b*) excision of the sac, (*c*) incision of the sac, everting it, and suture.

The first is a very questionable procedure, except for infants, to be used only in the funicular form, and, even then, I doubt of its efficacy. The second is sometimes satisfactory when combined with a truss, but there is very much objection to the injection of an irritant. Indeed, the danger of sloughing, the entrance of some of the irritant into the abdominal cavity, or a disastrous effect upon the cord, is sufficient to make one hesitate in its use. The third methods are really the only logical ones, as they mean the positive removal of the cause. Incision and drainage is not very satisfactory, as it means an open wound for some time, the risk of infection, and much time lost to the patient. The removal of the sac is not difficult, as it can be easily released from the cord, and most of it excised without much trouble. Dr. Parham had advised the other method, which seemed more feasible and rapid in execution. He suggests laying the sac wide open, folding it behind the cord, and passing a few sutures through it, thus making a continuous line with the mesenteric border of the cord, an operation very similar to that of Doyen for hydrocele of the tunica vaginalis testis.

It is to be regretted that the three patients refused to be operated upon, when they learned the true nature of their trouble.

The Biological Test for Human Blood.—Francis Williams believes that, so far as his experiments may be permitted to indicate anything, the following conclusions would express what might be inferred: (1) Ascitic fluid subjected to 65° has its power to excite antibodies considerably lessened. This may be in line with the observations of Bordet, that serum heated to 55° lost its hæmolytic power though it retained its agglutinating power. (2) The peritoneum of animals injected was quite resistant to the bacteria abundantly present in the peritoneal fluid used; it was simply drawn into sterile bottles and kept cool in the case of one of the pigs, and the fractional sterilization resorted to for one of the rabbits and another pig, failed to kill the bacteria. Yet the animals thrived during the injections in all instances of the second group.—*Pacific Medical Journal.*

The Treatment of Cancer by Its Own Toxins.—P. J. McCourt gives his experience with this plan of treatment and details three cases. As to results he states that, excluding those cases of which an adequate history could not be secured as well as others whose professional supervision was palpably defective, the conservative results obtained by this method may be summarized thus: In 5 per cent.—the advanced and extremely malignant—the toxins were found to be entirely valueless. In 90 per cent., relief from pain, fetor, hemorrhage, insomnia, vesical and rectal tenesmus, etc., has been marked and life materially prolonged. And in 14 per cent., indurated glands have become normal, ulcers have healed, body-weight has increased, a complete cessation of all objective and subjective symptoms has ensued, and the patients are, apparently, restored to their former condition of health. Whether this relief is permanent can be answered only by time.—*Medical Review of Reviews.*

Canine Malaria.—A. B. Dalgetty is of the opinion that we must study more closely the diseases of animals if we are to understand properly those of man. He gives an account of a blood parasite, apparently malarial, which he has met with in a dog—a white fox terrier. When the pup was a little over seven months old he began to seem out of sorts—he improved, but again afterward showed signs of illness. A little later, one day after his bath, he fell down in a faint and passed involuntarily a quantity of blood-red urine. These attacks continued for the next three days, after which he recovered to some extent but the anæmia was very marked. The examination of the blood during an attack proved that the disease was of a malarial nature. The oil immersion-lens showed a considerable number of free, actively moving round or oval spore-like bodies making their way among the blood corpuscles. A stained specimen showed their diameter to be a quarter to one-third that of a red cell. Their outline was distinct and was separated from the central part by a clearer, less stained zone, while the center was distinctly more deeply stained than the rest of the body. Nearly all of these parasites were extra-corpuscular, though there were one or two intra-corpuscular specimens. The infected corpuscles were paler than the others, but not increased in size. The parasite looked larger outside than inside the blood cell. One blood count gave two million eight hundred thousand per c.mm., and another three million per c.mm. Judging from the paleness of the blood-drop, the hæmoglobin was very low. An examination of the blood-colored urine showed no red corpuscles, hence the color must have been due to the presence of hæmoglobin alone. The spleen could not be felt. The heart sounds were irregular. The administration of quinine was followed by immediate improvement. Since the disease was doubtless due to a malarial parasite, it is an important question to consider whether the dog might not be one source of infection to man. The presence of hæmoglobinuria in this case is also worth remembering in connection with the causation of blackwater fever in man.—*The Journal of Tropical Medicine.*

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THE TRANSMISSIBILITY OF MALIGNANT NEW GROWTHS FROM ONE ANIMAL TO ANOTHER.

THIS is a most important phase of cancer research. All experiments undertaken on these lines have been entirely negative. Owing to the close similarity of the histological characters of malignant new growths in man to those of the normal tissues, it has been thought that normal tissues when transferred to new sites would continue to grow and ultimately might form tumors. Transplantation of testis and ovary in mammals has been frequently performed, but no other results have been obtained. The working members of the British Cancer Research Fund during the past year have been making control investigations as to the possibility of transplanting chorion but with negative results.

In short, transmission of cancer from man to animals, or *vice versa*, has never been successfully performed, although several experiments have been made in this direction, notably by Shattock and Ballance, but with complete failure. The report of the British Cancer Research Fund says that, in the light of our present knowledge of cytolysines and cytoxines, it can be understood how such attempts were doomed to failure. The consequences to the transferred tissue are exactly analogous to the fate which befalls the blood-corpuscles of one animal when injected into another of a different species. The transferred cells are treated as albumins strange to the species. The occasional successful transmission of malignant new growths from one animal to another of the same species, has been effected. Jensen of Copenhagen and Borel of Paris have made the most recent observations of this kind. Jensen transplanted an epithelioma occurring sporadically in a white mouse into other mice; and Borel successfully transplanted an adenocarcinoma under similar circumstances. Jensen in his experiments recorded 30 to 60 per cent. of successes, while Borel obtained only 10 per cent. of successes with the adenocarcinoma which he used. These two observers, however, differ in the interpretation of their results, Jensen holding that the tumors develop from the actual cells introduced; Borel, on the other hand, conceiving the phenomena to require the intervention of a "virus cancéreuse" for their explanation.

Dr. Bashford and Mr. Murray have been investigating, at the Central Laboratory, with a portion of one of Professor Jensen's experimental tumors which he placed at their disposal. A careful and continuous study of the site of transplantation in nearly three hundred mice has been made at intervals. For the earlier stages, mice were killed hourly up to forty-eight hours after inoculation. The total number of transplantations on which the observations have been made exceeds 1800. The general result has been a complete confirmation of Jensen's conclusions. The new tumors which develop are the genealogical descendants of the cells introduced.

Transplantation is artificial metastasis, and only differs from natural metastasis in that the latter occurs spontaneously in the individual primarily attacked, whereas the former is experimentally effected from one individual to another. The process is in no sense an infection, the tissues of the new host not participating in the formation of the new parenchyma.

The investigators are firmly of the opinion that the problem of the genesis of a malignant new growth must be distinguished from that of the circumstances which permit of its continued existence. The report further states that the suitability of the animal into which the inoculation is made seems to be of importance; but greater weight attaches to the character of the tissue introduced when the inoculations are made into animals of the same race. Age seems to have no influence on the proportion of successful transplantations, in contrast to its cardinal importance in determining the initiation of the cancer cycle. Pregnancy and full sexual activity in the male constitute no bar to successful transplantation. In the light of the phenomena of immunity, it is interesting to note that it is possible to obtain multiple tumors from transplantations performed on the same date, and that transplantations can be successfully performed in animals in which tumors have already developed fourteen days to ten weeks after the first effective transplantation. In all successful transplantations the parenchyma of the tumor preserves the same character. The rate of growth and relative proportion of stroma is subject to variation.

The deductions drawn from the investigations of the British Cancer Research Fund with regard to the transmissibility of malignant new growths from one animal to another are stated in the report in the following words: "A general review of the facts relating to the fate of normal tissues when transplanted to fresh sites, contrasted with the occasional maintenance of vitality and power of proliferation of cancerous tissue under similar circumstances, points indubitably to the same conclusions as have been drawn from the study of the zoological distribution and comparative nature of cancer. The latter line of inquiry led to the conclusion that the elucidation of the problems of cancer was to be sought in the potentialities of the cell itself; and the nature of the transmissibility of cancer reduces the field of inquiry to the cell again, and leads one to seek for the peculiarities in the cell-life of normal and cancer tissues which limit the power of independent existence in the former, and raise this power to the level of being the chief characteristic of the cells of the latter."

Although no striking results have been obtained in cancer research during the past year, some progress has been made in this line of study. The most satisfactory feature of cancer research is the interest of the public in the matter, and the fact that in-

vestigators in every civilized country of the world are energetically engaged in endeavoring to learn all that is to be learned about the disease.

CURE OF REDUCIBLE HERNIAS BY ALCOHOL INJECTIONS.

In No. 369 of the *Sammlung klinischer Vorträge*, Dr. E. Steffen gives the results of the treatment by him, between 1886 and 1898, of 1182 cases of reducible hernia, by Schwalbe's method of injecting alcohol into the tissues around the sac. Schwalbe's original procedure (as outlined by him in 1876 in the *Deutsche medizinische Wochenschrift*) consisted in the injection into the tissues around the neck of the sac (not into the sac itself), of from two to three grams of 20 to 70 per cent. alcohol; the underlying principle being that a connective tissue hyperplasia should follow such an irritation, especially as alcohol is believed to be prolific of just such hyperplasias, such scleroses, in the organs. The injections were made daily for four to fourteen days, according to the sensitiveness of the patient and the degree of the subsequent reaction. With umbilical hernias, adhesive plaster strips were simultaneously used; with others, the truss. An intermission of a week or two following, after which the treatment is resumed. The result is a diffuse hardening around the neck of the sac, which shrinks and finally closes completely.

Since Schwalbe's original publication, his method has been used by a number of physicians and surgeons. Thus, in 1891, Steffen himself published the results obtained in 293 cases, a cure being affected in 80 per cent. of the small and medium sized reducible hernias. The longest duration of treatment was four years, the shortest one year.

Steffen's modification of the Schwalbe treatment consists in the substitution for the alcohol, of a mixture consisting of 100 grams of 50 per cent. alcohol with ten drops each of dilute phosphoric acid and formalin. In a case now and then, in which this mixture fails to bring about the necessary local reaction, he substitutes an injection of one or two grams of extract of oak bark, which always occasions a very strong reaction. Solutions of tannin are not to be substituted for the bark, as they are too apt to induce abscess and necrosis.

The present series of cases extends from December, 1886, to the spring of 1902. During this period Steffen has treated 1,052 patients with 1,372 hernias, but on account of various reasons (non-completion of treatment for various causes, indifference, intercurrent diseases, etc.), only 901 patients and 1,182 hernias are brought into the analysis. Of the hernias, the inguinal were 88.15 per cent; crural, 7.02; umbilical, 3.90; and hernia of linea alba, 0.93. As regards outcome, the initial results were: cured 75.3 per cent; improved, 7.1; and not cured, 17.6. By "cured" is meant a hernia which upon coughing and pressure, in both the sitting and recumbent posture, the earlier perceptible hernia is no longer visible or palpable; and, in the case of an inguinal hernia, in which the finger invaginated in the scrotal tissue cannot detect any impulse. As a result of treatment, the region of the injected area is harder than normal, and sometimes strand-like. The invaginated finger no longer enters an orifice but abuts against a thick-walled cushion. In not a few cases, however, the finger still penetrates a very narrow canal, though the case must be regarded as cured. That a complete closure is not absolutely necessary to a cure, results from the normal condition; and from the fact that there are many persons with wide hernial apertures or canals, in whom, nevertheless, no hernia protrudes, probably an account of a peritoneal adhesion at the inner ring.

Of the cures, 178 have persisted from 11 to 16 years; 305 between 6 and 10 years; and 221 from 1 to 5 years. In 77 cases the cure persisted till death or disappearance from under observation. Of the 17.6 per cent. improved, about one-half offered no evident cause for the failure, but in the other half Steffen believes the inefficacy of treatment to have been due to the existence of chronic bronchitis and emphysema (19 cases); cough of influenza (4); emaciation with flabby musculature (6); and obesity (5).

Of the cured, 111 (or 12.5 per cent.) relapsed, the causes of relapse being the same conditions, and indeed in just about the same proportions, as those which involved non-healing. About one-third of the relapses presented no obvious cause. Relapsed cases can be treated again in the same way.

The author concludes that the treatment of reducible hernias by Schwalbe's method, as modified by himself, yields about 75 per cent. of initial cures, so that the patient can do all sorts of work without a truss and upon examination no hernia can be proved to exist. The duration of the treatment is at least one year in the case of small and recent hernias. The larger the hernia—that is, the wider the orifice and the older the hernia—the longer the time necessary for a cure (two or three years or more). In most cases the patient can go about as usual, and the treatment is to be carried out with constantly lengthening intervals. Special precautions are not necessary. Very wide apertures demand at the beginning daily injections of small doses with rest in bed. In general the method is applicable to all reducible hernias which can be retained by a truss. Hernias partially retainable can, as a rule, be improved, so that by aid of a truss the patient can carry on work again efficiently. The method is suitable for all ages. As it involves no narcosis and no long confinement, it is in many cases in the aged to be preferred to the radical operation. A treatment cumulative and compressed into a short time is not to be recommended, as the initial acute inflammation induced must be transformed into a chronic stage, and for this a longer time is needed. A toxic subsidiary action (*e. g.*, urticaria) is rarely observed. With the proper care and reference to the anatomical conditions, unfortunate accidents are extremely rare. The procedure cannot, however, be said to be absolutely without danger. The mortality is about 0.04 per cent., as against 0.34 per cent. with operative treatment.

For initial results, the injection method evidently cannot compare with the radical operation, as the latter yield nearly 100 per cent. of initial successes. As regard relapses, however, while it is not yet possible to state accurately the results of the operative treatment, Steffen's own observations would lead him to think the number not greatly below the 12.5 per cent. which occurs with the injection treat-

ment. Kocher, to be sure, had only 1.2 per cent. of relapses, but other operators have had as high as 10.8, 11.9, and 15 per cent.

The injection treatment will be properly characterized if we say that it is a perfectly practicable restoration procedure in the treatment of reducible hernias which is suitable for a great number of cases, and is welcomed by many patients.

And as the treatment is one within the reach of every physician, and does not demand the developed surgical technique, but can be easily carried out, it deserves far more consideration than it has heretofore received. The author does not, however, say that he prefers it to the radical operation, but remarks that there are many patients who will not submit to that procedure, and for them the injection treatment can be used with good success.

LÆVULOSURIA AS AN INDEX OF HEPATIC DISEASE.

WRITING in the *Deutsche medicin sche Wochenschrift* for May 5 last, Dr. B. Chajes reviews our present knowledge upon this subject, adding the results of his own observations. In 1901, H. Strauss, on the basis of a study of twenty-nine cases of hepatic disease, and of fifty-eight cases of non-hepatic conditions, expressed the opinion that in the presence or absence of lævulosuria we have a better and more definite test of liver function than we have hitherto possessed. (Previously Sachs, one of Strauss's assistants, has shown that frogs with the liver removed showed less tolerance for lævulose than did the normal animals, the tolerance for grape sugar and galactose remaining unaffected.) Of Strauss's twenty-nine cases of hepatic disease, about 91 per cent. showed lævulose in the urine following the administration of it by the mouth. On the other hand, of the non-hepatic cases, only 10 per cent. showed this symptom under like conditions. Since Strauss's publication, his results have been abundantly confirmed by a number of observers, and with one or two exceptions confirmed quantitatively, most observers having found the symptom in about 90 per cent. of their hepatic cases. Taking all the recorded and concordant cases to date, lævulosuria has been found in forty-seven out of fifty-five cases of hepatic disease, or in about 85 per cent. Only one recent worker, Landsberg, is, as regards frequency, in opposition to the general consensus, he finding the symptom in only 43 per cent. of twenty-one hepatic cases investigated by him. In one of his negative cases, however, vomiting supervened shortly after the administration of the lævulose.

The procedure adopted by Chajes was to administer 100 grams. of lævulose in 500 cubic centimeters of water on a fasting stomach, and to test the urine passed during the next four hours by the usual Trommer's test, by fermentation, by polarization, and for the Selivanoff reaction. The result was regarded as positive if, besides rotation to the left, unequivocal fermentation occurred together with reduction and a Selivanoff reaction were obtained. In case of divergent results, special weight was laid upon the simultaneous occurrence of rotation to the left with fermentation, it being known that reduction and a positive Selivanoff reaction are not unequivocal, other substances than lævulose yielding them.

Tested in this way, in twenty-one cases of non-hepatic conditions (neurasthenia, arthritis, bronchitis, neuritis, pneumonia, etc) lævulosuria was present in only one (4.8 per cent.), with a doubtful reaction in the second. While Chajes's paper was passing through the press, Samberger has found the test positive in every one of eleven cases of hepatic disease. So that the final statistics to date stand: In 105 cases of hepatic disease, lævulosuria has been found in about 88½ per cent.; while in non-hepatic conditions it has been found in but fifteen out of ninty-nine cases, or about 15 per cent. The present state of the evidence would then seem to warrant the view expressed by Baylac and Arnaud, who regard the presence of lævulosuria as indicative of organic or grave functional disease of the liver.

THE AMERICAN WOMAN.

The native-born American woman has been made the subject of discussion almost *ad nauseam*, indeed it would be a matter for no surprise if she were to regard herself as a being apart. Her energy, her brightness, and resourcefulness has been lauded to such an extent that it might well be believed that the women of other countries cannot be considered in the same category with her. This, too, is true so far as it goes, and in many qualities the American woman stands supreme. Unfortunately, however, she fails in the most important one of all, that of maternity, and fails in consequence of her cultivation to excess of those attributes which are generally thought not to be within a woman's province. Her physical powers suffer in proportion as her mental powers increase, and as a propagator of the race she cannot compete with women of stronger bodies but of less highly-trained brains.

Dr. Emil Reich, a German, who lived for five years in this country, has recently written on this matter in a British periodical. He draws attention to the fact that one outcome of the overmentalization of the American woman, and the hypergalvanization of her energy, is the breakdown of American maternity, which he regards as one of the most serious phenomena which cloud the future of the United States. The writer points out that America relies for the increase of its population on a continuous inflow of alien immigration, without which the population would have become already stationary, and would, in the future, assuredly decline. He goes on to show that in the past many a prosperous nation has been brought to ruin by its women—Rome, for instance—and likewise recalls that the Spartan married woman, a typical example of defeminization in the worst sense, contributed at least as much, or more, to the downfall of her country as the hetæræ to the collapse of Athens. Although there is little fear that American women will ruin their country, the relative unproductiveness of the native-born American woman is much to be deplored.

MINERS' PHTHISIS.

A valuable object lesson on the danger to life and health incurred by those who work in a dust-laden atmosphere, is now being afforded by the prevalence of the disease known as miners' phthisis in the Transvaal gold mines. The subject of miners' phthisis was brought up by Dr. Thomas Oliver of Newcastle-on-Tyne at the meeting of the British Medical Association last summer, and was considered in the MEDICAL RECORD.

The malady has reached so grave a stage among the gold mines of South Africa that questions have

been asked in the House of Commons, and a member of that legislative body has—as usual with his countrymen—written to the lay journals in order to arouse public interest in the matter. Mr. Haldane quoted figures presented last summer to the House of Commons concerning the mortality from miners' phthisis. The death rate of the white rock-drill miners of the average age of thirty-five years was then over 70 per 1,000. The mortality among English coal miners is 6.3 per 1,000, of ironstone miners 6 per 1,000, and of tin miners 8.1 per 1,000. This very considerable difference in mortality rates leads to the obvious inference that insufficient precautions are taken in the Transvaal mines to prevent the scattering of dust with its serious consequences. According to the *Lancet of* May 14, the Transvaal Medical Society has recommended that "dry mining should, as far as possible, be converted into wet mining," and the commissioners appointed to investigate the matter have suggested that jets and sprays of water would, in combination with good ventilation, prove an effective preventive against dust.

Dr. Oliver summarized his views with regard to miners' phthisis as follows: (1) miners' phthisis is not caused by the inhalation of any of the gases present in the mine. (2) In pneumokoniosis there may be not only excess of fibrous tissue, but even cavities and tubercle. (3) The disease is, however, non-tuberculous. (4) Accepting this view of the pathology of the disease, there is hope that by improving ventilation and by allaying the dust with water, miners' phthisis may be prevented.

The fact that dust is a factor of much importance in the causation of disease of the respiratory tract has been brought into prominence in New York city of late. Street-cleaners have been found to be attacked by pulmonary tuberculosis out of all proportion to their numbers. The prevalence of phthisis among these men is, as with miners, undoubtedly largely due to the dust with which they are constantly coming in contact. New York is probably, owing to a variety of causes, one of the dustiest cities of the world. Buildings are being demolished in all parts of the city without cessation, and sufficient care is not taken to prevent the dust caused thereby from being conveyed by the breezes hither and hither. If the city ordinance prescribing that water should be used for the purpose of preventing the dust from being wafted through the air to the discomfort of all, and to the physical detriment of street-cleaners in particular, were strictly enforced, New York would be a much pleasanter city in which to live, and those whose duty it is to keep the streets in good order would not fall victims to consumption so readily as they are stated to fall at present.

The Odor of Race.

Western nations, with their usual conceit, imagine that they are superior in every respect to the races of another color, and consequently to those of the far East. One of the charges which white men bring against the negro is that the odor emanating from him is the reverse of pleasant, and occasionally, in hot weather, is almost unbearable.

The Caucasian never pauses to think that possibly the odor of his skin is by no means pleasing to the sense of smell of the negro or the Indian. Nevertheless, it is stated that the smell of the white man is not so fragrant to the negro as is imagined, but is, in fact, objectionable to a degree.

According to a recent issue of the *New York Times*, a Japanese medical man has published a treatise concerning the odor of the Occidental races, declaring that it takes some time for the Oriental to become accustomed to it. The writer advances the theory—which has been discussed before—that each race has its peculiar odor, that it is partly radical, but is in a measure influenced by dietary and other conditions.

The Japanese do not smell each other, but the perfume from their bodies is wafted by the breezes to the Russians who can distinguish the smell of their enemies at a long distance. The writer, however, states that it is nothing like the pungent and penetrating emanation proceeding from the Western nations, in which traces of garlic and ancient cheese and the volatilization of a coarse and overabundant dietary are so sure to be found.

There are reasons to think that the Japanese doctor may be right, and perhaps each race has its characteristic odor. Certain it is, that primitive nations have a much keener sense of smell than the members of a highly civilized race. With civilization and the habit of living in an artificial manner, from disuse the senses of sight and smell become less acute. The Japanese have not embraced civilization for so long a period as to lose the qualities of a people living in a state of nature. Indeed, the great majority are not civilized at all. Again the mode of living of a large proportion of Europeans, eating meat to excess, drinking beer and spirits to excess, and feeding grossly in all respects lends plausibility to the theory that to clean feeders and temperate people, as the inhabitants of the far East are, the odor of the dwellers in Europe is to their sensitive perceptions both distinct and unpleasant. The whole subject is interesting and worthy of further investigation.

The Decrease of Consumption in New England.

Dr. S. W. Abbott, secretary of the Massachusetts State Board of Health, has issued a paper on this subject. The writer by the term "consumption" refers solely to pulmonary tuberculosis, a disease which accounts for at least 75 per cent. of all the deaths from tuberculosis in the New England States at the present time. The points considered by Dr. Abbott are: (1) The prevalence of consumption at the present time. (2) Its decrease in the last years of the nineteenth century. (3) The comparative mortality of the sexes from consumption and the relative decrease in each sex. (4) The comparative mortality from consumption at the different ages of life and the relative decrease at each age.

The question is dealt with at some length, but among other interesting points brought out by the author is a comparison between the state of affairs regarding consumption in England and Massachusetts. The differences are: (1) A generally lower rate for England through the entire period. (2) The difference between the death rates of males and females is generally less in England than it is in Massachusetts. (3) The death rate of females also descends more rapidly than that of males in England, and becomes less than that of males at a period (in 1866) nearly twenty years earlier than the date when the same change takes place in Massachusetts. The conclusions arrived at by Dr. Abbott are the following: (1) The death rate from consumption in New England at the present time is somewhat less than 20 per 10,000 living inhabitants. (2) The death rate from this cause has diminished largely in all the New England States—in some, with fairly accurate registration, as much as 50 per cent. in the half century; and this decrease appears to be going on now more rapidly than in earlier years. (3) The death rate of women from consumption has decreased more rapidly than that of men; while in

earlier years it was greater. (4) This death rate from consumption at every age of life has also decreased, but more at older than at younger ages.

The experience of the New England States regarding the decrease of consumption is that of all countries in which rational measures of prevention are in vogue. The optimistic view of Dr. Hillier that a pursuance of the methods now practised in England and Germany will render the disease extinct within a generation in those countries, is not shared by the majority of the medical profession. There will be sufficient reason for pride if a continued steady decrease in its prevalence is exhibited. The conditions of life cannot be so altered in so comparatively short a period as a generation as to justify the prediction that consumption will be unknown fifty years from now.

News of the Week.

The Rush Monument.—The bronze statue of Dr. Benjamin Rush, presented to the United States Government by the American Medical Association, was formally unveiled last Saturday, June 11, on the grounds of the Naval Medical Museum and accepted by President Roosevelt. Many members of the association, members of the Cabinet, and other officials were present. Dr. J. C. Wilson of Philadelphia, on behalf of the association, delivered a tribute to Dr. Rush. In his speech of acceptance President Roosevelt said that he accepted on behalf of the nation, "the gift so befittingly bestowed by one of the great professions—this statue of a man who was eminent not only in that profession, but eminent in his service to the nation as a whole." He would improve the occasion, he said, to deliver a short sermon to the eminent specialists before him on the duty of citizenship. "To-day," he continued, "no specialist in a democratic country like ours can afford to be so exclusively a specialist as to forget that one part of his duty is his duty to the general public and to the State. Where government is the duty of all, it of course means that it is the duty of each, and the minute that the average man gets to thinking that government is the duty of somebody else, that minute the republic will begin to go down. It is a fortunate thing for our country that we should have before us the lives of men like Rush, who could take a part in our public life as distinguished as is implied by his having been a signer of the Declaration of Independence, and yet to do it without a particle of neglect of the man's own proper duties."

Medical Practice Law in the Indian Territory.—Shortly before adjournment Congress passed a law regulating the practice of medicine in the Indian Territory. No one is allowed to practise without being registered in the office of the clerk of the United States court in the district. One desiring to practise must present his or her diploma to the Board of Examiners (appointed by the judges in the several districts) for the district. If the diploma is approved by the board, registry may be obtained without examination. No diploma issued after July 1, 1904, will be accepted unless it has been granted by a college requiring a preliminary examination and a four-year course of medical study. In the absence of a diploma or the possession of one not approved by the board, an examination will be required.

The German Medical and Surgical Exhibit at the World's Fair is replete with interest. The exhibit is in the Palace of Education, occupying six rooms, and contains a display of the results of the latest medical research and experiment. The various ways in which epidemics and infectious diseases are fought by inoculation are shown by guinea-pigs which have been inoculated and killed at certain stages. In the other rooms are wax casts of difficult operations showing the various steps of the operations, wax casts of rare diseases and the method of handling them, and photographs and specimens. Dr. Kaiserling installed the exhibit.

Chicago's Low Death Rate Explained.—The low death rate of Chicago will be shown in all its bearings at St. Louis, at the Exposition. Health Commissioner Reynolds will personally install the exhibit, which consists of a series of thirty charts, showing facts by comparative lines, four volumes giving blanks used by the department, photographs of the public baths and bathing beaches, and of the isolation hospital, and views showing the laboratory outfits for diagnosing diphtheria, pneumonia, and other diseases. The chief gain has been in children under five years of age. This is associated closely with the department's inspection of milk. The chart diagrams show that the following diseases are diminishing in Chicago: Asiatic cholera, consumption, croup, diphtheria, diarrhœal, malarial, nervous and puerperal diseases, measels, scarlet fever, typhoid fever, and whooping-cough. The following are on the increase: Bronchitis, cancer, heart disease, influenza, nephritis, and pneumonia. In 1893 46 per cent. of all deaths were of children under five years of age, while in 1903 the percentage was only 28. The average duration of life in Chicago has lengthened from fourteen years in 1869 to thirty-two years in 1903. While one person died of heart disease in 1854 out of ten thousand, 11 died in 1903. No deaths from nephritis occurred fifty years ago, but in 1903 there were 9 deaths in every 10,000 of population. Cancer deaths have increased from one to 5½ in 10,000 persons, while pneumonia, the most fatal scourge of Chicago, has increased its victims from 5 in 10,000 in 1854 to 25 in 1903. Tuberculosis, however, has fallen in the same time from 33 to 15.

University of Pennsylvania Medical Laboratories.—The new laboratories of pathology, physiology, and pharmacology were opened on June 10 with elaborate ceremonies. The presentation address was made by Mr. J. Vaughn Merrick on behalf of the Committee on Medical and Allied Schools, and the address of acceptance by the Provost, Mr. Chas. C. Harrison. Additional addresses were made by Dr. H. P. Bowditch on behalf of Harvard University, by Dr. Russell H. Chittenden on behalf of Yale University, by Dr. George Dock on behalf of the University of Michigan, and by Dr. Horatio C. Wood, Professor of Therapeutics, Materia Medica, and Pharmacy in the University. The new building is two stories high, with a frontage of 340 feet and a depth of 200 feet. It is quadrangular in shape and cost $700,000. It faces the north and contains many small rooms for research, rooms for professors and assistants, a library, etc. The first floor will be devoted to physiology and pharmacology, the second exclusively to pathology.

New Laboratory Building of the New York University.—The council of the New York University, on the recommendation of the faculty of medicine, has arranged for the immediate erection of a six-story edifice adjoining, and harmonizing in its architecture with the main college building. This will be completed and ready for occupancy with the opening of the college session of 1904-'05. The first floor of the new building and part of the second will serve to increase the number of teaching rooms in the college clinic. The remainder of the second floor will be used for the examination of speci-

mens sent from the college clinic and from the medical and surgical services of the college in Bellevue Hospital. The third, fourth, and fifth floors will be occupied by large class-room laboratories, devoted respectively to normal and pathological histology, bacteriology, and applied pathology and chemistry. The sixth floor will accommodate the increasing work in anatomy, experimental surgery, and operative surgery on the cadaver. The removal of the class-room laboratories above-mentioned from the main college building will allow of immediate additions to the physiological and pharmacological laboratories and the pathological museum, and furnish greater facilities for research workers.

The Medical Department of Washington University, St. Louis, will have an interesting exhibit in the Educational Building at the World's Fair, intended to illustrate some methods of teaching and the results of original work done in the University. A bone modeling laboratory is part of the curriculum, and clay models of bones made by the students in the study of osteology will be exhibited. There will also be models of the temporal bone, showing the relations of the parts within the temporal bone to the surface. In addition to these there will be illustrations, with dried skulls and photographs, of the methods of operating for the relief of deformities due to mal-relationship of the dental arches. detailing the methods of making the sections in different parts of the lower jaw as required to overcome the different pathological conditions, and the results of these operations.

The Fourth Pan-American Medical Congress will meet in Panama the latter part of December. The Pan-American Congress meets every three years. It was started by Dr. William Pepper of Philadelphia, Dr. C. A. L. Reed of Cincinnati, Dr. Albert Vander Veer of Albany, and Dr. H. L. E. Johnson of Washington. The first meeting was held in Washington in September, 1893, the second in Mexico in 1896. The third was to have been held in Venezuela in 1899, but was given up on account of the war in that country. The place of meeting was changed to Cuba, but had to be postponed until 1901 on account of the fever there. These meetings have always been well attended, and it is thought that Panama will be an interesting place for the convention.

Pure Milk for the Poor.—The citizens of St. Louis have established a laboratory for the distribution of pure milk to the poor during the summer. Those among the poor who are able to pay for the milk will be supplied at a slight advance over the cost, but it will be supplied free to those who cannot pay for it. The reports of the reduction in the mortality rate among infants during the summer months in other cities have encouraged the citizens to operate such a laboratory in St. Louis. Dr. Albert Merrell, Member of the Board of Health, and Dr. H. J. Scherck, Chief Dispensary Physician, are in charge of the work.

New Fordham Hospital.—The trustees of Bellevue and Allied Hospitals have purchased from the Jesuit Fathers at St. John's College at Fordham, N. Y., a plot of ground equivalent to four city lots for $80,000, on which will be erected a public hospital. The erection of the hospital will be begun at once.

"Liquid Sunshine" at Hot Springs.—As a result of certain experiments recently made at Hot Springs, Ark., it is asserted that the waters there contain radium or some radioactive substance. In consequence of these claims, the United States Government has engaged Profs. Bertram B. Boltwood and J. Joseph Hyde Pratt of New Haven, Conn., to make a thorough investigation of the waters to determine upon what this radioactivity depends.

Dr. Samuel B. Ward has been elected dean of the faculty of the Albany Medical College to fill the vacancy occasioned by the resignation of Dr. Albert Vander Veer. The latter's resignation was necessitated by a new law which compelled him to give up his office as dean or else that as a regent of the University of the State of New York.

An Investigation of Nostrums.—The Post Office Department is causing an analysis of some of the widely advertised patent medicines to be made, and when it is discovered that the medicines are rank frauds the advertising matter will no longer be allowed the use of the United States mails. The move is the outgrowth of a series of investigations which have been made by the Bureau of Chemistry of the Department of Agriculture.

American Association of Genito-urinary Surgeons.—This society was to have held its annual meeting in St. Louis, beginning on Monday of this week, but the attendance was so poor at the opening session that the meeting was adjourned until next year.

Canadian Medical Association.—The thirty-seventh annual meeting of this association will be held in Vancouver on August 23, 24, 25, and 26. This is the first occasion on which the association has met west of Winnipeg. The principal guest will be Mr. Mayo Robson. A banquet will be held in Vancouver on the evening of the second day. The next day the delegates and their friends will make an excursion to Victoria. A run will be made to William Head quarantine station. and the return to Victoria will be made by way of Esquimault, to view the naval arrangements and the fortifications. Upon arrival at Vancouver, a reception will be arranged for at the legislative buildings. The following day will be given up to visiting the many points of interest about the city, including the sea drives, and in the afternoon Esquimault and the Naval Hospital will be visited. A trip up the Arm by moonlight is also contemplated on the second day and a band concert will be given on that evening.

Dr. Winfield Scott Hall of Berwyn, Ill., has been elected president of the American Academy of Medicine, being the second Western man to receive this honor in twenty years. Dr. Hall has been professor of physiology in Northwestern University Medical School since 1895. He is a member of the Chicago Academy of Sciences, and of other scientific and medical organizations.

Offer to Unite with State University.—Harvey Medical College has made a proposition to the University that it be absorbed by the State institution, as was the College of Pharmacy a few years ago, free of indebtedness. Dr. Frances Dickinson, President of Harvey College, says the proposition was made to the Committee on Pharmacy, which was in session here about two months ago, and it is now being considered by the Medical Committee of the University. Harvey Medical College has been in existence for ten years, and has graduated twelve hundred students during that time.

Dr. Henry W. Bettmann has been elected president of the Board of Trustees of the Public Library, Cincinnati, for the coming year.

The Ex-Internes Association of the Cincinnati Hospital held a banquet June 4, at the Queen City Club. Dr. J. H. Landis acted as toast master. Responses were made by Drs. W. E. Kiely, J. E. Greiwe, T. W. Hays, and Percy Shields. There was also a number of impromptu speeches, songs,

and recitations. Drs. Louis Heyn, C. W. Smith, Oscar Burghausen, and Casper Hegner sang in concert a composition entitled "Old Hospital," to the tune of "Old Heidelberg."

Illinois Camp for the Tuberculous.—A camp to accommodate thirty poor tuberculous patients was recently opened near Ottawa, Ill., under the auspices of the Illinois State Medical Society. Dr. James W. Pettit of Ottawa is to be in charge, and it is expected that the camp will be virtually self-supporting.

Dr. Lillian Wyckoff Johnson, assistant to President Charles W. Dabney, recently of the University of Tennessee, was recently inaugurated president of the Western College for Women. She succeeds President Leila S. McKee, who has held the office for sixteen years and has recently resigned to be married.

Officers of the American Dermatological Association.—At the twenty-eighth annual meeting of this society, which was held at the International Hotel, Niagara Falls, on June 2 and 3, 1904, the following officers were elected for the ensuing year: *President*, Dr. William T. Corlett of Cleveland, Ohio; *Vice-President*, Dr. Frank H. Montgomery of Chicago; *Secretary and Treasurer*, Dr. Charles J. White of Boston; *Member of Council*, Dr. John A. Fordyce of New York. It was decided to hold the next meeting of the association in New York City, on December 28, 29, and 30, 1905.

Hospital Bequests.—The late James Lowman of Cincinnati left an estate valued at $1,000,000. He bequeathed $1,000 to the Jewish Hospital, $1,000 to the Jewish Home for Aged and Infirm, $1,000 to the Jewish Orphan Asylum, and $200 to the Associated Charities.

The Covington (Ky.) Board of Health was reorganized last week. Mayor Brach called the meeting to order. Dr. M. Behrman was elected secretary. The business of the meeting was to elect a new health officer to succeed Dr. C. W. White. Dr. H. F. Wilson was elected to the position.

Obituary Notes.—Dr. JAMES W. KEISER died at Reading, Pa., on June 6, from typhoid fever, at the age of forty-three years. He was graduated from the Medical Department of the University of Pennsylvania in the class of 1882.

Dr. PHILIP W. BEALE died at Camden, N. J., on June 7, as a result of cerebral hemorrhage, at the age of forty-seven years. He was graduated from Jefferson Medical College in the class of 1876, and he has been coroner of Camden County since 1894. He served as a member of City Council in 1895, and he was for ten years a pension-examiner by appointment of President Harrison.

Changes in the Pulse Due to Stimulation of Special Senses.—The effect on the pulse of stimulating the senses of hearing, taste, and smell has been carefully studied by M. Heitler. The sphygmograph showed a distinct acceleration in the pulse rate of ward patients when a noisy street car passed the windows, and the same effect was also observed when other sounds were produced. It was found that a clanging sound was followed by a greater acceleration than that produced by other disturbances, and, moreover, that high notes had more effect than deep tones. Tests made on the sense of smell showed that vinegar and camphorated oil produced an increase, whereas turpentine, alcohol, and benzine were followed by a depression in the pulse rate. Concentrated solutions of various substances placed on the tongue disclosed that sugar and salt produced an acceleration, vinegar and quinine a depression in the pulse. These observations were made in over 200 patients.—*Zentralblatt für innere Medizin.*

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

GENERAL MEDICAL COUNCIL—DISORDERS OF BLOOD AND BLOOD-FORMING ORGANS IN EARLY LIFE—HYDROPS OF JOINTS—GROWTH AND DEFORMITIES—CONGRESS OF SCIENTIFIC ASSOCIATIONS—PUBLIC HEALTH NOTES.

LONDON, May 27, 1904.

THE seventy-ninth session of the General Medical Council is now sitting. It was opened on Wednesday, when the president, Sir Wm. Turner, gave another of those addresses in which he sums up what has been done since the previous meeting and intimates what is to be undertaken at the time. Many people still think that these addresses would be better omitted, as members are aware of what has been done and are prepared to follow the program.

Mr. Henry Morris took his seat as the new representative of the College of Surgeons, and Dr. Caton as that of the University of Liverpool. The president referred to the retirement of Mr. Bryant, who, as one of the treasurers, had spared neither time nor trouble in the transaction of the council's business. He also announced that Mr. Bryant has agreed to undertake for the present year the duties of the inspector of final examinations which has become vacant through the lamented death of Sir George Duffy. It has been arranged that he shall be accompanied by a Fellow of the College of Physicians, and the reports will thus be framed by experts in the two principal branches of the profession.

The attempts made to establish reciprocity between the United Kingdom and Canada in regard to practice and registration have not yet succeeded, some difficulties existing in the formation of a single register for the whole Dominion. The statistics furnished by the Army, Navy, and Indian Medical services were received as usual.

The finances of the council remain in an unsatisfactory shape, and as an offer has been made for the premises, the matter will be considered *in camera*. It may be hoped the council may be able to retrieve the error by buying such a property and squandering money on adapting it for their purpose.

The council has to consider the effect of a judgment in the High Court in Ireland which would seem to legalize practice as dentists by a commercial company—it being held that the dentists' act, as worded, is directed against a natural person only and not against a company, the effect of this decision being that a company cannot be prosecuted under the act.

The whole time of the council yesterday was devoted to penal cases.

The Goulstonian Lectures at the Royal College of Physicians have been duly delivered this month. The lecturer on this occasion was Dr. Robert Hutchison of the London Hospital, and he took for his subject, "Some Disorders of the Blood and Blood-forming Organs in Early Life." The prominent rôle played by adenoid tissue and some probable reasons for its marked development were pointed out at an early stage, as was the probable greater liability to disease on account of this extensive development. Some of the confusion that exists in respect to affections of the lymphatic glands was attributed by Dr. Hutchison to the use of a merely clinical classification and to the inadequate study of the morbid histology after death. One must agree with him that the advance of our knowledge is retarded by a terminology which has ceased to correspond with clinical and pathological facts. If we think of such terms as "lymphadenoma," or "pseudo-leukæmia," or "malignant lymphoma" or "lymphosarcoma," we may well exclaim with him how vague is the impression conveyed! But he does not consider the time ripe for a final classification. He was content to describe some classical types and discuss their relation to each other and the possible existence of intermediate forms.

He therefore described some cases of acute tuberculous adenitis, Hodgkin's disease, and lymphosarcoma, as types of three pathological processes affecting adenoid tissue in a primary and widespread fashion. He then proceeded to inquire whether these processes are entirely distinct, or do intermediate or mixed pathological types occur? Hodgkin's disease is regarded by Dr. Hutchison as quite distinct from tuberculous adenitis, each having a separate morbid histology. Nevertheless, glands which have been primary affected by the former disease may become the seat of secondary tuberculosis, and it is, perhaps, such cases that have led to the idea that the two are identical. There is less certainty with regard to the leukæmias, and again as to lymphosarcoma.

The blood disorders of early life are distinguished by less

definition of type than those of later life. Those affecting bone marrow are rare in infancy and early childhood, while several secondary anæmias and infective leukæmic and sarcomatous processes affecting adenoid tissue are not uncommon. One type of anæmia is peculiar to infancy and epitomizes in itself all the peculiarities of the other forms seen in infancy. This age is much exposed to many influences destructive of blood or inimical to its formation, *e.g.* deficient diet, digestive disorders, infective processes, etc. Further, the extent and activity of the adenoid tissue expose it to infective and malignant processes. Hence the frequency in early life of Hodgkin's disease, lymphatic leukæmia, chloroma, and lymphosarcoma.

In the course of the three lectures Dr. Hutchison referred several times to the want of sharp differentiation between the types of anæmia in early life. This indefiniteness may, perhaps, correspond with a similar want of definition in the function of the blood-forming organs and an incomplete division of labor among them at this age. Although such differentiation may be fairly complete in healthy infancy, yet under adverse conditions a reversion to the fetal condition might occur more readily than in the adult.

In such case the mother-cells of the bone marrow (myelogonia) no longer producing merely myelocytes and those of the adenoid tissue (lymphogonia) lymphocytes, but both combine to produce the particular species of cell for which there is at the time the greatest demand in the blood stream. It is in this direction, Dr. Hutchison believes, that further study of the blood disorders of early life is likely to lead to results which will considerably modify our conceptions of the processes of blood formation in general.

Hunter's School, that of St. George's Hospital, has established a commemorative lectureship, and Professor Howard Marsh delivered the first lecture on Wednesday evening. In it he treated of intermittent hydrops of the joints and also of the influence of growth on deformities. With regard to hydrops he detailed the history of several cases and had to admit that we know nothing definite as to the pathology of the disease, while the most useful treatment seems to be quinine and arsenic. In regard to deformities in childhood the lecturer emphasized the corrective influence of growth. From a clinical point of view this was far more important than the action of growth in producing deformity. The results attributed to the use of mechanical appliances were, as a matter fact, very often due to the corrective processes of growth. Professor Marsh illustrated his lecture with a number of *x*-ray photographs, and at its close was accorded a cordial vote of thanks.

The second triennial congress of the International Association of Acad mies and Scientific Societies is being held in London this week in the rooms of the Royal Society. The formal opening of the congress took place on Wedn s-day morning, although on the evening before the foreign delegates who had arrived were entertained by the Royal Society in the old British fashion with a dinner. The president this year is Sir Michael Foster, and in his address he reviewed the work done by the association since its meeting at Paris in 1901. We also outlined the projects that have been undertaken and the present position of the movement. Lord Reay was appointed vice-president and the work of the sections arranged. In the afternoon the members visited Windsor Castle and were received by the King. In the evening Lady Avebury gave them a reception.

The registrar-general's statistics give no support to the common notion that last year's disagreeable weather must have been injurious to health. For the whole of England and Wales the rate of mortality for 1903 was only 15.4, and the neighborhood of London, so far as the death rate shows, was unequalled for healthiness. Hornsey heads the suburbs with a rate of 7.9; Beckenham comes soon after with 9, and Wimbledon with 9.4. At the other extreme the city of Dublin had a rate of 22.9, a sad contrast with London's 15.7. This rate for all London is the lowest yet recorded, the two preceding years being 17.7. The metropolitan suburbs had lower rates than most of our health resorts. The huge agglomeration of villages called London occupies various levels, ranging from 1 foot to 440 feet above the sea, the mean elevation being 59 feet. Sanitarians are inclined to attribute the improved health of London to the extensive works carried out of late years, and to which we may ascribe much. In 1854 our mortality rate was 29.4. In 1888 it fell for the first time below 20. Other circumstances have no doubt assisted sanitation, especially the greater care of infant life for infantile mortality shows the most improvement.

I hear that the Army Council has appointed a committee to consider and report on anti-typhoid inoculation.

The King will lay the foundation stone of the new St. Bartholomew's Hospital early in July.

The bill for legalizing the metric system has passed the Lords and been sent down to the Commons.

The Lunacy Bill has been described by the attorney-general as creating "almost a beneficent revolution." It provides for patients to be treated in a way to conduce to their restoration rather than to keep them in asylums.

Department-Surgeon General Sanderson, late of the Madras Army, died at his residence at Douglas on Monday, aged seventy-six years. On retiring from the army, ten years ago, he went to reside in the Isle of Man, and last November he was elected a member of the House of Keys for Douglas.

OUR BERLIN LETTER.

(From Our Special Correspondent.)

OPENING OF THE SUMMER SEMESTER—TEST OF THE FUNCTIONAL POWER OF THE HEART—A NEW STREPTOCOCCUS SERUM—RADIOTHERAPY—THE PHYSICIANS' STRIKE—A REFORMER IN TROUBLE—IMPROVEMENTS AT THE CHARITÉ—PROFESSORIAL CHANGES—THE KAISER'S HEALTH.

BERLIN, May 15, 1904.

SCIENTIFIC circles in Berlin are again pulsating with life. Those of our colleagues who were fortunate enough to be able to put away their stethoscopes and scalpels and enjoy a well-earned rest in Italy, during the raw weeks of early spring, have all returned to town. At the opening of the first session of the "Verein für innere Medizin" a great deal was heard of Naples, the Blue Grotto, and the Mediterranean; and, in fact, Leyden opened the summer session with an account of his vacation trip. The scientific interest was soon aroused, however, by a paper read by M. Katzenstein, in which he described his new method far determining the functionating power of the heart, By animal experiments he was able to show that resistances interposed in the arterial circulation brought about an increase in the cardiac action which could be measured. In cardiac insufficiency this was manifested by an increased pulse rate. If in the human subject lying flat on his back, both iliac arteries are compressed at Poupart's ligament for from two and one-half to five minutes, the pulse rate in a normally acting heart will remain the same or become diminished; but if there is insufficiency, the rate is increased. This method is of particular value in threatening insufficiency, as in severe typhoid fever, when assuming an erect posture may bring about a fatal issue. Leyden stated that he was familiar with this principle and often employed the method, but suggested that during the time of compression the patient be directed to breathe very superficially, as deep inspirations were likely to cause pressure changes in the circulation. Litten remarked that the inhibition in the pulse rate might be due to the sensory irritation caused by the procedure, and Krause believed that the results were dependent on the functionating powers of the blood-vessels; but the reader of the paper claimed that these facts did not affect the efficiency of his method.

At the same meeting, F. Meyer also reported the results of further experiments with his streptococcus serum. The general practitioner will perhaps be bewildered by being compelled to direct his attention to a new serum in addition to those of Marmorek, Behring, Aronson, and Moser. Nevertheless, every new factor in this field of therapeutic effort should be welcomed, even if it affords only a slight aid in the battle against sepsis, scarlatina, and other diseases of a similar nature. Meyer employed his serum in a large number of cases of angina, articular rheumatism, puerperal sepsis, and erysipelas. He injected one or two doses of the serum, each from 10 to 15 c.c., and succeeded in reducing the temperature in from twenty-four to forty-eight hours. In angina and articular rheumatism the serum was used only in severe cases. In scarlatina only the streptococcus infection was influenced but not the original disease. Good results were also secured in many cases of sepsis, and especially in erysipelas. The serum is not applicable to septic processes in closed cavities or organs, such as the lung.

Lassar expressed himself as desirous of seeing radium employed to a greater extent by the general practitioner. This wonderful substance, which has so quickly achieved a world-wide reputation, seems to be the subject of simultaneous discovery in many places. Elster and Geitel, two physicists of Wolfenbüttel, have found that the earth and the lower strata of the atmosphere are radioactive. When a certain kind of mud, "Fangoschlamm," was treated with hydrochloric acid and the mixture decomposed by electrolysis, radium was deposited in traces at the cathode. Radiotherapy was fully discussed by Lassar, in his interesting address before the "Medizinische Gesellschaft."

He employs radium bromide in doses of 1 gm., put up in small capsules which are applied to the diseased area daily for periods of half an hour, being held in place by adhesive plaster strips. No evil effects have been observed. Thus far he has treated only melanoma and carcinoma, but with better results than had been attained with any other radiotherapeutic method. Among other things he cured a carcinoma of the tongue, securing a localized action of the radium by attaching the tube to the end of a lead sound. Further reports on the results of *x*-ray treatments elicited a lively discussion on the mode of action of these agents. Numerous cases of carcinoma, especially of the breast, which had been given up as hopeless by such operators as Bergmann, were treated by Lassar with relief from the pain and the production of smooth scars. Even if this cure had thus far only extended over the period of half a year, the patients were at least free from pain, did not have any ulcerations, and had gained in weight. Bergmann remarked, however, that in the patients presented by Lassar, carcinomatous glands and infiltrations could still be felt, and that the rays produced an effect similar to that of the older arsenic pastes, which destroyed all tissue, whether diseased or healthy. The knife was therefore to be preferred in every case, for by the other methods the chances of life for the patient would be affected by the loss of valuable time. Moreover, in his own clinic, he had convinced himself of the uselessness of radium, and two of his assistants, Schlesinger and Borchard, had treated numerous cases of angioma and carcinoma without success. Extensive tissue destruction resulted in angioma, and after healing had taken place remnants of the growth still remained. Carcinoma, accompanied by simple ulceration which ran a chronic course, healed with a result similar to that secured by the employment of pastes, but radium cannot be applied in the case of a large carcinoma with deep involvement. In reply, Lassar contended that some of the cases which he presented were mammary carcinoma which had been considered inoperable, but which, in the space of six months had not developed any palpable recurrences. He also believed that the rays had an elective action and that only diseased tissues were exposed to the process of resorption. For this reason, radiotherapeutic measures were far superior to the arsenic pastes.

An interesting movement is now gaining ground in the social and political life of German physicians, as manifested in the outcome of the "strike" of doctors in Leipsic. As further references to this important question are likely to be made, a few explanatory remarks regarding the situation will not be amiss at this point. In accordance with the imperial statutes, every government employee with an annual income of less than 2,000 marks, must join an association (Kasse) whose membership consists of persons following a certain occupation, or those who live in a particular district, etc. These select their own officers and attending physicians who are nominally responsible to the government. As a large part of the population belongs to these associations, the German physicians, 30,000 in number, have necessarily been compelled to assume the treatment of many such cases. The insufficient remuneration—in many instances only 15 pfennige per call (3¾ cents), has animated most physicians to decline the appointments. Wherever an attempt was made, however, to better these conditions, the associations appointed certain physicians who served at the same time as lodge officers. The conditions grew gradually worse, and conferences between physicians and lodges failed utterly. The medical men finally formed a union for the preservation of their professional interests, the so-called "Leipziger Verband," under the leadership of the indomitable Dr. Hartmann. This association, by continuous agitation, has succeeded in having adopted at the last annual meeting of the "Union of German Medical Societies" a resolution whereby the members of these lodges are permitted to choose their physicians individually. This affords the patient the opportunity to consult whomever he desires, and also prevents the lodge officials displacing older and experienced men by others without cause. It still remained to put this principle into practice, and as the lodges would not entertain friendly overtures, recourse was had to a "strike." The physician's union organized branches in every German city, which dealt with the individual lodges and endeavored to dissuade other doctors from settling in this particular locality to take the place of their striking colleagues. In consequence of this agitation a more satisfactory basis of remuneration has been established and the choice of the physician is left to the patient. This much has been accomplished in Cologne and Munich, and the fight is being carried on in sixty-seven other cities. The most marked opposition was met in Leipsic, where there is one of the largest sick benefit lodges in Germany. In spite of all its endeavors, however, this organization was unable to attain its ends and report the necessary number of attending physicians to the governmental authorities, so the latter had to recognize the claims of the medical men. Difficulties are often interposed by the doctors previously engaged, men sometimes of no honor, whose contracts for five years' service cannot be dissolved by the lodges. In Berlin the relations of the physicians to the lodges are surrounded with especial difficulties, an account of which will be given at some other opportunity.

The majority of the thinking classes support the physicians in their struggle for existence. But even intelligent persons are apt to oppose medical progress, as is shown by the recent court proceedings against Dr. M. Hirschfeld. This gentleman has been trying for years to have a criminal law revoked dealing with the punishment for homosexual intercourse. Dr. Hirschfeld has sent petitions signed, among others, by 2,700 physicians, to the various legislative bodies, has edited the "Jahrbuch für sexuelle Zwischenstufen" since 1899, and has been very active in this particular field of work. For the purpose of gaining statistical evidence he devised a plan by which the intention and scope of the question was explained in a circular addressed to a large number of individuals. These were requested to forward the information as to their sexual relations on a postal card, but without appending any signature. At the solicitation of their clergyman, six students of theology who had received these communications, instituted suit for damages against Dr. Hirschfeld on the score of personal insult. Although the court recognized the scientific zeal and humanitarian motives which animated the doctor, he was convicted for having laid suspicion upon certain individuals for actions which are still subject to punishment by law.

It is a more agreeable task to direct the attention from these examples of doubtful and antiquated legal decisions to the progress of scientific research, as shown in the plans for the reconstruction of the buildings for the "Charité." Although the building of the new wards has resulted in a diminution of the total number of available beds, the average sick person will experience greater comfort than heretofore. Up to the present time the clinics for nervous diseases, children's diseases, psychiatry, and otology and laryngology, and Virchow's pathological institute, have removed to their new quarters, and more lately Franz König has become settled in the new structure of the surgical clinic. An attractive building in its outward appearance, the interior is also tasteful in its coloring and complete in every conceivable hygienic detail. Especially practical are the large convalescent halls, where the patients can enjoy an abundance of fresh air.

New blood has been infused into the ranks of the leaders of the "Charité" clinics with the opening of the present semester. Professor Fischer has taken the place of the late psychiatrist Jolly. The chair of gynecology, vacated by the voluntary retirement of Gusserow, has been filled by Bumm of Halle. Both are men in the prime of life, and the reputation they have gained by their past efforts, insures the success of these branches of medicine at the University of Berlin.

Although it seemed for a time as if the Emperor's illness would cast a shadow over the peaceful development of science in our city, the apprehensions have been dissipated. In better health than ever, and tanned by the Italian sun, the Emperor has returned to Berlin. His general animated appearance and his lively interest in every branch of human endeavor give the lie to the malicious reports, telegraphed from Naples in the early spring, of a return of his throat trouble.

OUR LETTER FROM NEW ZEALAND

(From Our Special Correspondent.)

TREATMENT OF LUPUS—TREATMENT OF LEPROSY—RETURN OF THE PLAGUE—DIMINISHING BIRTH RATE.

AUCKLAND, NEW ZEALAND, April 20, 1904.

My letter, in which I stated that a cure of lupus in four or five weeks might be effected by a drug which is in every pharmacopœia, has brought upon me a correspondence which my own serious and long-continued illness has prevented me from replying to.

The following account of a case of lupus exedens, published by R. Hall Bakewell, M.D., in *The Lancet* of October 10, 1857, contains all the information necessary for trying the effect of the biniodide (red) of mercury, the drug in question. I would recommend, as a measure of precaution, that the commencing dose should be half a grain three times a day, given after a meal, increased after four or five days to a grain three times a day. The drug should be continued in diminishing doses for three weeks after a cure is effected. So administered I have never had a failure to cure, or a relapse, or salivation or gastric irritation.

The case was that of a stout, healthy-looking lad, aged sixteen. About seven years before admission a pimple appeared on the inner side of the right nostril. Ulceration took place, which continued slowly increasing, with no improvement, and seldom stationary, up to the present time. The whole of the cartilaginous portion of the nose, and a considerable part of the upper lip, was destroyed. He was admitted under my care into the Purton (Wiltshire) Workhouse. He was placed on a good diet with a pint of beer a day. The sore was dressed with sulphate of copper lotion and arsenic given internally. Finding no benefit from this treatment, although the dressings were varied, he was given half a grain of biniodide of mercury and arsenious acid one-tenth of a grain three times a day. In a few days the amendment was evident, and from that time forward, for the space of three months, the sore continued healing until a perfectly sound and healthy cicatrix was formed. When about one-half of the ulcer had healed, he left the workhouse, and thenceforth attended as an out-patient. Cicatrization after this was not so rapid, owing, I presume, to change of diet; the quantity of biniodide, was then increased to a grain three times a day. After this the progress was most satisfactory. During the whole of the long period, or while he was taking these powerful medicines, he never felt the slightest inconvenience from them; there was neither salivation nor gastric irritation.

It is possible that the recovery in this case might have been a mere accident coincident with the treatment, but not a consequence of it. The circumstances of the case render this highly improbable. The cure was not effected merely by change of diet, for it continued, though requiring larger doses of the remedy after his discharge from the workhouse. No sign of ulceration had appeared when I last saw him, about six months after the healing of the ulcer. The doses of biniodide given were unusually large, but in this case, at least, the end justified the means.

I published another case about forty years after the first, in the *Lancet*, but not the slightest notice was taken of either case. When I saw the account of the use of the Röntgen rays for four or five months, I felt a little annoyed, and broke out in the letter aforesaid.

The cure of leprosy is the subject of several reports and correspondence which were laid before the British Imperial Parliament by command of Her late Majesty. I was sent to inquire into an alleged cure discovered by a Dr. Beauperthuy, a French physician residing in Cumana, Venezuela. In a letter I sent you last month I described the method of treatment. Mainly it consists in hygienic treatment, good food, air, etc., and then in the removal of the tubercles by the application of cashew-nut oil, which, as it were, dissolves them away. The effect produced on the face, for example, by four or five applications is simply marvellous. Unfortunately just when poor Beauperthuy's troubles seemed over, and he had been installed as physician to the Demerara Leper Asylum, he fell down in an apoplectic fit, and died in a few hours. Nothing was ever done, except by myself, and I proved in a few cases the efficacy of the treatment. I have also tried the oil of cashew-nut in other affections of the skin, such as moles. It is painless.

We have got rid of our smallpox by rigorous isolation, and now we have a return of plague in Auckland. A man died a few days ago, and true plague bacilli were obtained from a bubo, and also by culture. Another case is suspected and under observation, and there are several "contacts" who are inspected twice a day.

Of course, on theoretical grounds, this is all right enough, but there is another view of the question. To stamp out a single disease like plague costs an immense amount of money, and interferes very seriously with the personal freedom of a number of persons and with trade. It cost the State of New South Wales more than three millions sterling (say, fifteen million dollars) to treat the plague two or three years ago. The State bought up a most extensive and expensive frontage to the harbor in order to be able to deal effectually with the rats. You have already noticed Dr. Ashburton Thompson's report on the plague epidemic in your columns. That report shows that the bubonic plague is practically not communicated from one human being to another, and that it is the pneumonic form which is so dangerous. I have myself slept in the same ward with a patient suffering from bubonic plague, and not only felt no fear of it, but did not even speak to the medical officer in attendance about it. Whether he suspected it I don't know. Perhaps he adopted Brer Rabbit's policy—he laid low and said nuffin'. When we had the plague here before, I was selected to examine the contacts twice a day with the understanding that if anyof them were attacked I was to be shut up with them and attend them. None of them developed the disease, though some had handled the patient both during sickness and after death.

The diminishing birth rate is still exciting much attention, and the newspapers are seldom many days without letters on the subject. It appears pretty clearly that the economic reason is the chief one, determining the limitation of families. Women will not bear children to endure the evils of poverty.

OUR LETTER FROM CONSTANTINOPLE.

(From Our Special Correspondent.)

UNSEASONABLE WEATHER CONDITIONS—PLAGUE QUARANTINE—"DERATSATION"—RELAPSE OF THE CITY INTO FILTH—SMALLPOX IN ASIA MINOR—LEAGUE AGAINST TUBERCULOSIS—HOSPITAL NEWS—ANNUAL EXODUS TO THERAPIA.

CONSTANTINOPLE, May 1, 1904.

BUT for a scare of smallpox, which caused a rush for vaccination and revaccination, the winter's medical record of Constantinople has been singularly lacking in interest. The weather has been unusually rainy and raw, and even now the spring season is very backward. The large numbers of American tourists who came to Constantinople at this time of year must have been woefully disappointed at the miserable aspect of the Bosphorus and the city. In spite of rain, cold, and damp very little sickness has prevailed during the winter months. Ordinary catarrhal affections and cases of relapsing influenza have been most apparent.

The recrudescence of plague in Egypt has shown the Quarantine Department quite prepared for an emergency. The lazaretto at Clazamene has been well organized, and the general quarantine regulations cannot be considered now to press more heavily on the shipping than is absolutely necessary for the purposes of such institutions. The personal comfort of passengers and crews receives a larger amount of consideration than formerly. The recommendations of the Paris International Hygiene Conference appear to be carried out in detail. Rats and mice receive a full amount of attention, as may be judged from the telegram circular of the Superior Council of Health of April 27, 1904, to the health officers:

"*Par décision du Council Supérieur de Santé, en date du 26me Avril courant, les vaisseaux de guerre sont exemptés des prescriptions de la circulaire No.* 180 *concernant la destruction des rats et souris sur les navires, Mais le médecin du bord ou, à son défaut le commandant, sera tenu de délivrer a l'autorité sanitaire une déclaration écrite attestant qu'il n'a pas été constaté sur le batiment de mortalité parmi les rongeurs y existant possiblement. Au cas où une pareille déclaration ne pourrait pas être fournie, le médecin ou le commandant susdits s'engageront sur la demande de l'autorité sanitaire à faire exécuter la "dératisation" de leur bateau par les soins de l'équipage.*"

"*Deratisation*" is not the first queer word introduced into languages by quarantine departments.

The internal municipal health authorities, after making a creditable record of city hygiene, appear to have suddenly collapsed either from used-up energy or lack of funds—perhaps a little of both. Anyhow, the cleanliness of the city is gradually relapsing into what was considered a normal state of filth. The streets and alleys now nightly give forth superabundantly nauseous odors from the collections of household rubbish, which are permitted to lie soaking until they ferment. If these conditions be not speedily remedied there will be an outburst of gastro-intestinal affections, and a probable recrudescence of typhoid fever, from which the city has been comparatively free for the last two years.

It is stated that smallpox is steadily spreading in the Asiatic provinces of Turkey. It is probable that the recent epidemic at Smyrna has contributed to this, as the most stringent regulations on the part of the authorities could do little toward restricting the movements of a wandering Eastern population nor get them to practise cleanliness or disinfection, except of the most perfunctory kind. If "Irades" were effectual, contagious diseases would cease to exist in Turkey. Numerous as are these health "irades," they must be treated as paper plausibilities.

"La Ligue contre la tuberculose (phthisie pulmonaire) de Constantinople" is an imitative effort in the right direction, though it must necessarily—and for long—be looked upon as a purely academic attempt to propagate a practical knowledge of the means necessary to limit the conditions that tend to spread the disease. The object is stated to be to propagate amongst the public practical knowledge indispensable for preserving from tuberculosis by public conferences in the various synagogues, popular lessons in schools, by the members, by the publication of practical advice, for the prevention of this disease in language intelligible to the people, etc.; by the distribution, for the most part gratuitous, in schools of spittoons; by the distribution in schools,

pharmacies, etc., of tables (tableaux!) containing elementary advice indispensable to avoid and combat phthisis; by the formation of ambulances, especially in the populous quarters of the city, where medical consultations and the necessary remedies shall be gratuitously granted to the poor suffering from pulmonary complaints. This large program is to be carried out by the members of the league, named without distinction of religion, nationality, or sex. There are active, passive, corresponding, and honorary members. Thirty-two articles of regulations complete the organization of the league which for the moment will confine its efforts to the Capital and neighborhood. Cleansing Augean stables would be mild work compared with this attempt at sanitation in a place like Constantinople!"

The Military Medical School at Haida-Pacha is still in progress of organization. The new British Seamen's Hospital is near completion. Architecturally, it is not quite a thing of beauty externally, but the interior arrangements are good and up to date. The Coury-Yalova thermal station has been opened for the season, but the sudden death of the director may somewhat retard the operations. The "world" is beginning preparations for the summer, Bosphorus and Islands, season. At Therapia a large hotel is in progress of building, and will be ready for reception of visitors this season. Therapia continues as of old, and as the name implies, to be considered the hygienic village of the Upper Bosphorus, and the addition of the hotel arranged with reference to sanitation will be hailed with satisfaction by the numerous American and other visitors, who, for health and pleasure, sojourn there in yearly increasing numbers. The Medical Society has had an ordinarily useful session.

Progress of Medical Science.

The Boston Medical and Surgical Journal, June 9, 1904.

Carcinoma Basocellulare: A Group of Superficial Gland-like Tumors of the Skin, of Relatively Slight Malignancy, Including Rodent Ulcer.—S. C. Emley presents a table of thirty-five cases as well as a long list of clinical notes. Surgical intervention was sought, as a rule, only after the tumors had existed for a number of years. This was due to their seeming insignificance. The duration of the growths varied from forty years to two months and averaged over eight years. The average age of the patients was fifty-one years. Recurrence was observed in eight cases. Involvement of the lymphatic glands was invariably wanting. The tumors were all small, and in all cases were located on the upper forty-three of the face. The writer discusses three forms: The bulbous, the "cystic," the styloid. There is an almost universal tendency to consider these tumors as closely related to carcinoma. The writer regards the so-called "rodent ulcer" as belonging to the styloid form of this class of tumors. The development of these tumors from the basal layer of the epithelium, from hair follicles, or from the necks of the sebaceous glands, is definitely established. These tumors are not glandular, but gland-like; they are benign, superficial, and develop from the epithelium. Proliferation of the epithelium and invasion of the deeper tissue occur in the histogenesis of these tumors, and yet the majority of the clinical characteristics of carcinoma are absent. In connection with recurrent cases, the evolution to carcinoma often takes place as a result of methods of treatment largely due, doubtless, to their location upon the face.

A Case of Pregnancy in a Uterus Bicornis Unicollis.—Charles M. Green reports this case, which was carefully observed. The patient, while in the seventh month of pregnancy, began to flow profusely while sitting in a chair and in all lost a quart of blood. She was admitted to the hospital. The abdomen was large and broad. There was a large and well-marked medium sulcus, suggesting twin pregnancy. During a uterine contraction this sulcus became more marked and could be distinctly felt. Beginning just below the umbilicus, it extended upward, becoming broader and deeper and dividing the fundus uteri into two distinct and nearly equal parts. The part on the right was firm and resistant; in it the outline of the fœtus could be palpated and the fetal heart could be heard. The left cornu was less resistant; no part of the fœtus could be felt in it, nor could the fetal heart be heard over it, but a loud placental bruit was heard over this area. After the birth, there was felt on the left a mass of the size and feeling of a normal uterus during the third stage. To the right and closely connected with it, was a smaller mass, that part of the uterus, doubtless, which had contained the child. After forty minutes, pressure on the left side of the uterus easily expressed the placenta. There was no post-partum bleeding. The amniotic sac was partly divided into two parts. Exploration of the uterus by a sound, later, showed the depth of the right cornu to be four inches; that of the left, 4½ inches.

Journal of the American Medical Association, June 11, 1904.

The Prophylaxis of Tetanus.—S. C. Stanton makes the following suggestions: The manufacture and sale of toy pistols and other dangerous toys should be prohibited. All wounds in which there is, from environment, any possibility of tetanus should be treated by the open method. In case of wounds of a suspicious nature tetanus antitoxin should be made *immediately*, and continued upon the slightest manifestation of tetanic seizures.

Medical News, June 11, 1904.

Pathology and Treatment of Simple Fracture of the Patella.—Ellsworth Eliot, after a careful consideration of this subject, believes that the following conclusions are warranted: Owing to the not infrequent incontrollable rotation of the lower fragment, through an arc of 90 degrees on its horizontal axis, accurate apposition of the fracture surfaces cannot always be secured, and under these circumstances the ultimate result of conservative treatment could scarcely prove satisfactory. Suitable apposition may also be prevented by the interposition of torn shreds of capsule, by extravasated blood-clot and possibly also by the interposition of untorn periosteum conditions which can be recognized and remedied by exploration. Suture of the fragments permits of simultaneous suture of the torn capsule, a procedure of the greatest importance for restoration of joint security. The results of suture are almost invariably excellent, and the risk of operation is comparatively slight. The writer declares that in no way does he wish to belittle the risk of operation. The exercise of the most rigid aseptic precautions in all that pertains to the operation cannot be too greatly emphasized. If in any case there are reasons why the highest degree of surgical asepsis cannot be practised, it is far better to advise some non-operative procedure than to subject the patient to the possibility of a septic arthritis.

New York Medical Journal, June 11, 1904.

Constitutional Low Arterial Tension.—L. F. Bishop notes that there are some patients who give evidence on the most casual examination of the circulation, that the tension in the arteries is very slight, and in some this will be found to be a constant condition. It is surprising how little tension there can be in the radial pulse without the patient suffering from any symptoms of circulatory disease. Another and more important form is the low tension succeeding the high tension in chronic kidney disease. Here the circulation is no longer maintained by the heart. For the first named variety the most important element in treatment is systematic exercise. These patients are often dependent for their well-being upon regular physical exertion. Often they feel much better if they can take a brisk horseback ride every day or some other form of stirring exercise. There are other cases in which it is found that iron and arsenic improve the condition when it becomes very marked. In other cases very hot baths take the place of vigorous exercise and improve the tone of the circulation. It should be remarked that this is a secondary effect, because, if the circulation is examined immediately after the bath, it will be found to be more relaxed than usual. These patients do not react well, as a rule, to the cold bath.

Communities without Health Departments in the Crusade against Tuberculosis.—L. Flick refers to various conditions in communities under the circumstance named militating against the successful treatment of tuberculosis. One of the most serious difficulties is the unpreparedness of the medical profession for the task. Physicians have become persuaded that the disease is incurable and do not try to cure it. Experts must first be trained to care for these cases properly. This can best be done by establishing special dispensaries for the disease. Such dispensaries, however, must be equipped to give material aid, as well as medical advice. They must supply medicin, preventive measure supplies, and food when necessary, and they must supervise treatment in the homes of the patients through competent visiting inspectors. They must be equipped to give baths, sterilize clothing, and do laundry work, where these are necessary for keeping the home sterile. Next to these are required hospital accommodations for dying consumptives. These patients are not able to care for themselves, and it is during the last few weeks of life that they are especially dangerous. To make such a patient harmless means a constant cleaning of whatever has been soiled. A third necessary step is the establishment of sanatoria for curable cases needing comparative or absolute rest. All of these plans call for a great deal of money. The author suggests the enactment of a State law under which any town, county, or city may get a certain amount of State aid for work of this kind,

in proportion to the amount of work which the community itself does. Under such a law, if a community would establish an institution for the treatment of tuberculosis, it could draw from the State a certain amount of money in proportion to the amount of money raised for the purpose by the community; and for every patient treated it would get from the State a certain percentage of maintenance money for each day during which such patient was treated.

American Medicine, June 11, 1904.

Tuberculous Pericarditis, with Report of Cases.—Charles G. Stockton concludes that: Tuberculous pericarditis is not a rare affection. The diagnosis is usually not made except in cases with simultaneously active tuberculous processes in other parts. The concurrence of pleurisy with blood-stained effusion may be regarded as suggestive. The pericarditis may be of a chronic obliterative type, or there may be massive effusion, generally sanguinolent, but rarely purulent. It may be acute, cotinuing for but a few days, or chronic, existing for many months. It may be a part of a multiple serositis, and the proportion of cases in which at least one or more of the pleural cavities are involved is remarkable. The disease is to be regarded as a secondary affection, although from a clinical point of view, some cases may be looked upon as primary. The point of origin of infection is often found in the bronchial and mediastinal lymph-nodes, although these may be quite exempt from the disease. The infection may be direct from continuity of tuberculous tissue, or by transmission through lymph vessels or through the circulation. The heart may be greatly enlarged, or normal in size, or even somewhat small. Some observers believe that occasionally the process subsides and that comparative cure results.

The Lancet, June 4, 1904.

Pneumococcus Ulcerative Endocarditis Treated by Antipneumococcus Serum, the Pneumococcus Having Been Cultivated from the Blood.—A case of this nature is reported by T. J. Horder and A. E. Garrod, their patient being a man of twenty-six years, admitted to hospital with evidences of pneumonic consolidation in the lungs and endocarditis. A culture taken during life from the blood showed pure cultures of pneumococci, which were scantily evident in the sputa. Injections of antipneumococcic serum were at once begun. During its use, which was continued over several days, the range of temperature was somewhat lower than before, but there was no reason to suppose that any benefit followed the treatment. The autopsy revealed the lesions above indicated, and cultures from various organs showed the pneumococcus.

A Case Exhibiting the Adams-Stokes Syndrome.—E. E. Laslett gives the history of a woman of sixty-nine years. Up to the time the case was reported, the patient had had some thirty seizures. As seen by the reporter, the attacks were ushered in with unconsciousness, lasting about a minute, dilated pupils, gray cyanosis, stertorous breathing, rigid body, and irregular clonic movements of the arms. Recovery of consciousness quickly followed, the pupils contracted, the breathing became quiet. She sneezed violently, and then spoke to the bystanders, During the unconscious period, it was noted that the radical pulse was absent. No pain had been noted previously to any of the attacks. They usually came on without any warning, but sometimes they were preceded by faintness, or occasionally by a peculiar feeling as if someone were pressing on her chest and forcing her down. The urine was never passed during a fit. Consciousness, as a rule, returned very rapidly, and this was the more striking because at the height of the attack the peculiar cyanosis, the widely dilated pupils, the dull cornea, the dropped jaw, and the cessation of breathing would lead almost anyone seeing the condition for the first time to say that the patient was dead.

Removal of the Semicircular Canals in a Case of Unilateral Aural Vertigo.—The patient of R. Lake was a woman of twenty-one years, who had been subject to attacks of aural vertigo, with sickness and vomiting, with gradually increasing deafness and tinnitus for five years. All sorts of remedies were used, but gave no definite relief. Operation was decided on. An ordinary radical mastoid operation was performed, with the exception that the innermost portion of the posterior wall was not removed, but the bony opening in the temporal bone was enlarged, forward, upward, and backward. Anteriorly it was extended into the base of the zygomatic process of the temporal bone, and postero-superiorly in such a way that the long diameter of the bony wound was from above downward and forward. The malleus and incus lying exposed after the removal of the external attic wall were removed. At this period of the operation the burr was substituted for the cutting gouge, which had been previously employed. The next step in the operation consisted in exposing the upper and outer surfaces of the external semicircular canal in its whole extent. The antero-external portion of this canal was now followed forward and inward until the outer surface of the superior canal was brought into view. The whole of this canal was then removed by cutting it away with a medium-sized burr, leaving only the upper part of the arch or fornix untouched. The posterior rim of the external canal was then followed so as to bring into view the posterior canal. which was burred away entirely. A large oval burr was now substituted for the medium-sized one previously used, and the upper surface of the external —the only remaining canal—was cut away with the burr until the anterior half of the membranous canal was exposed. This was then removed with a small burr, which was afterward employed to make a medium-sized opening into the vestibule, and an attempt was made to clean away the crista acustica at that end of the canal. Immediate recovery from the operation was prompt. Certain disturbances of equilibrium, at first manifest, gradually cleared away. Fourteen weeks later the patient was free from vertigo and in improved general health.

British Medical Journal, June 4, 1904.

On the Alleged Transmissibility of the Malaria Parasite from Mother to Infant.—M. Grabham has carefully examined the blood of a number of pregnant women near delivery. Blood films taken from the infants stained by the Romanowsky method and submitted to prolonged and repeated search showed no trace of parasites, nor did they give any other indications of malaria, such as melanin granules in the leucocytes. In the blood of four of the mothers, numerous malaria parasites were found. The temperature of the infants showed no abnormal variations. All of the infants were somewhat feeble. Quinine was entirely withheld from the mothers while these observations were being made.

Essential Similarity of Innocent and Malignant Tumors.—Charles W. Cathcart presents the following conclusions: Every type of tumor has associations with malignancy, no class being exempted. The more highly organized and formed the tissue of a tumor, the more it belongs to the simple class, and *vice versa*. All forms of connective tissue tumors seem to converge to the round-celled sarcoma type, and all forms of epithelial tumor to converge to the encephaloid cancer type. Many tumors are characteristically malignant, although considerably removed from the extreme malignant structure. Mere structure of cells does not necessarily indicate clinical behavior. No theory of tumor growth can be considered satisfactory which would not apply equally to innocent and malignant tumors. The view of abnormal growth is consistent with many apparently inexplicable statements as to the behavior of malignant growths. The life of the tumor cells may be more precarious in some ways than those of the normal tissues, and so spontaneous subsidences may occur, or, again, tumor cells may be injured by toxins, *x*-rays, or even by mental influences. Mental influence may explain the effect of many vaunted cancer cures, all probably useless in themselves, except so far as they may affect the mind of the sufferer. It is doubtless best, in classifying tumors, to divide them primarily according to the type of tissue or organ from which they arise, and in each class to arrange the individuals according to the degree of malignancy which they manifest.

An Address on Arterial Sclerosis and Hypertonus in Their Relation to Diet and to the Digestive System.—William Russell declares that the two factors, arterial contraction or tonus and blood-pressure, must be kept rigidly apart, and yet both must be recognized and estimated. A third point in this regard is the determining whether a thickened artery is thickened from hypertonus or from arteriosclerosis. Hypertonus is not confined to people in middle and later life, for it occurs often in early life, but adaptability, elasticity, and endurance are greater then, and there may be no symptoms complained of. Hypertonus in vigorous people leads at once to heightened blood-pressure and raised arterial tension. But hypertonus also occurs in people whose hearts are *not* vigorous. A temporary excitement gives increased cardiac action and raised blood pressure, but as soon as the one subsides the other disappears. In such cases thickened arteries are associated with a low blood-pressure, for they have no margin of reserve in their hearts. The thickened artery is looked upon as arteriosclerotic. But it must be remembered that thickened vessels may owe much of what may appear to be structural thickening to hypertonus. In the case of a person with good appetite who suffers from a "bilious attack," it is well known that his arterial tension is raised. This is probably always associated with hypertonus. The heightened tension is not due to deleterious substances acting directly on the

heart. The primary and initial influence is on the vessels. The writer then considers hypertonus without increased blood-pressure. The writer believes that when gastro-intestinal morbid conditions cause hypertonus, we are face to face with the first step in the development of the sclerotic changes which are so common in middle and later life. In many people, the writer believes, indigestion and constipation lead slowly but surely to vascular changes. An excess of proteid food becomes a potent source of autointoxication. The reduction in quantity of the more pure proteid food with an increase in the more pure carbohydrate food is the necessary change. The latter food is mainly provided by the cereals.

Deutsche medizinische Wochenschrift, May 26, 1904.

Serum Diagnosis of Typhoid Fever by Ficker's Method.—Gramann has made some practical tests with this method in which the living typhoid culture is replaced by a specially prepared fluid. In twenty-five healthy persons the blood was tested and the results in every case were negative. In other persons ill with various diseases, but who had never had typhoid fever, the results were also invariably negative. In two doubtful cases of typhoid fever, the reaction continued to be positive even with a dilution of the serum of 1:2000, but in others a result was obtained only with a dilution of 1:100, or 1:50. Tests were also made with other immune sera (cholera and dysentery) and found negative. The author claims that this method affords a reliable and safe test which may be applied outside the laboratory and without the necessity of having an incubator or a microscope.

The Circulatory System and the Curability of Tumors.—H. Ribbert of Göttingen attempts to show in this paper that the nutrient blood does not enter into close physiological relation with neoplasms, and for this reason the latter become more readily subjected to sources of harm from without than normal tissues. Tumors, in contrast to normal organs, are not regularly supplied with normally constructed vessels. The latter are neither arteries nor veins, but simply tubes, in great part made up of endothelium, and unable to exhibit any changes in the blood pressure. These tubes do not branch in a regular manner, but constitute a network of interlacing canals, from which the efferent vessels collect the blood without regard to any definite rule. The size of these blood-vessels, when their total area is considered, is entirely out of proportion to the amount of tumor tissue supplied by them. Thus a large pedunculated growth may be nourished by a comparatively small vessel. It has also been observed that numerous sacculations and dilatations occur in the course of the vessels, and this condition must necessarily contribute to a slowing of the blood current. He accounts for the rapid increase in size of the neoplasms by assuming that the nutrient materials from the blood are entirely taken up by the tumor cells for growth and reproduction, as nothing is necessary for any other functionating processes.

Berliner klinische Wochenschrift, May 23, 1904.

Pentosuria as a Family Anomaly.—M. Vial reports three cases of this quite rare condition occurring in the members of a single family. All these had been diagnosed as diabetic, probably for the reason that the methods of detecting a pentosuria are usually considered too elaborate and difficult. The diagnosis can be readily made with the reagent already described by the author (*Deutsche medizinische Wochenschrift*, No. 27, 1903).

Value of the Examination of the Cerebrospinal Fluid for the Diagnosis of Nervous Disease.—E. Siemerling reports on a series of examinations made in the clinic at Kiel, in which attention was paid not only to the histological features, but also to the physical and chemical properties. It has already been proved that a lymphocytosis in the fluid was indicative, when taken in connection with other symptoms, of meningeal irritation. Among thirty-eight cases of progressive paralysis examined a well-marked lymphocytosis was found in thirty-seven, and the author believes as it appears in the early stages of the disease, it may be considered one of the early symptoms. In epilepsy and simple melancholia, negative results were obtained. In one instance of religious mania, a very slight increase in the number of lymphocytes was noted. A well-marked lymphocytosis was present in all cases of organic nervous diseases, which was absent in pure neuroses and dementia apoplectica. In a case of extradural hemorrhage, the red color with which the cerebrospinal fluid was tinged remained after the specimen was centrifuged. In another case in which the bleeding took place into and broke through the floor of the third ventricle, the fluid remained clear after the blood had settled to the bottom of the tube.

Lipomatosis as a Sign of Degeneration.—E. H. Kisch calls attention to the view that lipomatosis is not a disease *sui generis*, but merely a symptom of a variety of bodily disorders, among which he discusses in this paper that of hereditary degeneration. He has already described a number of years ago the presence of characteristics in certain children which may be stated to be masculine attributes in girls, feminine attributes in boys, gigantism, and premature sexual development. The connection is not, however, universal, and it is necessary to distinguish between hereditary and acquired adiposity, and also between the hereditary form which comes on during early youth and that which comes on later in life and is influenced by pathological causes. He has closely observed 488 cases, which he has grouped into four classes on this basis. From a study of these he believes that when a lipomatosis of a well-marked degree is present from early childhood, it must be looked upon as an example of hereditary degeneration and is invariably associated with other stigmata of degeneration. This cannot be maintained, however, for the acquired, or for that form of hereditary adiposity which does not become marked until later in life. It was also found that in all cases of lipomatosis which are of that type which begins very early in life, diabetes mellitus is seen to develop sooner or later, usually between the ages of thirty and forty. In the cases in which the affection does not develop until later in life, only about one-half the patients become afflicted with diabetes, while in the acquired form about 15 per cent. become affected. Sterility is also a common attribute of this condition.

Münchener medizinische Wochenschrift, May 24, 1904.

Surgical Treatment and Histology of Röntgen-ray Ulcerations.—Baermann and Linser found that extensive areas of facial lupus were more completely cured when a pronounced reaction attended the use of the *x*-rays, rather than when the reaction was mild. In a number of cases, however, there were severe ulcerative processes which could not be healed by ordinary measures. Good results were secured by transplanting pediculated skin flaps, the Thiersch method proving entirely ineffective. Eight cases are reported which were thus treated with excellent results. Histological examinations of specimens taken from the ulcers produced by the rays show that the latter have their principal effect apparently on the blood-vessels, which are damaged and destroyed. There is therefore, as it seems, no selective action on the epithelium. Such a process, however, would account for the gangrene of the lower lip, which was noted in one case as the result of the application of the rays. Proliferation from the edges readily took place in these ulcers, but the lack of granulation tissue for it to grow upon, from defective or destroyed blood-vessels, prevented its further extension over the raw surfaces.

Pyæmia Running a Chronic Course.—O. Jordan of Heidelberg reports a case which differs from those ordinarily described as chronic pyæmias. The patient was a young man of twenty who developed an acute pyæmia from a furuncle in the neck. This was followed in about two weeks by a localization of the process in the right kidney, with the appearance of severe septic symptoms, which were thought to be due to typhoid fever. A perinephritic abscess finally resulted, which at the operation was shown to have developed from foci in the cortex of the kidney. The patient convalesced, but the suppurative process in the kidney continued and a nephrectomy had to be done, after the elapse of several months. As the result of the patient's toxic condition, a nephritis had meanwhile developed in the other kidney. For several months abscesses developed in the soft parts of the legs, which ran their course without causing any general disturbances. Later still an osteomyelitis developed in the fifth dorsal vertebra, accompanied by a pachymeningitis and subdural suppuration, with complete paralysis of the lower extremities. During all this time the staphylococcus albus could be demonstrated in pure culture. Chills and remittent or intermittent fever were not present and cannot be accepted as a characteristic train of symptoms for pyæmia. The author claims that the diagnosis must rather be based on the metastatic formation of abscesses or inflammations developed by hematogenous routes.

Dysbasia Angiosclerotica.—W. Erb of Heidelberg described several years ago a complex of symptoms characterized by intermittent limping gait and sensory and circulatory disturbances in the foot and leg. Thus far he has observed forty-five cases, most of which show the typical symptoms, while in the atypical minority the signs may be less marked or constant. The condition may be present in one or both legs and one of the most constant symptoms was the loss of pulse in the arteries of the foot. In thirty cases the affection was double, in the remaining fifteen unilateral. Arteriosclerosis in varying degrees accounted for the circulatory disturbances, but

only one instance of contracted kidney was observed and the presence of albumin was proved in but two cases. Vasomotor disturbances were present in most cases, marked usually by cold feet, but sometimes by anæmia, cyanosis, etc., which could be demonstrated objectively. The diagnosis is easy and should be based on the absence of spinal symptoms and the lack of pulsation in the foot. Gangrene was seen in two cases, and the author thinks that it is important to make an early diagnosis to avoid this complication if possible. Nothing new has been determined as to the etiology. The affection is found almost exclusively among men over forty years of age. Syphilis and alcohol did not appear to play any important rôle, but he is inclined to attribute much to the misuse of tobacco. Exposure to cold also seemed to play a part in the etiology of some of the cases. The treatment is largely dietetic, hygienic and tonic, and no new recommendations are made.

French and Italian Journals.

Cardiac Thrombosis in Pulmonary Tuberculosis.—Ernest Barié speaks of intravascular blood coagulations as being very common in pulmonary tuberculosis, especially in the cachectic period. The heart itself does not escape this serious complication. So grave a condition allows of only simple treatment—palliative measures; absolute quiet stands first of all. The suffocation crises should be treated by subcutaneous injections of sulphuric ether, morphine, or heroin, and by inhalations of oxygen. It is important to prevent the thrombus from becoming the point of departure of secondary embolism. For this purpose it is necessary to quiet and regulate the tumultuous action of the heart by a little digitalis.—*Journal des Praticiens*, April 23, 1904.

A Severe Case of Secondary Syphilis Treated by Endovenous Injection of Sublimate.—Antonio Amenta treated this case by the abortive method of Tomasoli. The patient was a male of forty-five years of age. From May to September he received twenty-two injections of sublimate. At the end of this time he had headache, nocturnal pains, iritis, and conjunctivitis. The following February found him with a severe pustular syphilide which had ulcerated in many locations of the body. He had fever, general malaise, was emaciated, had frequent pulse, and obstinate constipation. Fetid pus flowed from the nares. After purgation he received daily endomuscular injections of calomel, 5 cgm. The improvement was immediate. Later, sublimate was substituted by endovenous injection, one per cent. solution, on alternate days. He also took biniodide of mercury. The result was a rapid and entire cure.—*Giornale Medica del Regio Esercito*, March 31, 1904.

On the Vitality of the Bacillus of Influenza in Moist Sputum.—Pietro Ricciardi has made experiments as to the length of time during which the bacillus of influenza will retain its vitality in moist sputum. In cultures made on solid media it soon loses its vitality. In sanguinolent broth it lives from fourteen to eighteen days. In water it soon dies. When they become dry their life is not longer than eight to twenty hours. They seem to be spread mainly by the moist sputum ejected with the cough. In the author's experiments the sputum was taken from the patient, immediately examined for the bacilli of Pfeiffer, and cultures made. After some days, a fresh examination and culture were made, and this was continued until the vitality of the bacilli was past. They were maintained under the most natural conditions that could be attained. The writer concludes that their vitality lasts from ten to twelve days when kept at 15° to 19°, from six to eight days at 25° to 26°, and for three days at 37° to 38°. The bacilli are destroyed as soon as saprophytes grow in the sputum, and whatever favors the growth of the latter is injurious to the bacilli of Pfeiffer. Ricciardi believes that the propagation of influenza at a distance must be rare.—*Giornale Internazionale delle Scienze Mediche*, April, 1904.

Sclerosis of the Coronary Arteries.—Ettore Marchiafava, writing of sclerosis of the coronary arteries, divides the disease into five varieties: (1) Simple sclerosis of the coronary arteries without grave alterations of the myocardium; (2) sclerosis of the coronary arteries with acute or chronic lesions of the myocardium; (3) grave stenosis of the orifices of the coronary arteries without sclerosis of the arteries or myocardial changes; (4) old obliteration of one coronary artery at its mouth without myocarditis; (5) acute obliteration of one large branch of a coronary artery, with anæmic infarct or myomalacia, with or without rupture of the heart. In group first, simple sclerosis, there are attacks of cardiac asthma at night, or of angina pectoris for some time before death, from pulmonary œdema. In group two, where there are myocardial lesions as well, death is preceded by a longer or shorter period of suffering, due to progressive insufficiency of the muscle. In a case observed by the author there were sudden hemorrhages into the heart muscle, causing immediate cardiac paralysis. Group three occurs in syphilitic subjects, and comes on slowly, death not being sudden. In group four, the lesion comes on gradually and a compensatory circulation is set up. In group five, acute obliteration of a large branch of the coronary artery may occur suddenly by thrombosis or embolism.—*Rivista Critica di Clinica Medica*, April 23, 1904.

Congenital Malformation of the Œsophagus (Œsophageal Obliteration and Œsophago-tracheal Communication.)—Jules Renault and Jules Sebilleau discuss the diverse malformations of the œsophagus: Transposition, coincident with the complete or partial transposition of the splanchnic organs; duplication; complete absence; transverse partition or imperforation; communication with the trachea. The last two are the most frequent, and are often associated. Obstruction of the œsophagus is almost ignored. Regurgitation, the only symptom which attracts attention, can be interpreted in very different ways, and one does not dream at first of œsophageal malformation. Catheterism of the œsophagus, a very easy operation in the child, will determine without error the existence and the location of the obstruction. The writers then describe their case. For this trouble they believe there is one logical operation—that of gastrostomy. This is, however, most difficult in a young infant, considered in all its aspects. But, however slight the chances of intervention, it is legitimate if one only feels that there is hope in it.—*Le Bulletin Médical*, May 25, 1904.

A Rare Case of Infective Splenic Anæmia.—Andreo Pitini describes a rare case of splenic anæmia in a baby of two and one-half years, of healthy parentage, and well, up to the beginning of the disease described. The child began to have fever, to grow pale and lose flesh, and to have œdema of the face and feet, at the same time that the abdomen began to enlarge below the costal arch on the left side. His gums were swollen and eroded, and bled easily. All the abdominal organs appeared to be normal except the spleen, which was markedly enlarged, extending from the ribs to below the level of the umbilicus. There were no enlarged glands. The blood examination showed the leucocytes moderately increased in number. In the blood from the spleen, liver, heart, and veins was found a pure culture of a diplococcus. The brother of the patient, aged eight months, also had an enlarged spleen and increase of leucocytes. The author states that Fich believed splenic anæmia to be due to infective germs which caused toxic substances to be elaborated by the spleen, and these produced the progressive anæmia. Concetti believed it to be secondary to some acute infection, such as rheumatism, malaria, syphilis, tuberculosis, a gastroenteritis, or rachitis. The products of these infections were carried to the liver by the circulation and produced the anæmia. In the author's case these could all be excluded, and he believes it to have been due to the diplococcus found in the blood. —*Gazetta Medica Lombarda*, March 28, 1904.

Trophic and Circulatory Disturbances of the Skin Resulting from Injections of Paraffine.—Dionis Séjour recounts the history of an interesting case in point: A young woman had injected paraffine into her breasts in order to make them more full. The mixture of paraffine and vaselin which she used was analogous to that of Gersuny. The first injection was so painful, that the patient was obliged to stop the operation. The pain was followed almost immediately by tumefaction, redness of the skin, and tenderness of the axilla. Three weeks later, injections were made into both breasts without any reaction. At the end of fifteen days intermittent pain developed on the right side, followed soon by a change in the color of the skin, which became violet-colored in spots, while a sinking in of the breast showed diffusion of the injected material. At first, inflammation was thought to be the cause of these phenomena, but treatment for the same met with no response. Two incisions were then made, and as much as possible of the foreign matter pressed out. There was no pus. At the end of a month, the wounds which had a varnished aspect, were retracted, but there had never been any inflammatory reaction. There was a little trouble on the left side, but never as marked as on the right. The persistence of the troubles in spite of treatment, and the absence of inflammatory phenomena, certainly point to the existence of trophic and circulatory troubles, due no doubt to the penetration of particles of the injected mass into the blood system. Injections of paraffine are not so innocent as is sometimes supposed, and should, like every other surgical operation, be reserved for necessary cases.—*Gazette des Hôpitaux Civils et Militaires*, April 19, 1904.

Society Reports.

AMERICAN MEDICAL ASSOCIATION.

Fifty-fifth Annual Meeting, Held in Atlantic City, N. J., June 7, 8, 9, and 10, 1904.

(Special Report to the MEDICAL RECORD.)

(Continued from page 988.)

HOUSE OF DELEGATES.

Fourth Day—Thursday, June 9.

Adoption of the Resolution in Regard to Wood Alcohol.—Dr. J. N. McCORMACK of Kentucky said that the reference committee reported favorably on the resolution that as the employment of wood alcohol had been responsible for a large number of deaths and many cases of blindness, and as even confined fumes might cause blindness, the committee on legislation should secure action designating this substance as a poison and regulating its sale. This resolution was unanimously adopted.

The Scientific Exhibit.—Dr F. B. WYNN of Indianapolis reported that this exhibit had been introduced as a feature of the American Medical Association four years ago. It consisted of subjects illustrating the work of the various sections. The present exhibit surpassed any previous one both in artistic work and in size. Research exhibits were desirable, but did not constitute the prime object of the exhibit; they wanted such work as would be instructive to the great rank and file of the profession. In preparing the exhibit a wholesome rivalry among different cities had been aroused, and several instances were related which served to illustrate the advance that had been made in the artistic work of the various exhibits. Few institutions had creditable museum specimens for teaching purposes, and the work of the American Medical Association had started up considerable activity in this direction. Competent demonstrators were present at certain hours daily, in order to explain the exhibits.

Invitations to Appoint Delegates.—Dr. JOHN H. MUSSER read invitations to the American Medical Association asking that they appoint delegates to the International Congress at Bordeaux, and the X-ray Congress at Berlin, and from the International Congress of Medicine asking them to organize for representation in this country. These invitations were accepted, and the president said that delegates would be appointed later.

Recommendation of the Section on Dermatology.—Dr. MUSSER read a recommendation from the above-named section, suggesting that the American Medical Association, in view of the United States having acquired possessions where leprosy existed, should urge upon the federal authorities the necessity for a hospital and laboratory accommodations in such localities for the study of this disease.

National Legislation.—Dr. C. A. L. REED of Cincinnati, Ohio, reported that his committee favored the resolution, endorsing the action of the Postmaster-General in respect to the use of the United States mails for the distribution of literature and drugs intended to deceive the public. The House adopted this resolution.

Report of Committee on the Establishment of a National Bureau of Medicines and Foods.—Dr. E. ELLIOTT HARRIS of New York reported that the committee had decided to lay the matter before the House of Delegates as they were unable to come to a decision. This resolution asked for the establishment of a bureau of medicine and foods, which should pass upon the purity, identity, quality, strength, etc., of foods and drugs, in order to protect physicians and pharmacists and the public from all doubtful or harmful compounds.

Dr. MOYER of Illinois said that a national bureau of food and drug registration already existed, and that on account of the vastness of the proposition it was not practicable. Such a measure, in the form of the Hepburn Bill, was already before Congress. He thought that the best thing the American Medical Association could do along this line was to urge Congress to give us adequate legislation.

Dr. PHILIP MILLS JONES of California said that he had obtained the opinion of competent lawyers, and they had informed him that the formation of such a bureau would not interfere with national legislation, but would help it. He had said that it was the opinion of Dr. Wiley of the Department of Agriculture that such a bureau would supplement the national work.

After a prolonged discussion along these lines, the committee finally recommended to the House of Delegates that the matter be indefinitely postponed. This recommendation was agreed upon.

Committee on Reapportionment.—Dr. W. S. FOSTER of Pittsburgh said that the House of Delegates would consist next year of 150 members as at present, that was one member to every 500 physicians, including delegates from the army, navy, and marine hospital service and the different sections of the American Medical Association. He then read the apportionment by States.

Committee on Section and Section Work.—Dr. M. L. HARRIS of Illinois reported that they could not recommend the appointment of a permanent committee on section work.

Report of Committee on National Incorporation.—Dr. JOSEPH D. BRYANT of New York presented a petition for presentation to Congress setting forth the objects and aims of the American Medical Association and asking that a charter be granted them by special act of Congress. A copy of this petition was given to a delegate from each State in order that he might get the signatures of the members of the profession in his own State.

Election of Officers.—The following were elected officers of the American Medical Association for the ensuing year: *President*, Dr. Lewis S. McMurtry, Louisville, Ky.; *Vice-Presidents*, Drs. J. H. Bell, Texas; Edward Jackson, Colorado; F. C. Shattuck, Massachusetts; B. F. Pennington, New Jersey; *Secretary*, Dr. G. H. Simmons, Chicago, Ill.; *Treasurer*, Dr. Frank Billings, Chicago, Ill.; *Members of the Board of Trustees* for three years, Drs. T. J. Happel, Tennesee; W. W. Grant, Colorado; Philip Marvel, New Jersey. Drs. A. Maitland Ramsey of Glasgow, Scotland, and A. Logan Turner of Edinburgh, Scotland, were elected honorary members of the association.

Addresses at the general meetings of the association next year will be as follows: General Medicine, by Dr. Charles Stockton of Buffalo; Surgery, by Dr. John Collins Warren of Boston; State Medicine, by Dr. George Brannan.

Portland, Ore., was decided upon as the place of the next meeting, in June, 1905.

GENERAL SESSIONS.

Third Day—Thursday, June 9.

Oration on State Medicine.—Dr. HERMAN M. BIGGS of New York delivered this oration (see p. 954).

Symposium.—"The Departments of Scientific Research of the United States Government."

The Bureau of Animal Industry: Its Service to Medical Science.—Dr. Wm. H. WELCH of Baltimore considered this subject. The object of the Bureau of Animal Industry, established in 1884, was to further the interests of this industry by the study and control of the diseases of animals that occasioned the greatest losses. Animals were affected by disease very much as human beings, and the pathology of animal and human disease is identical. Such being the case, the study of diseases of animals threw much light on the science of medicine. The scientific researches of the staff of this bureau, had resulted in the eradication of pleural pneumonia, and the foot and mouth disease. This was affected by killing both the diseased animals and those that had been exposed to infection. They had discovered the bacillus of hog cholera,

the microorganism of Texas fever, a protozoan parasite, which wash was conveyed by the cattle tic. They had investigated the subject of rabies, which was not so common in animals as has been supposed. Measures had been taken to exclude the introduction of Oriental animal parasite into this country. Animal tuberculosis had been a subject of investigation for over ten years. To their researches could be credited the discovery that immunity in cattle could be obtained by injecting attenuated cultures. They had investigated Koch's theory and had proved that cattle could be infected by human beings, and it was now supposed that the reverse might be possible. The American Medical Association should exert its influence to the end that the government might take a greater interest in the study of human diseases than as it had shown in that of animal disease.

The Service of the Medical Profession to the Bureau of Animal Industry.—Dr. D. E. SALMON of Washington, D. C., said that in his connection with this work for a period of twenty years he had felt the need of support and encouragement that could be given from outside sources. He said that this department maintained places of inspection of all animals used as food and of all those coming into or going out of this country. In large lavatories, all animals were inspected both before and after killing. The immense work involved could be appreciated when it was known that 37,000,000 head of cattle were inspected annually, and the cars employed in their transportation disinfected. This work naturally met with enormous competition from commercial interests. Conscience and philanthropy seemed to have no place in commercial life. A never-ending battle was being waged with a class of people opposed to experimental work on animals, who entirely lost sight of the great end attained in the saving of human life and vast sums of money. The freedom of the investigator must be preserved if the importance of the problem of obtaining a pure and abundant food supply, and of contributing to medical science much that was of value. The medical profession should support this work by aiding the Bureau of Agriculture in securing the right to use the most effective remedy for the eradication of disease and the right to produce pure immunizing agents, and also to throw its moral support on the side of science and philanthropy in its conflict with commercialism.

The Bureau of Chemistry and Medical Science.—Dr. W. H. WILEY of Washington, D. C., said that a close relation existed between the problems studied by the Bureau of Chemistry and Medical Science. In regard to the disposal of waste material, he said that samples of garbage of all kinds had been collected, and their value as a fertilizer had been investigated. The fertilizing elements were separated in factories for this purpose. He thought that the time would soon come when no city would dump its sewage into a river for the use of some other city. They had experimented with sewage in regard to its usefulness for agricultural purposes. Some progress had been made, but he could not say that the experiments had been completely successful. This was a problem for the future. An investigation was being carried on with reference to dyes and other chemicals used in the manufacture of clothing materials with a view to finding out what effects might be produced on human health. They had examined almost every kind of human food for adulteration. He called special attention to the general use of meat preservatives, especially the sulphites of soda. All imported foods were analyzed, and those containing injurious substances were branded so as to deceive the public, or such as were not permitted to be sold in the countries where they were manufactured were condemned and denied entrance into the country. It was found that much of the imported white wine was a saturated solution of sulphurous acid. This was only an instance since the first of last July out of 2,000 cargoes, 10 per cent. were forbidden entrance into the United States. The Bureau of Chemistry also endeavored to assist the State in their fight against local food adulteration. They inspected drugs, both imported and domestic. At present they were assisting the post office in its endeavor to exclude secret remedies and their literature from the mails. Here terrible opposition would be encountered both from the manufacturers of nostrums and the whiskey trust. Eighty-five per cent. of supposed whiskey sold in this country was not whiskey; in the course of one day from one barrel of pure alcohol, two or three barrels of liquor could be manufactured which were reported to be whiskey ten years old. The American Medical Association could exert its influence with legislative bodies in securing proper legislation in this matter.

The Work of the Marine Hospital Laboratories.—Asst. SURGEON H. C. GEDDINGS related the history of the Marine Hospital laboratory from a small beginning at Stapleton, S. I., in 1887, to the present time, when they were erecting a new laboratory in Washington, at a cost of $35,000. Here they had an excellent school for the instruction of their officers. They had investigated the subject of disinfection, had exploited formaldehyde, and had elaborated and perfected apparatus for the purpose of disinfection. The first authoritative publication on diphtheritic antitoxin in this country. They had instituted means for protecting the country from the introduction of plague. Eighteen reports, in the forms of bulletins, had been published, and others would soon be complete. They had demonstrated the presence of tetanus in commercial jelly, and had studied spotted fever and hook-worm disease. Under their inspection the purity of serums, and especially of vaccine, had been greatly promoted. They lent their assistance in times of epidemic, studied the etiology of yellow fever, and were working on the problem of the proper sanitation of railroad coaches and cars. Such a wide and varied work must necessarily give much to the medical profession, and in return should receive the support and assistance of the American Medical Association.

SECTION ON SURGERY.

Second Day—Wednesday, June 8.

Twine in Lieu of the Elastic Ligature for Performing Gastroenterostomy.—Dr. J. W. DRAPER MAURY of New York City detailed the history of work done in an experimental line during the past winter at the Surgical Laboratory of Columbia University. He described the twine triangular stitch in place of the square, being a modification of McGraw's method, and depending on a somewhat different principle for its efficiency. He showed the advantages of the use of twine over elastic, the degeneration of the latter from contact with air being well known. The life of an elastic ligature does not exceed six weeks or at most two months under the most favorable conditions. Strong white commercial twine, which will not break with the hands, can be easily obtained anywhere, and can be introduced with less difficulty than the elastic. Any large needle will carry the twine, while varieties of complicated needles have been made to facilitate the use of the elastic ligature. Three months ago Dr. Maury said twine was substituted for elastic ligature, and the triangular stitch used instead of the quadrangular, since which time thirteen dogs have been operated upon, the stomachs and intestines of all of which had been brought to this meeting and placed upon exhibition. It had been shown that this stitch invariably produced a large and commodious opening. He said they operated upon a pig and a very perfect specimen of enteroenterostomy was obtained, it having been removed after the pig had lived for six months; this specimen was also brought to this meeting for exhibition. As this gut resembles that of man more than dogs, more satisfactorily experimental results can be obtained. He stated the introductoin of the twine could be accomplished in less than a minute and a half, but like

every other stitch required some study and practice—he demonstrated between two hats the ease with which the stitch can be inserted. Dr. Maury described the method of inserting the twine in triangular form, which was illustrated by a chart Dr. Weir had had made for the purpose. He said the Lembert stitches were certainly necessary in the technique, although it did not appear to matter whether they were interrupted or continuous, but the former was generally employed. Dr. Maury said that by some it might reasonably be felt that not enough work had as yet been done in an experimental line to demonstrate positively the efficiency of the twine ligature, and the twine is at least the equal to elastic, if anything could be judged from a small but consecutive series of successful experiments.

Remarks on the Disadvantages of the Murphy Button.—Dr. ROBERT F. WEIR of New York opened this paper by stating that he did not propose to decry the merits of the well-known Murphy button, for it was conceded by every one to be an admirable mechanical device, but since its introduction an enormous experience as to its value had been acquired, which it was well from time to time to take stock of. He referred to the great saving of time by the use of the button, and particularly if one avoided using any sutures of safety to hold together the peritoneal surfaces peripheral to the button, which, however, were from time to time found to be an additional necessity. He referred to the various mechanical devices in use previous to the introduction of this button and commented on their various merits, but admitted that the button was an improvement over all of them. He then detailed some of the mishaps which occur from time to time in the use of the button, among others the occasional escape of the button into the stomach, the failure of the button to come away, the imperfections in its manufacture, and the various materials of which it was made, and explained certain methods of his own for overcoming these drawbacks. He alluded to the objection that both surgeon and patient felt at leaving within the body a metallic device with the imperfections that were inseparable from any mechanical contrivance, and said it was not to be wondered at that many surgeons of distinction both here and abroad should have recently reverted to the previously cast off simple method of incision and suture. He spoke unfavorably of the oblong button which had lately been applied to a gastroenterostomy by Murphy and Blake, as he believed there was a greater risk of lodgment in the stomach and an increased amount of variety of mechanical contrivance. He was more hopeful of the elastic ligature suggested by McGraw of Detroit.

Excision of the Ulcer-bearing Area in Gastric Ulcer.—Dr. WILLIAM L. RODMAN of Philadelphia considered that this was the most rational method of the treatment of this condition, other methods being not infrequently very disappointing. He admitted that excision of the ulcer alone might not cure, as in at least 20 per cent. of all cases the ulcers were multiple. He drew attention to the fact that gastroenterostomy at times utterly failed to control hemorrhage and prevent perforation and always failed to remove cicatrices which might degenerate into carcinomata. He did not believe that the mortality following excision of the ulcer-bearing area would probably be any greater than the medical treatment of gastric ulcer or the less radical surgical procedures already established. In addition he claimed that this method left the stomach in better condition for future usefulness.

Dr. A. J. OCHSNER of Chicago said he would limit his discussion entirely to the McGraw ligature. His experience covered 86 cases, 68 of which were operated upon in the hospital, while the balance occurred in various places where it was not possible to observe them so closely. Of the 68 cases done at the hospital, 19 were for carcinoma of the stomach, in which he did a simple gastroenterostomy for the relief of the obstruction of the pylorus. Of these cases 3 died, but he believed such would have been their termination, even had he not used the McGraw literature. In 12 cases of benign stricture of the pylorus due to healed ulcers, all recovered. Thirty-three cases were operated upon for acute ulcer of the stomach, of which 32 recovered, 1 dying at the end of the third week from probable thrombosis of the pulmonary. He also reported one successful enteroenterostomy for a carcinomatous obstruction of the splenic flexure of the stomach with recovery, 2 enteroenterostomies, of which one died, probably from depression and one operation for carcinoma involving the common duct. Of intestinal cases he reported 67 with 5 deaths, of which 3 were due to carcinoma, one to a thrombus, and one to a very greatly depressed condition of the patient. He detailed a case operated upon about two weeks ago in which he did a gastroenterostomy and excited about two-thirds of the stomach. In his opinion it was a peculiar point about gastroenterostomy when done with the McGraw ligature that the patients showed practically no shock, which might be supposed to be due to the fact that it was possible to do the operation with great rapidity, but he believed the shock in most cases to be due to manipulation.

Dr. WILLIAM J. MAYO of Rochester believed that the Murphy button was of great service in certain cases. He preferred the posterior operation to the anterior one, as in the posterior operation the mucous membrane was better able to protect itself. He admitted that all he knew about gastrointestinal surgery he had learned from the Murphy button, and regretted very much having partially to give up its use. He looked upon Ochsner's method as a correct one, which in his opinion was a strong point in his favor. He referred to Dr. Rodman's operation as being the ideal one, but one that could not be carried out in all cases. Personally he had performed it seven times with recovery in every case.

Dr. JOHN B. MURPHY of Chicago agreed with D. Weir as to the drawbacks to the button, and commented on the quality of the material used by many people in its manufacture. He laid great stress upon the bad results following excessive manipulation and dwelt on the advantages of the posterior operation. Dr. Rodman's paper impressed him very favorably, largely because it avoided any secondary opening. He did not believe, however, that the ideal operation for these conditions had yet been found, and expressed the hope that some one would soon discover it.

Dr. ROBERT H. M. DAWBARN of New York, in referring to Dr. Weir's objection to the use of the special forceps advised by Dr. Murphy, explained a method by which he was enabled to make two corks answer every purpose and obviate the necessity of the use of the forceps.

Dr. L. L. MCARTHUR of Chicago, in commenting on the work of Dr. Maury, spoke of having been working it on the same line himself, and reported that most of his attempts had resulted in failure. He exhibited some specimens illustrating his method, although unsuccessful.

Dr. A. PALMER DUDLEY of New York City referred to a case of cancer of the uterus, in which he attempted to do a hysterectomy, in which the small intestine was so friable that it broke into two pieces during the breaking up of adhesions. He inserted a Murphy button and after waiting nineteen days he became somewhat anxious about it. The patient developed a fecal fistula, and an examination of this lesion demonstrated the presence of the button, so that he felt he held the record for removing a Murphy button through the same incision in which it had been inserted.

Dr. FLOYD W. MCRAE of Atlanta spoke favorably of the McGraw ligature, and argued that the use of rubber was just as good as twine and was more readily sterilized. Another advantage of rubbing over twine was that it began its action quicker, so that the feeding of the patient could be begun earlier. He claimed that one great advantage in the use of the McGraw ligature was the adding

of the McClain needle, all tearing and pulling being entirely obviated. He gave the details of the case operated upon some years ago in which he did a gastroenterostomy and found the abdomen filled with adhesions. Two years later he was obliged to open the abdomen again for intestinal obstruction, which seemed to be high up, and he suspected that the McGraw operation had been a failure which would necessitate making a new opening in the stomach. Upon opening the abdomen he found that the original anastomosis admitted two fingers of his hand readily.

Dr. Maury, in closing, gave the details of some experiments with the elastic ligature on six dogs, which were killed at the end of thirty-six hours after having developed symtoms of tetany. Although Ochsner's case showed a total obliteration of the opening, tetany apparently resulted. In referring to Dr. Lloyd's comments as to the time of cutting through of the twine, which he claimed was about three and a half days, he said it was very evident that the cutting process began some time prior to that. He felt that twine could be as readily sterilized as elastic, and in addition it was more easy to get and did not deteriorate with age.

Dr. WEIR, in closing, stated that he had called attention to all the drawbacks he had observed to the Murphy button, some of which had been made by the instrument-makers, endorsed by Dr. Murphy himself. He alluded to Dr. Rodman's suggestion as being a scientific one and worthy to be considered. As to Dr. Mayo's inference that the procedure was one to be used when a gastroenterostomy or some other procedure had failed, he stated that he used it in conditions which only occur in about 6 per cent. of all cases.

Dr. Rodman closed the discussion by stating that he did not advise his operation in simple cases but only in those in which it seemed probable that a gastroenterostomy would not prove successful, as, for example, when there were multiple ulcers, some of which were probably on the point of ulceration. He called attention to the fact that it was not always possible at the time of operation to state whether or not an ulcer was benign or malignant, but he thought it was fair to assume that there was at least a fair probability of the presence of malignancy in men about fifty. As to the mortality, he did not feel that it ought to be greater than 10 or 15 per cent., but he admitted it would probably always be followed by a somewhat heavier mortality than gastroenterostomy, which is about 5 or 6 per cent. It seemed to him that the operation surely had a place in surgery.

Rupture of Mesenteric Glands During Typhoid Fever Simulating Intestinal Perforation, Report of a Case with Operation and Recovery.—Dr. G. LECONTE of Philadelphia, Pa., called attention to the fact that the profession had long recognized that among the various lesions which may have produced a peritonitis in the course of typhoid fever—rupture of the mesenteric glands was one. It was judged that this occurrence was rare, as no references were made in text books to such a case, and a search through the recent literature revealed but one recorded case. He described the anatomy of the mesenteric glands and their situation, and particular attention was called to the ileocolic group as the regional glands of the lower segment of the ileum, and therefore the ones most likely to be enlarged in the course of typhoid fever. In discussing the pathology of the glandular enlargement it was shown that this was due to an active proliferation of the endothelial cells lining the lymph sinuses, that the coats of the smaller blood-vessels were invaded by these cells, producing thrombosis and minute necroses of the gland; such necrosis almost invariably ends in resolution, even if the typhoid bacillus was present in the gland in large numbers and pure culture. At the Pennsylvania Hospital the post-mortem examinations showed that in many cases the glands of the ileocolic group were enlarged to the size of walnuts, and usually presented microscopic necroses, and yet in none of these cases had the capsule shown any sign or tendency toward breaking down. It was therefore concluded that some other factor must have been present for perforation of the gland in addition to thrombosis of the minute vessels and the presence of the typhoid bacillus; it was suggested that this factor may have been an extension of the inflammation outside of the gland producing a thrombosis of the large vessels, and in this way a necrosis of the capsule of the gland; or, that staphylococcus or streptococci, gaining entrance through the eroded mucous membrane of the bowel, obtained a firm foothold in the gland liquefying its tissue, with ultimate perforation of the capsule. A case was then reported of a Hungarian aged 22, in which the mesenteric glands ruptured on the estimated 35th day of the disease, with the production of a local peritonitis. Operation was performed, the broken-down gland curetted, its cavity packed with gauze, and this area of the mesentery walled off from the general peritoneal cavity by gauze. An uneventful recovery followed. Abstracts of two cases of a similar character were briefly recorded, both of which were operated upon, with death ensuing.

In conclusion it was stated—first, that swelling of the mesenteric glands was a constant lesion of typhoid fever; second, that such enlargement was due principally to a proliferation of the endothelial cells lining the lymph sinuses; third, that these cells, by penetrating the walls of the capillaries and smaller veins, produced thrombosis, with resulting minute necroses; fourth, that such necrosis ended in resolution; fifth, that perforation of the capsule of the gland was dependent upon some causes other than the presence of the typhoid bacillus and thrombosis of the smaller vessels; sixth, that perforation was probably due either to the pressure of the staphylo- or streptococus in the gland, or to the thrombosis of the larger vessels outside of the gland.

Dr. L. J. HAMMOND of Philadelphia said that there were so few recorded cases that it was difficult to add very much to what the author had said, but from the five cases in literature sufficiently analogous to Dr. LeConte's it was possible to at least draw some conclusion as to the mode of invasion of the infection. In two of the reported cases there were sufficient extensive complications to overshadow completely the intestines as the probable focus of infection, and besides the intestinal ulcers found on autopsy were not sufficiently extensive to justify the probability of in asion from this source. He referred to 29 cases in which a slight perforation of the peritoneal coat had taken place in into the peritoneal cavity and the glands themselves were distended with pus so thoroughly that it was natural to assume the condition would have been free in the cavity. In most of the cases the presence of a lump was not noticeable earlier than the thirtieth day, and in one case it did not appear until four and a half months. In all probability Mallory's theory would be found to be the correct one, which was that the infection took place from endothelial cell proliferation.

Dr. L. L. MCARTHUR of Chicago reported one case similar to that of the author in which there were some symptoms of localized peritonitis during an attack of typhoid fever.

Dr. D. N. EISENDRATH of Chicago reported a case of typhoid fever operated upon by Dr. E. W. Andrews of Chicago in which absolutely nothing was found. In thirty hours the patient was dead, and while autopsy proved the existence of typhoid fever and failed to show any perforation it was found that a large mesenteric gland had ruptured similar to that reported by Dr. LeConte. In addition to the localized peritonitis from this cause there was present an enormously dilated stomach.

Dr. THOMAS of Scranton reported a case of typhoid fever which in the sixth week developed a pain on the left side. Examination showed some thickening, and under cocaine 6 oz. of pus were evacuated. In a few days pain de-

veloped on the opposite side, from which 8 oz. of pus was evacuated and the patient made a good recovery.

Excision of part of the ilium and all of the cæcum and ascending colon; ilium and transverse colon united by new method.

Dr. J. Shelton Horsley of Richmond, Va., alluded to the many ingenious methods in use for the uniting of the divided ends of the intestinal tract, and said it seemed to him that the trend of surgical opinion was in the direction of suture rather than mechanical appliances, which was due to the fact that an operative procedure requiring for its performance a special apparatus was thereby handicapped. He referred to a paper already published in which he gave the results of experimental work in intestinal suturing, the result being the method he now employs, which he believed simplified the technical difficulties and obviated stricture in many cases. He detailed his method at considerable length and freely illustrated the various points. He also reported in full a case in which his method had been employed but death resulted four days after the operation. He described at length the results of the post-mortem examination and also the details of the microscopical examination of the specimen, from which the diagnosis was made of syphilitic gumma of the intestines.

Dr. Oliver C. Smith of Hartford urged that there should be more reporting of unsuccessful cases, owing to there being much to be learned from such reports. He expressed the fear that too many men had an idea they were able to operate for appendicitis just as everybody used to think they were proficient in obstetrics, the result being that every now and again a novice runs up against a carcinoma or an intussusception and does not know what to do. An important question which often has to be decided is: should a mechanical device be employed which is to be removed or should one be used which is to be allowed to stay, and he did not believe every man who thought he could operate for appendicitis was competent to make this choice.

Dr. A. J. Ochsner of Chicago referred to the rarity with which surgeons had an opportunity of excising the cæcum, ascending colon and ileum, which he believed was the reason why the subject had never been thoroughly discussed before the section. He urged the necessity of avoiding unnecessary manipulation, and commented on the fact of the great mortality in cases where much manipulation was necessary. He described in detail how he believed the operation referred to in the paper should be done, and alluded to the question of large and small intestine, which terms he said should have been dropped years ago, as no surgeon of to-day would meddle with them owing to it being unnecessary. He advised the use of the Murphy button in such cases as that reported with the use of a few stitches. He reminded the members of the section of the great care needed to see that serous surface was brought opposite to serous surface and peritoneum opposite to peritoneum, so that the operation, if properly performed, would not take more than thirty minutes.

Dr. F. Gregory Connell of Colorado expressed himself as very glad that Dr. Horsley used the through and through intestinal suture, and stated that the one great element to be remembered was the necessity of securing it. He referred to the teaching in years gone by that the suture must not cut through the submucosa, and admitted that a few years ago Dr. Horsley's method would have been looked upon as dangerous. He considered the point of infection a more or less theoretical one.

Dr. Horseley, in closing, commented on Dr. Ochsner's reference to the necessity of avoiding any unnecessary manipulation, and explained why it became necessary to manipulate so much in this case and why the operation took two hours to perform. He claimed he could have done the operation under ordinary circumstances in eight minutes, and drew attention to the fact that if the colon were closed there was but one wound, whereas if the Murphy button were used there would be two. He closed by recommending a direct suture with an ordinary needle and thread, as he believed it to be the method of choice, and was something that was always at hand.

A Case of Retroperitoneal Fibro-lipoma.—Dr. George Ben Johnston of Richmond, Va., reported this case very fully, and reviewed the literature on the subject at great length. He regretted that these growths were so confused and were regarded in the same category with retroperitoneal sarcoma, as so few of the cases in literature have shown any tendency to undergo sarcomatous degeneration. In speaking of the etiology, he admitted but little was kown except that the condition was about 30 per cent. more common in women than in men, and that the large majority occurred between the ages of thirty and sixty. As to the symptoms, he noted that their absence was particularly striking, and thought it remarkable such an enormous growth could take place in the immediate neighborhood of so many important organs and yet remain unnoticed by the patient. The first symptoms are usually those of a dragging sensation, but not often amounting to actual pain, while later, pressure and gastric symptoms become more marked. He alluded to the rarity with which diagnosis has been made previous to operation or autopsy, the most common mistake having been the diagnosing of a cyst owing to the semi-fluctuating sensation imparted by the fat. To avoid this mistake he advised a puncture, as in his opinion a dry puncture into any fluctuating tumor always suggested the former. He went into some detail in reference to the differential diagnosis, and took up a number of conditions with which such cases might be confounded. As to the question of treatment, he believed it to be necessarily operative, which, however, was at the same time very dangerous by the time assistance has been sought or interference consented to. In his opinion the three possible dangers were (1) destroying the blood supply to the overlying length of intestine crossing the tumor with resulting gangrene; (2) shock when operating for the necessary length of time in the exposed abdomen, and (3) tearing the vena cava in separating it from the growth. He quoted Adami's method of avoiding the first danger and the best way of overcoming the others. The operation he employed was described in detail, and a list was given of the men who have successfully operated in these cases. The paper concluded by giving a very full history of the patient with the pathological condition of the tumor and a lengthy bibliography.

Dr. J. E. Allaben of Illinois asked why the tumor could not have been treated in the same way as any simple cyst of the ovary when there were numerous adhesions, *i.e.* simply opened and drained with counter-drainage from the vagina. He reported having done this in a case of his own with good results.

Dr. Johnston, in replying to Dr. Allaben, said the tumor being a solid one it was not possible to open and drain it.

A brief discussion of certain questions regarding the surgery of the biliary tract, more especially the indications for operation and the importance of drainage, followed.

Dr. Maurice H. Richardson of Boston especially emphasized the following four points in this paper:

1. The prevention of hernia, which he said was best accomplished by making a muscle-splitting incision in the right upper quadrant, avoiding the complete section of the motor terminals of the intercostal nerves. This incision sufficed for the majority of cases and for all easy operations, but the muscles in deep dissections of great extent might have to be cut.

2. Permanent biliary fistula always meant unrelieved obstruction to the common duct either from an undiscovered stone or the contraction of an inflammatory condition about the duct.

3. The indications for operation to-day included the known existence of gallstone as demonstrated at abdominal operations for other lesions, provided that the patient's general and local condition were favorable. The removal of gallstones under those circumstances might be accomplished immediately if the original abdominal operation is not a serious one, but it should not otherwise be performed until convalescence had been fully established.

4. Drainage was essential for a complete cure, especially when infections were present either in the gall-bladder or in the biliary passages. This drainage should be full, free, and persistent, and bile should be allowed to flow through the wound until the flow ceases spontaneously. The doctor's personal experience had convinced him that immediate closure of the gall-bladder and of the biliary passages might be attended by complications of a grave nature. Secondary operation for drainage after removal of the gall-bladder was, in his opinion, one of great difficulty and danger.

Gallstones in the Common Duct.—Dr. ARCHIBALD MACLAREN of St. Paul, Minn., believed that gallstones were first formed in the gall-bladder and were usually associated with recurring attacks of cholecystitis, usually of a subacute character. He believed that after the formation of stones in the gall-bladder they might, under favorable condition, remain for long periods of time without causing any characteristic symptoms, the so-called slumbering gallstones. He urged great care in the removal of stones lest some should be left behind, and mentioned a case of his own in which after the removal of fifteen stones the patient died on the fifth day and post-mortem examination showed several stones impacted low down in the common duct. He commented on the many analogies between the appendix and the gall-bladder, and referred to the great uncertainty in the minds of many men as to when gallstones should be removed from the gall-bladder. He advised that they should be removed as soon as a diagnosis could be made with certainty. He gave as the complications produced by a stone in the common duct, first, jaundice; second, cholangitis; third, peritonitis; fourth, inflammation to the pancreas, and fifth, cancer, and then took up the question of the treatment of the opening after removing a stone from the common duct, which he said should usually be done by draining the duct. He reported having operated on fifteen gallstone cases within the past seven months, fourteen of which recovered, and one died.

Dr. J. D. BRYANT of New York spoke in favor of full and complete drainage, and alluded to the fact that the duodenum and the gall-bladder were very common points of entrance of infection.

Dr. C. O. THIENHAUS of Minneapolis gave a blackboard demonstration of his method of operating in these cases.

Dr. J. E. MOORE of Minneapolis stated that he had recently learned three important points in connection with this subject, the first of which was the advisability of early operation, second the importance of thorough drainage, and third, how unwise it was to give up a patient as long as there was life.

Dr. ERNEST LAPLACE of Philadelphia referred to the work of Professor Kehr on this subject, agreed with the author on the question of drainage, and urged in addition to the drainage tubes the use of a large amount of gauze around the tube.

Dr. W. J. MAYO of Rochester agreed with the author as to the advisability of early operation and the necessity for drainage in most cases.

Dr. J. C. BLOODGOOD of Baltimore gave some details of the work done along this line by Dr. Halsted of Baltimore, and agreed in the assertion that secondary operation should, if possible, be avoided by making sure to remove all the stones at once.

Dr. Richardson, in closing, stated that he was still uncertain in his own mind as to whether the gall-bladder should be removed in all cases or simply drained, as he knew that when the gall-bladder was removed some trouble always resulted, although he was not sure just what is was.

Dr. MacLaren, in closing, gave a blackboard demonstration of a part of his operative procedure.

Appendicitis in Children.—Dr. A. J. MCCOSH stated there was still much to learn in reference to appendicitis, and great ignorance as to its etiology; its symptoms were often puzzling, hence the most universal advice to operate in the early stages of the attack. It was often dangerous to wait for the quiescent stage, but it was desirable. Dr. McCosh believed it wisest to operate at once if inflammation could be confined to the appendix. If infection had spread beyond, delay of some hours, or even days, was often beneficial, which was the drift of present surgical opinion. Dr. McCosh stated Dr. Ochsner's plan of treatment had saved many lives, and he believed in it if not followed blindly. He stated that the frequency of appendicitis in children was not always properly appreciated by the general practitioner; after removal surgeons often found appendices show signs of old inflammation, corresponding with the so-called "bilious attacks" of infancy or childhood. In children, symptoms were apt to be masked, pain was not often localized, neither was tenderness. Muscular rigidity was apt to be present, or not appreciable on account of the restlessness and fright of the child. Probably the most important in children was vomiting, or at least the symptom most manifest. It was difficult to differentiate appendicitis in children at times from acute indigestion or the early stages of gastroenteritis, and was often very difficult to differentiate from diaphragmatic pleurisy. In children the progress of the disease was marked often by its insidiousness. Apparently a mild case would drift almost without signs into a desperate one with a general peritonitis; in children there seemed to be less tendency for the inflammation to become localized. For these reasons he advised immediate operation in children at any stage of the disease. He gave age statistics of 1,000 cases in which he had operated; between the ages of 20 and 35, the proportion was over 50 per cent.; before 20 it was 26½ per cent.; before 15 it was 15 per cent.; before 10 it was .068 per cent.; the youngest patients were 12 and 12½ months; the oldest were 72½ years. In 1,500 cases which he had personally examined, he gave the age at which the first symptom of appendicitis manifested itself; the proportion in the first five years of life was 7½ per cent.; in the first 15 years it was 31 per cent.

The Diagnosis of Appendicitis. Should the Appendix be Removed When the Abdomen Is Opened for Other Causes?—Dr. FLOYD W. MCRAE of Atlanta, Ga., stated that the diagnosis of appendicitis was not always easy, and must in a limited number of cases be made by exclusion and careful marshaling of symptoms and physical signs. He advised thorough examination, the avoidance of routine and snap diagnosis, and to have a summary of the most important diagnostic points. He believed that the appendix should be removed when the abdomen is opened and the organ is accessible unless there be some special contraindications, as the non-removal of the appendix is such a frequent cause of incomplete cures following abdominal and pelvic operations. He claimed that disease of the appendix was often associated with floating kidney, gall-bladder, and rectal troubles, advised removal under such conditions when practicable, and gave illustrated cases.

Factors in the Mortality of Appendicitis.—Dr. JOHN B. DEAVER of Philadelphia spoke of the influence of a previous attack of appendicitis on the severity of subsequent attacks and the limited value of adhesions as barriers to the spread of infection. He commented on the collections of pus in the pelvis, right iliac fossa and upward, which gave rise to various states of toxæmia, retrocæcal abscess, retroperitoneal, lymph adenitis, pylephlebitis,

liver abscess, etc., and especially on secondary operations for hernia or fecal fistula.

Dr. ERNEST LAPLACE of Philadelpha agreed with Dr. Deaver as to the removal of the appendix in all cases.

Dr. J. E. SOMMERS, Jr., took exception to Dr. Deaver's advice and was inclined to favor Dr. Ochsner's starvation method in many cases.

Dr. F. L. HUPP of West Virginia related a case which showed several factors playing a part in the mortality of this disease as it did in this case.

Dr. A. JACOBI of New York spoke on the question of appendicitis in children, and after relating the details of a recent fatal case which came under his observation, he spoke at some length on the importance and difficulty of diagnosing the disease, especially in children.

Dr. H. L. MARCY of Boston agreed with Dr. Deaver and said he did so after eighteen years' experience.

Dr. WM. H. WATHEN of Louisville spoke on the relation of gynecology to surgery and particularly in reference to appendicitis, at the same time taking exception to the free flushing advocated by Dr. Laplace.

Dr. A. J. OCHSNER detailed at some length his starvation method of treating appendicitis and gave some illustrative cases with statistics.

Dr. JOHN B. MURPHY of Chicago stated that his experience with appendicitis had been somewhat different from either Dr. Deaver's or Dr. Ochsner's.

Drs. JOS. PRICE and MORDECAI PRICE of Philadelphia agreed with Dr. Deaver as to the necessity of immediate operation in all cases when seen early.

Dr. ROBERT T. MORRIS of New York doubted the advisability of at all times removing the appendix when the abdomen was open for some other cause.

Dr. Deaver closed the discussion by reiterating the advisability of at all times removing the appendix immediately upon making a diagnosis in every case when seen early.

SECTION ON DISEASES OF CHILDREN.

Second Day—Wednesday, June 8.

How to Produce the Best Milk for Artificial Infant Feeding.—Dr. EDWARD F. BRUSH of Mt. Vernon, N. Y., read a paper with this title. He stated that the bovine race was undoubtedly prone to tuberculosis and other forms of chronic disease, and the better the breed from the dairyman's point of view, the more numerously were they afflicted with chronic diseases. Therefore, the first and most important consideration in reforming the methods of supplying milk for infant food should begin with breeding. The cow supplying milk for infant food should be bred from rugged animals, not closely related; she should be quite in disposition, perfectly sound in health, and comparatively well nourished; that is, not excessively fat, nor emaciated. The cow, Dr. Brush said, was man's forager and nurse, and if he attended to her properly, she was the best of his food producers, but she would surely furnish poison for him as easily as good food if he himself did not understand how to prevent her from doing so. The reader was of the opinion that the wealthy amateur dairyman did as much harm, if not more, than the careless, poor owner of dairy cows. Dirt that was not pathogenic was far less injurious than milk from perturbed or nervous cows. The periodical injection of tuberculin must be disturbing. The effort to maintain a herd of aristocratic, highly bred Jerseys might do well for a butter herd, but they were dangerous for the purpose of supplying milk to feed babies. Good cow's milk would nourish an infant without the intervention of the chemist, while bad milk would kill in spite of the man who knew how to modify milk according to the most approved methods.

The Initial Contamination of Dairy Milk.—Dr. RICHARD COLE NEWTON of Montclair, N. J., read a paper on this subject, in which he said that the spread of interest and knowledge among the laity concerning dairy methods was an encouraging sign of the times, and was part of the gradually growing interest in all matters pertaining to hygienic living. The following were the essential points to be observed in the production of good market milk. (*a*) A healthy and well-cared for herd of cows; (*b*) Prevention, so far as possible, of the initial contamination of the milk during the act of milking; (*c*) To minimize, as far as possible, the agitation of the milk, and undue exposure to the atmosphere; (*d*) The cooling of the milk to 40 F. and sealing in it sterilized bottles; (*e*) The maintenance of the milk at 40 F. until it was used as food. Of these postulates, the prevention of the initial contamination was at present the most difficult of accomplishment. The best and most simple method thus far known was that suggested by Professor Conn, which consisted of a pail with a cover, and with gauze or cheese-cloth stretched over a small opening in the cover. By its use, Conn and his colleagues at the Storr's Experimental Station were able to exclude 66 per cent. of the initial contamination of milk by dirt, with very great improvement in the character and keeping qualities of the milk.

Dr. J. P. CROZIER GRIFFITH of Philadelphia said that while sterilization and Pasteurization of milk were necessary under certain conditions in order to kill the germs, they did not destroy the toxins. What we wanted was pure milk, and the papers of Drs. Brush and Newton were in accord with the modern scientific study of this subject.

Dr. F. L. SMITH of Bridgeport, Conn., called attention to the fact that the milk of cows was readily affected by the food they ate. Jersey cows were especially susceptible in that respect. He recalled an instance in which the milk became unfit to drink because the cows had been fed on oat straw containing a little wild mustard. Turnips and turnip-tips would also impart a strong taste to the milk.

Dr. L. C. AGER of Brooklyn, N. Y., who was connected with the Milk Commission in that city, said they were trying to eliminate one possible source of contamination in the handling of the milk by having it bottled at the farm instead of at the creamery.

Dr. W. B. ULRICH of Chester, Pa., said that if the profession paid as much attention to the quantity of feeding as they did to the quality infants would be better off. The fact seemed to be lost sight of that the purest milk or food would make a child sick if it received too much of it. He thought there was much more harm done by overfeeding than by under-feeding.

Chronic Constipation in the Infant.—Dr. J. ROSS SNYDER of Birmingham, Ala., read this paper. He said that complete digestion embraced a three-fold function, namely, conversion, absorption, and evacuation. There was a conversion and absorption of the nutrient elements of food, and following this, an evacuation of the refuse. The successful performance of these several divisions of the digestive function was dependent on each other, the character of the food ingested, and on certain secretions and motions of the organs involved. In the treatment of this condition, no routine method could be followed. The first thing was to find the cause, and that, when found, would suggest its own correction. If the condition was neglected while the child was still a young infant, the treatment became an altogether different and more difficult question. If the constipation was not of very long standing, atony of the bowel might be overcome, after correcting the diet, by an endeavor to establish habit. Soap and glycerin suppositories were to be avoided in the young, if possible, and massage should never be practised in those cases. A knowledge of the relationship between the fæces and the injesta should be obtained, and any abnormality in the first pointed to some abnormality in the latter. General regulations on this subject, such as were found in some textbooks, suggesting the use of cream, oatmeal, etc., were misleading and only showed how carelessly the subject had been handled by otherwise careful writers.

The Effect on the Nervous System of Children of Uncorrected Refractive Errors and Muscular Imbalance.—By Dr. J. H. CLAIBORNE of New York City. The author's con-

clusions were as follows: (1) Nervous symptoms of a variety of kinds occurred as the result of eye-strain. (2) Eye-strain was due to refraction errors, the imbalance of the external ocular muscular system, or, more frequently to a combination of the two. (3) Of these two, the refractive errors were by far the more frequent cause. (4) Muscular imbalance alone might cause it. (5) Headache was by far the most common nervous symptom in children caused by eye-strain. (6) The headache was chronic, or induced directly by near work, and was generally in the forehead or temples. (7) Migraine or hemicrania due to eye-strain was comparatively rare in children. (8) Any nervous symptom in children should arouse the suspicion of ocular defects, either as a direct or a contributing cause. (9) The refractive correction should be made under atropine. (10) Muscular defects were secondary to the refractive, and should be corrected only in certain cases.

Congenital Occlusion of the Lacrymal Canal, and Acute Contagious Inflammation of the Conjunctiva Occurring in Children.—Dr. JOHN E. WEEKS of New York City read a paper on this subject, in which he discussed in a general manner the acute contagious inflammations of the conjunctiva, as seen in children, and also referred briefly to congenital occlusion of the lacrymal canal. The latter condition was often mistaken for acute contagious conjunctivitis, and it required careful observation to avoid confounding the two. Treatment, if at all irritating, rather tended to increase the difficulty than to cause it to subside. The treatment should consist simply in cleansing the conjunctival sac with a solution of boracic acid two or three times daily, and in protecting the skin of the lids by the use of some bland ointment. No attempt should be made to open the lacrymal canal by the passage of probes or in any other way until nature had been given a fair opportunity to establish the passage. The patency of the passage would become established in from two to six weeks in a large percentage of the cases. If after the lapse of two months the passage was not free, a canaliculus might be slit up sufficiently to permit the passage of a small lacrymal probe, and a probe passed through the obstruction. Dr. Weeks said that the acute contagious ophthmalmias to which children were subject were those that developed as a consequence of infection from the pneumococcus, the Koch-Weeks bacillus, the gonococcus, and the Klebs-Loeffler bacillus. The clinical picture as a result of infection from the first two microorganisms mentioned was that of a mucopurulent conjunctivitis. A pneumococcus conjunctivitis was indistinguishable, clinically, from a Koch-Weeks bacillus conjunctivitis. Acute mucopurulent conjunctivitis due to the pneumococcus or to the small bacillus was devoid of danger to vision, excepting in an extremely small percentage of cases, while gonorrhœa and diphtheria might cause great damage to vision in a large percentage of cases. For this reason, the true diagnosis was important, and if any uncertainty existed regarding it, a microscopical examination of the secretion should be made. The remainder of Dr. Weeks' paper was devoted to a discussion of the treatment of these various types of conjunctival inflammation.

Enuresis.—Drs. MAURICE OSTHEIMER and I. VALENTINE LEVI of Philadelphia presented this paper which embraced ninety cases of enuresis in children observed in dispensary and private practice. While there was no one cause of the affection, reduced tone of the vesical sphincter muscle was present in most cases. This was often the result of some antecedent or simultaneous illness. Among the many methods of treatment, the writers found that in the vast majority of cases recovery followed the use of the tincture of belladonna in ascending doses, in the mild cases; and atropine and strychnine in the intractable cases. The latter treatment, begun with atropine, gr. 1-240th, and strychnine, gr. 1-480th to one drop of water, was gradually increased until the incontinence ceased. The highest dose was continued from two to four weeks, and then gradually decreased, so that the entire treatment usually covered from six weeks to three or four months. Fluids were stopped after supper, and errors in diet were corrected in all cases.

The Bacteriology of Summer Diarrhœa.—Dr. WILLIAM H. PARK of New York stated that the intestines were the only organs of the body which contained large amounts of fermenting and decomposing material. The bacteria contained in the intestinal tract numbered many billions. These bacteria were constantly engaged in fermentative and putrefactive processes, which exerted a very important influence on the organism of the body. The intestines of the new-born were usually free from bacteria, but within a few hours after birth they gained access through the mouth and anus. Within a few weeks, bacilli of the colon group were always present, and usually, varieties of streptococci and staphylococci, as well as hay bacilli and allied groups. The intestinal evacuations of the child contained a daily average of fully one billion bacteria. Certain difficulties were encountered in the study of intestinal bacteria. Except for the lower part of the rectum, we could not directly reach the mucous membrane during life. Furthermore, there was a striking similarity between the bacilli present in the normal intestine and those varieties believed to be pathogenic. The difficulty was still further intensified by the probability that bacteria existing usually in the intestine as harmless refuse fermenters, may, under changed conditions, excite disease.

A Summer's Experience with Infantile Dysentery.—Dr. J. H. MASON KNOX, Jr., of Baltimore, Md., stated that during the summers of 1902-3 epidemics of diarrhœal disorders among infants and young children appeared in Baltimore. A large proportion of these cases, properly investigated, were found to be produced by the proliferation in the intestinal tract of the *bacillus dysenteriæ* (Shiga). The histories of these cases, and the clinical manifestations of the disease were similar to those observed in previous epidemics in Baltimore and other American cities, and there was good reason for the belief that the *bacillus dysenteriæ* was an important factor in this great scourge among children. The disease began in June, reached its height in July and gradually declined in August, although sporadic cases occurred throughout the year. The number of cases appeared to be directly increased by excessively hot weather. Children under one year were most susceptible; those over three years were rarely attacked. Nearly all cases occurred among infants artificially fed. Ill-nourished children, particularly those fed on condensed milk, were less able to withstand the dysenteric infection, and formed a large proportion of the fatal cases. The cases could be readily divided into two groups: Those in which the symptoms of toxæmia were most prominent, and those in which there was evidence of a destructive lesion of the bowel. Mucus was noticed in the stools in all cases. Blood was present in the discharges in moderate amount in 42 per cent. of the cases. The keynote of the treatment was promptness. If the food could be stopped, and the alimentary tract emptied within a few hours after the onset of the symptoms, most infections could be aborted. The results of the anti-dysenteric serum treatment were disappointing. Its use was perfectly harmless under aseptic precautions.

The Bacillus Dysenteriæ in Relation to the Diarrhœal Diseases of Infants. A Clinical Study of 237 Cases.—Dr. L. EMMETT HOLT of New York gave the result of the use of anti-dysenteric serum in the eighty-three cases of intestinal infection by the *bacillus dysenteriæ* (Shiga) that had been studied in connection with the Rockefeller Institute in various hospitals in New York, Boston, Philadelphia, and Baltimore. Thirty-eight of these eighty-three cases ended fatally. On the whole, the result of the serum treatment was disappointing. No unfavorable

symptoms followed its use in any case. In a few instances, an eruption, usually urticaria, followed the injections. That decided improvement appeared to follow its use in only twelve cases was not very encouraging, but several factors worked against its success. In a large proportion of the cases it was used late in the disease. Again, it was, as a rule, only used in the most severe cases; and finally at the beginning of the season, no rules had been formulated as to the size and frequency of the dose. Hence it was evident that many of the doses were too small. Four patients were moribund at the time the serum was given. Of the eighty-three cases, sixty-seven were hospital patients. The serum should be used early, before serious lesions had developed, or before the patient's general nutrition had been too profoundly impaired. The latter referred particularly to young infants. The injections should be repeated, one or two doses being given daily in severe cases.

Some Findings in Summer Diarrhœas of Children.—Dr. JOHN C. COOK of Chicago read this paper, in which he reported twenty-nine cases of diarrhœa coming under his observation during July and August, 1903. The cases were reported in order to show the relative frequency of certain bacteria not ordinarily given prominence in this connection. Cultures were simultaneously made from the mouth and fecal discharges, and observed as closely together as possible. Both in the oral secretions and in the fæces pyocyaneus and mycoides were found in a number of the cases.

The Management of Summer Diarrhœa.—Dr. THOMAS S. SOUTHWORTH of New York City read this paper. After calling attention to the prominent etiologic influence of high atmospheric temperature in the production of summer diarrhœa, the author emphasized the importance of prophylaxis, both dietetic and hygienic, and stated that it should be begun before the onset of the hot weather. The danger was chiefly in proportion to artificial feeding. The greatest safety was secured by heating milk, however pure. Errors in diet, as well as bad milk, were the exciting causes, but local conditions and lesions once started were progressive and intensified by milk diet. Toxæmia was the prominent factor. The prompt elimination of the milk from the diet and the evacuation of the bowels vastly reduced the mortality. Opium should be used with great care. True cholera infantum was a rare type.

(To be Continued)

A New Diagnostic Method.—Herman Lawrence speaks of a new clinical method of diagnosis, by "markings" obtainable in different diseases. He believes that the irritability of tissues in general may possibly, in some diseases, be calculated by the irritability of the tissues of the skin; at any rate, that certain markings aid the prognosis in certain diseases, and may forecast a relapse of the disease, and that certain markings explain the exaggeration of the symptoms in some individuals, and that probably suitable treatment may be worked out by observing the effect of treatment upon the markings of the skin. The writer quotes the following case as illustrating his method: The patient was suffering with scleroderma. On marking the skin over the patches there was a white line followed by a white line. Just beyond the patch there was a white line followed by a poor red line, which, later on, became a white line, and upon the healthy skin, the marking was a white line, followed by a red line. It is sometimes necessary to provide a differential diagnosis between scleroderma and leucoderma. By this method it will be found that the marking makes an easy diagnosis; in the case of scleroderma, the marking is 1.5, and in the case of leucoderma 1.2. In this case, after an interval of four weeks, the autograms showed that the disease was growing worse, though by the evidence from sight and touch there was no appreciable alteration in the skin trouble. By comparing the autogram takes ten different times, the progress of the disease can be definitely ascertained.—*Intercolonial Medical Journal of Australasia.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending June 11, 1904:

	Cases.	Deaths.
Measles	14	18
Diphtheria and croup	366	35
Scarlet fever	216	15
Smallpox	...	1
Varicella	58	...
Tuberculosis	319	131
Typhoid fever	37	5
Cerebrospinal meningitis	...	54

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended June 11, 1904:

SMALLPOX UNITED STATES.

		CASES	DEATHS
California, San Francisco	May 21–28	4	..
Florida, Jacksonville	May 27–June 4	1	..
Georgia, Macon	May 28–June 4	5	..
Illinois, Belleville	May 1–31	9	..
Chicago	May 28–June 4	7	..
East Liverpool	May 1–31	22	1
Iowa, Dubuque	May 28–June 4	1	1
Louisiana, New Orleans	May 28–June 4	11	..
Maine, Machiasport	May 1–31	8	..
Maryland, Baltimore	May 28–June 4	2	1
Michigan, Detroit	May 28–June 4	1	..
Grand Rapids	May 28–June 4	1	..
At 101 localities	May 21–28	Present	
Nebraska, Omaha	May 21–28	3	..
New Hampshire, Manchester	May 28–June 4	7	..
New York, New York	May 28–June 4	2	..
Ohio, Dayton	May 28–June 4	17	1
Toledo	May 22–June 4	6	..
Pennsylvania, Johnstown	May 28–June 4	3	..
Philadelphia	May 28–June 4	10	5
Pittsburgh	May 28–June 4	3	..
South Carolina, Charleston	May 28–June 4	2	..
Tennessee, Memphis	May 28–June 4	14	..
Nashville	May 28–June 4	12	..
Wisconsin, Wilwaukee	May 28–June 4	7	..

SMALLPOX—INSULAR.

Philippine Islands, Manila	Apr. 16–30	12	4

SMALLPOX—FOREIGN.

Austria, Prague	May 7–14	4	..
Belgium, Antwerp	May 15–21	5	4
Brazil, Bahia	Apr. 30–May 7	4	..
Rio de Janeiro	Apr. 17–May 8	167	98
Canada, Winnipeg	May 21–28	2	..
China, Shanghai	Apr. 16–30	2	14
Colombia, Barranquilla	May 9–16	..	2
France, Paris	May 14–21	10	1
Great Britain, Cardiff	May 14–21	5	1
Dundee	May 14–21	1	..
Glasgow	May 14–21	14	2
Leeds	May 14–21	2	..
Leith	May 7–21	1	..
London	May 14–21	18	..
New Castle on Tyne	May 14–21	8	..
Nottingham	May 14–21	3	1
India, Calcutta	Apr. 23–May 7	..	11
Karachi	May 1–9	10	4
Mexico, City of Mexico	May 22–28	16	6
Torreon	May 23–28	2	2
Netherlands, Rotterdam	May 14–28	5	..
Russia, Moscow	May 7–14	5	1
Odessa	May 7–21	1	2
Spain, Barcelona	May 10–20	..	9
Straits Settlements, Singapore	Apr. 8–16	..	1
Turkey, Alexandretta	May 14–21	..	1
Beirut	Apr. 30–May 14	Present	
Constantinople	May 15–22	..	4

YELLOW FEVER.

Brazil, Rio de Janeiro	Apr. 17–May 8	11	8
Mexico, Vera Cruz	May 22–28	1	1

CHOLERA.

India, Calcutta	Apr. 23–May 7	..	203
Madras	Apr. 23–29	..	1

PLAGUE—INSULAR.

Philippine Islands, Manila	Apr. 16–30	8	8

PLAGUE—FOREIGN.

Africa, Cape Colony	Apr 23–30	1	..
Brazil, Rio de Janeiro	Apr. 17–May 8	4	..
China, Amoy	June 4	Present	
India, Karachi	Apr. 23–May 8	203	176

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Original Articles.

FOREIGN BODIES IN THE EYE AND THEIR REMOVAL WITH THE ELECTRO-MAGNET.*

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IN presenting this paper to the members of the Clinical Society this evening I shall endeavor to avoid a too technical consideration of the subject, but shall rather aim to give a general idea of a branch of ophthalmology which has many fascinating details for the special student. I shall not treat you either to a dry recital of a lot of histories of cases, but shall present the records of a few which are types of various forms of these injuries.

This paper will only treat of those foreign bodies whose removal is possible with the electro-magnet, viz., pieces of iron or steel. Particles other than of this nature, such as glass or copper, are very much more difficult to remove, but fortunately injuries with such particles do not occur nearly as frequently nor is their prolonged sojourn in the eye nearly as apt to damage it as a visual organ. With regard to such particles (not of iron or steel), as Haab[1] says, it is often more advisable to leave them in the eye, (unless of course they can be seen somewhere in the anterior segment of the globe where they are accessible) than to open up the vitreous and probe around, as it were, in the dark, with forceps and other instruments in search of the foreign body. To endeavor to remove such oftentimes damages the eye more than to leave it undisturbed. It is, therefore, very fortunate that the great majority of bodies penetrating the globe are iron or steel.

The great growth of manufacturing of all kinds all over the world has increased to a corresponding degree the number of cases of injuries of the globe. Praun[2] collated statistics from forty-five leading ophthalmologists and found that injuries of the eye of various kinds constituted 4.89 per cent. of all cases of eye troubles. In factory districts this rose to 12 per cent. Before the introduction of the electro-magnet, and not infrequently even after the introduction of the small hand magnet, the eye was so seriously injured by the attempt to extract the foreign body that it was rendered useless as a visual organ. I remember, not more than ten years ago, hearing a prominent colleague say in a discussion on the removal of such foreign bodies lodged in the posterior half of the eye that according to his experience it would be as well to remove most of such eyes at once. Knapp in 1885[3] said, "When the fragments lie invisible in the vitreous they can be removed with the magnet or not at all. If the attempt fail or injure the eye considerably, enucleation should not be delayed." The introduction of the giant magnet, as well as the great improvement in the technique of its use, has changed all this. So that to-day the success attained in saving the eyes of the large number of victims of these injuries, and that too, oftentimes, with useful vision, is one of the most brilliant achievements of modern ophthalmology.

Hirschberg,[4] in his history of ancient ophthalmology, says that the first reference to the use of the magnet stone in surgery occurs about the beginning of the Christian era, when reference is made to its use in extracting an arrow head. This is probably a fable, however. Fabricius von Hilden (1550-1634), near Cologne, is said to have removed with a magnet, at the suggestion of his wife who was a midwife, a small particle of iron from the superficial layers of the cornea. Meyer of Minden in 1842 removed a foreign body through a wound of the sclera in a similiar manner. Mackeown[5] of Belfast in 1874 used a small bar magnet which he introduced into the vitreous and succeeded in extracting a piece of steel, and again in 1878[6] removed with a permanent magnet pieces of iron from the iris. The first person, apparently, to use an electro-magnet in these cases was McHardy[7], who in 1878 brought a large electro-magnet up to an eye with a piece of steel imbedded in the lens. When the magnet was still two inches from the eye, the foreign body flew into the anterior chamber and was extracted. Hirschberg[8] in 1875 made un unsuccessful attempt to remove a piece of steel from the vitreous (after extracting the opaque lens) with a thin iron tip curved like a branch of an iris forceps and attached to a horseshoe magnet around which the electric wire was coiled, but in 1879[9] he succeeded in a similar case, passing the tip through an incision in the sclerotic. This was the first case in which a foreign body was extracted from the vitreous with the electro-magnet. Knies[10] in 1881 first used a much larger electro-magnet for the removal of a piece of iron imbedded in the iris. He also suggested its use in drawing a foreign body imbedded in the ciliary body or anterior portion of the vitreous into the anterior chamber and thence out. But he did not pursue the subject further, nor did he apparently appreciate that this method would succeed even if the particle was at the back of the vitreous. Haab[11] of Zurich in 1892 first introduced the giant magnet and developed the technique of its use as an aid in diagnosis and then in the removal of the foreign body, and his magnet has been very generally adopted. One objection to it is that on account of its great size and weight the patient usually has to be brought up to the magnet seated in a chair, although occasionally apparatus is constructed which makes it possible to have the patient in the recumbent posture. This is a great advantage, as the patient is under much better control than when seated in front of the instrument. A readily movable magnet equally powerful would be a distinct advance. Johnson of Patterson, N. J., Lippencott of Pittsburg, and Sweet of Philadelphia, among others, have constructed smaller and more portable and yet quite powerful magnets which are very useful. Recently Volkmann[12] of Berlin was led to investigate the theory of the magnet and has con-

*Read before the New York Clinical Society.

structed one which he claims is made on correct principles. While it is very much lighter and more easily handled than the Haab magnet, yet it is said to be clinically a much more powerful instrument. When employed recently in Hirschberg's clinic[18] the Volkmann magnet got so hot, including the tip, that one could not touch it, which showed that there was some fault in its construction.

The large magnet is used for two purposes:

First, As a means of diagnosis; second, for the removal of the foreign body.

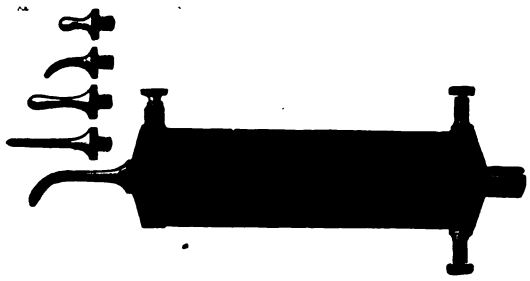

FIG. 1. Small Hirschberg magnet with tips for introduction into the eye

1. *As a means of diagnosis.*—If a patient who has had a recent injury of the eye is brought closer and closer to the giant magnet, the occurrence of pain more or less severe is a positive diagnostic sign of the presence of a piece of iron or steel somewhere in the interior of the eye. It is caused of course by the pulling or drawing toward the magnet of the particle, oftentimes with rough or jagged edges, imbedded in the sensitive structures of the eye. If the particle is of any considerable size, it is astonishing with what force it is drawn toward the magnet. I have seen it bulge the sclera in such a way as to change entirely the shape of the eye at this point, and it may even make the whole eye move. If the wound of entrance, however, is so large as to indicate a foreign body of considerable size, great caution should be taken. The force of the magnet can be gradually increased by seating the patient at a distance c. a foot or so and having him slowly approach the magnet, or, if the latter is portable, which is even better, we can push it slowly closer and closer to the eye. Not infrequently the diagnosis by pain can be made at some little distance. As is true of most other useful things, we can do a great deal of harm as well as a great deal of good with the large magnet. Our object should be to make the diagnosis, and if possible to remove the foreign body, but to do this with the minimum amount of injury to the eye. Oftentimes patients appear to be at first afraid of the magnet and shrink from it, but we must not mistake this for pain. A small but strong magnet with telescopic tip is often useful in localizing the pain, and thus the foreign body.

2. *For the removal of the foreign body.*—There are two methods of using the electro-magnet for the removal of particles of iron or steel from the eye. When it first began to be used for this purpose it had a small sound-like tip, which was introduced through an incision into the interior of the eye, and brought as close as possible to the foreign body. With the giant magnet, however, we endeavor to draw the particle, wherever it may be located, into the anterior chamber and thence out. If there is a recent unclosed scleral opening of course we would try to get the foreign body out here. The one method acts at a distance, the other by contact, actual or approximate. In certain cases there is still a difference of opinion as to which is the best method, but when the foreign body is located in the anterior segment of the eye—that is, in the lens, iris or even in the ciliary body—most observers are pretty well agreed as to the best manner of proceeding. The particle is to be drawn into the anterior chamber by some strong magnet, and thence out of the eye through the wound of entrance if recent (enlarged if necessary), or a small incision may be made into the anterior chamber at its periphery and the tip of the small magnet introduced here, and thus the foreign body be extracted. As to the best point at which to make your opening into the anterior chamber, I prefer to do this at the periphery except when the wound of entrance is still open or its edges can be easily separated. The method may be best illustrated by one or two cases.

On May 7, 1903, I saw a patient, W. B., æt. thirty-five, into whose right eye a piece of iron had entered the day before at his home in Schenectady, N. Y. His condition was as follows: There was a slight injection of the globe; pupil dilated one-half (atropine?); fundus clear. Could see nothing of the foreign body in the interior. There was a small wound 2 mm. long in the sclera (1 mm. from corneal margin, in the upper nasal quadrant), anterior chamber shallow. Tension —2; vision, counted fingers at ten feet. It was evident that the foreign body was somewhere in the anterior segment of the eye, as the media were quite clear. *Treatment.*—When the patient was gradually approached to the Haab magnet until the tip was just in contact with the wound of entrance he was conscious of but little

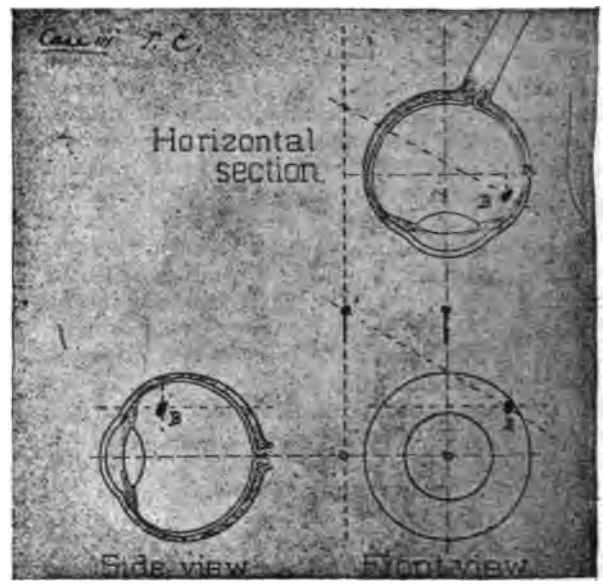

FIG. 2. Localisation of particle in interior of eye by Sweet's method in one of Dr. Risley's cases. Projection in three planes.

if any pain. With the tip still in contact with the globe at the same point, the current was turned on and off several times. By carefully observing the eye all the time, it was seen that the upper nasal margin of the pupil dilated a trifle each time the current was turned on; at the same time a few drops of blood oozed from the iris near the wound of entrance. It was apparent that the particle was lodged in the iris somewhere between the pupillary margin and the upper nasal periphery. The tip of the magnet was then placed to the temporal side of the center of the cornea to see if it would not draw the piece of iron from behind the iris through the pupil into the anterior chamber, but the attempt was not successful. But when the eye was examined now by artificial light the minute particle could be seen entangled in the iris near its root close to the wound of entrance. The anterior chamber was opened here with a Graefe knife, and a small portion of iris with the foreign body ad-

herent drawn out and excised. Patient discharged in a week. A few days ago I received a letter from him saying his eye had given him no trouble since he left the hospital, and he can see apparently as well with his right as with his left eye. The piece of iron, which I show here, was 2mm. long, .05 mm. broad, and 0.1 mm. thick. The advantage of the giant magnet could not be better shown, for the particle was so minute that its presence could scarcely have been detected with a smaller instrument. My colleague, Dr. Callan, recently in a similar case in which the foreign body was lodged in the iris succeeded in drawing the latter out, and after removing the particle of iron replaced the iris in the eye. After the patient was discharged it was impossible to tell that anything had ever been done to the eye. This case of mine illustrates also an observation which I think Dr. Gruening first made, viz., that when there is no prolapse of the iris or ciliary body in these cases the foreign body has probably entered the globe, whereas if there is a prolapse the particle has probably wounded but not remained in the eye. That is, if the particle strikes the eye with sufficient velocity to puncture it completely, the small wound closes so quickly that no prolapse occurs, and *vice versa*. This symptom if positive is an exceedingly valuable one, and since it was brought to my attention by Dr. Gruening, the indication conveyed by it has always been corroborated. In the above case the wound of entrance was 2 mm. long; there was no prolapse of the underlying structures, and a piece of iron was found in the eye. On June 16 I saw a patient whose left eye had been struck as he was chiselling stone. I found a very small prolapse of the iris just at the nasal limbus, forming a little cyst which could be emptied into the anterior chamber by pressure. The length of the corneal wound was only 1½ mm. The accident had happened two weeks previously, the media were clear and there was nothing to be discovered in the interior and scarcely any redness. The prolapse was excised after breaking up the adhesions, and in a few days patient was discharged with eye quite white, and he has had no trouble with it since. Here the wound was only 1½ mm. long; there was a prolapse but no foreign body was found in the eye. This observation is true only of clean straight incised wounds. If, however, the opening is large, or irregular and ragged, a prolapse in all probability will occur, as is shown in some cases reported by Myles Standish.[13]

FIG. 3. Exact size of piece of wire 1 cm. long. One-tenth of this weighs 1 mg., and a piece this size has been frequently removed by the Haab magnet, even when at the back of the globe.

In a recent letter from Professor Haab on this subject he writes: "The size of the wound, it appears to me, largely determines whether the iris prolapses or not. But, according to my experience, the observation of Gruening in the great majority of cases is entirely correct, and is valuable for the differential diagnosis."

If the foreign body is in the lens a similar method is pursued. In one case of mine the little glistening mass of steel could be seen exactly in the center of the lens, the rest of which was transparent. The large magnet drew it into the anterior chamber, in the periphery of which an incision was made, into which the tip of the smaller magnet was introduced and the body removed. A cataract subsequently developed, which was removed, leaving the vision normal. This piece of iron, 8 mm. long, was removed May 19 from a patient by the large magnet. It had passed through the cornea in its lower temporal quadrant and pinned the iris there to the lens, which was opaque. All that could be seen of the spicule was about 1mm.; the rest had buried itself in the lens and vitreous. The opening in the cornea was enlarged a little with a cataract knife, and the tip of the Haab magnet applied to the cornea here, the current turned on, when at once the fragment of steel flew out of the eye and remained sticking to the magnet. The traumatic cataract was subsequently removed, giving the patient good vision.

If the foreign body has entered the eye and the lens is opaque, I agree with Haab that there is no special advantage in attempting to locate it exactly before we attempt to extract it. It is possibly somewhat more surgical to do so, but the result in the end is about the same, for the body has already caused a cataract in passing into the eye. Such a case is illustrated in the following brief history: J. L. was using a cold chisel on the night of April 3, 1903, when a piece of steel flew into his left eye, which showed a very small wound already closed in the upper nasal quadrant of the cornea 1 mm. from the limbus; there is a small puncture in the iris just behind the corneal wound. The lens is opaque; foreign body has disappeared somewhere in the interior of the globe. No attempt was made to localize the fragment of metal, but the patient was seated in front of the giant magnet and felt no pain until several attempts had been made with the tip in contact with the center of the cornea, when suddenly the particle appeared behind the iris, and before the current could be turned off it had torn its way through the lower part of the iris into the anterior chamber, whence it was removed by the tip of the small magnet. Patient made a rapid recovery and cataract is absorbing. In such a case, when we do not know in what part of the eye the foreign body is located, the tip of the magnet should be placed at the middle of the cornea so as to avoid drawing the particle into the ciliary body. If we had localized it by other means we might possibly have avoided wounding the iris a second time, as evidently the fragment had fallen to the lower part of the vitreous. This second puncture of the iris (produced in removing the foreign body) quickly closed up, however, and left no trace. After having gotten a piece of iron into the anterior chamber, as in the above case, or out of the wound of entrance possibly, it is well to apply the magnet again, for not infrequently there is more than one fragment in the eye, and we should not leave any behind.

If we have to deal with a case in which the lens is transparent but the fragment has evidently penetrated into the vitreous chamber, there can be no question but that its removal with the least possible injury to the eye in so doing is facilitated if we can first localize the foreign body. Previous to the discovery of the Röntgen ray the method usually employed to localize a fragment of iron or steel within the eye (unless the media were clear and it could be localized with the ophthalmoscope) was by means of the sideroscope. By this was meant some arrangement of a magnetic needle whose deflections of course would be more considerable the nearer the needle point was brought to the spot in the eye where the foreign body was located. Dr. T. R. Pooley [14] of this city first studied this subject, and he found that localization was more successful if the particle of metal in the eye was previously magnetized by induction by passing a strong permanent magnet close to the eye. Asmus [15] devised an exceedingly sensitive and delicate sideroscope in 1894, but it must be used in a place remote from the influence of strong electric currents, such as are used for electric lights or electric trams, and, as

Knapp says, to handle it requires the patience of a saint. Recently Hirschberg[18] has simplified the Asmus instrument, so that while somewhat less delicate it is more convenient and practicable. If the particle is not very minute (in which case the instrument often fails to indicate it) the localization is decided by passing the needle in various meridians of the eye and finding where the deflection is most marked. But better than the sideroscope for localizing purposes is the Röntgen ray, though here also, if the fragment of iron is exceedingly small, the attempt may fail.

Various methods of exposure have been employed in localizing foreign bodies in the eye, but as good a one as any (if not the best) is that of Dr. Wm. M. Sweet of Philadelphia who "employs two metal indicators, one pointing to the center of the cornea at a short and measured distance from the latter, and the other situated to the temporal side at a known distance from the first." Two exposures are made in order to give different relations of the shadows of the indicators and the foreign body in the eye-ball or orbit. In the one exposure the tube is on the same horizontal plane as that of the two indicators, and in the other exposure the tube is at any distance below this plane. In this way the foreign body has been repeatedly located by Dr. Sweet with beautiful exactness. The following case would have been one in which some such method might have been employed and illustrates, moreover, a class of cases in which there is still some difference of opinion as to the best method of procedure in removing the foreign body:

J. D., æt., forty-two, seen April 27, 1903. While chiselling stone four weeks ago he was struck by a small particle in the left eye, since which time his sight has been bad. When first seen by myself the eye-ball was slightly injected, pupil dilates normally under atropine, the lens is clear, and a red reflex from the fundus can be obtained, but no details can be seen on account of vitreous opacities. Vision in this eye was limited to perception of movements of the hand at a few feet. No wound of entrance could be made out. Now here was a case in which the lens was transparent, yet if the foreign body was in the eye, it was somewhere in the vitreous (or back of it), which was full of opacities. It is just in this class of cases that a rather radically different procedure is advised by different authorities. Haab and those who follow his advice would say, Localize it if necessary in order to take all precautions possible not to injure the lens in extracting the particle of iron. Then draw the foreign body, if any is present, around the periphery of the lens into the anterior chamber and thence out. And on the other hand, Hirschberg, and others hold that in such a case, the better method is to localize the foreign body accurately with the siderosope or, better still, by means of a radiograph, then to make a small incision through the sclerotic and subjacent structures as near as possible to where the particle of iron has been localized and then insert the tip of the small magnet into the wound and thus extract it. Those who prefer to go directly into the vitreous, say that with the other method, the foreign body has to take a longer course in extracting it, may injure the ciliary body or zonula or tear through the lens, causing a traumatic cataract. Dr. Samuel D. Risley[18] reported in 1902 an interesting series of cases in which the foreign body was localized with beautiful exactness by Dr. Sweet and removed from the vitreous successfully, and the results were brilliant. In a letter received from Dr. Risley early in this month, he informed me that there has been no detachment in any of these cases and the accompanying figure (Fig. 2), kindly loaned me by him will show how accurately by Dr. Sweet's method the foreign body is located in the eye. The illustration shows the situation of the particle in three planes. I have recently had another case in which I found (and removed) the piece of iron exactly where Dr. Sweet had previously localized it for me. The criticism made against this method is that in employing it we injure (in making the incision) the choroid and retina, which may be followed by a considerable intraocular hemorrhage. But the injury to the vitreous by the knife making the incision and by the introduction into it possibly of the tip of the magnet is the most objectionable feature of the method, for the more the vitreous is injured the greater is the danger of infection of the eye and also of subsequent detachment of the retina. What Hirschberg[18] says, however, is true, that "we must not forget that many of the cases in which the giant magnet has drawn the foreign body from the vitreous into the anterior chamber have subsequently had a detachment, while a sufficient number of the cases from which he has extracted the foreign body directly from the vitreous by the tip of the small magnet, have been kept under observation for five, ten, and fifteen years, or more, and without any detachment." There is no doubt but that good results have been obtained by both methods, but the question is Which method will give the largest percentage of *permanently* good results? Time and a longer observation of our cases will unable us properly to decide this question.

But to return to our patient, with the foreign body lodged probably somewhere in the vitreous. The eye presented so few symptoms of irritation that I was somewhat in doubt whether there was a foreign body in it or not. The patient was placed in front of the large magnet and brought up slowly to it, until the magnet tip touched the center of his cornea. This was repeated several times without eliciting any pain. He seemed afraid of the instrument, but had no pain. Before discontinuing the experiment I concluded to try again. When the tip of the magnet was almost in contact with the cornea again, I saw a small particle suddenly escape through the pupil into the anterior chamber, just back of the magnet tip, whence it was readily removed, together with a small bit of white stone adherent to the particle of iron. The eye gradually cleared up and the lens remained transparent, showing that the foreign body passed from the vitreous through the zonula fibers without injuring the lens. In this case I did not make any attempt to localize the foreign body either with the sideroscope or the radiograph. Yet the result was apparently as satisfactory as if I had done so. It would seem, however, to be more surgical in such a case with an uninjured lens to endeavor to localize the foreign body before putting the patient in front of the large magnet. It might enable us to approach the magnet tip to the eye in such a direction as to minimize the danger of injuring the lens. But, oftentimes, if the patient is not brought too close to the magnet at first, the foreign body will move slowly through the vitreous (as it has been observed to do) and pass around the curved surface of the periphery of the lens without injuring the latter.

Then we meet with cases in which the foreign body has penetrated through the various anterior structures of the eye and has lodged in the retina, where possibly it may be seen with the ophthalmoscope. Through the courtesy of Dr. Gruening, in whose clinic this case presented itself recently, I am able to demonstrate to you with the Thorner ophthalmoscope a patient of this kind. His vision

is little, if at all, impaired at present, and he came to the clinic to see if there was anything the matter, for he had felt the momentary sting of the particle, but had noticed no impairment of his sight. You can see the sliver of metal imbedded in the retina, and it has been there now for three months. Now what is the safest method to pursue in such a case? Many would advise its removal either with the giant magnet by way of the anterior chamber or through an incision in the sclerotic as near as possible to the foreign body. Situated as this little particle is at the posterior pole of the globe, if we should place the tip of the magnet at the center of the cornea, we would draw it directly into the lens, and a traumatic cataract would result. In such a case the proper way of using the giant magnet would be as Haab suggests, to have the patient look to the extreme right or extreme left and then apply the magnet cautiously near the equator of the eye, and thus draw the particle first into this vicinity, being quick to turn off the current as soon as any expression of pain is elicited, so that the foreign body does not imbed itself deeply in the retina and choroid. Now, with the particle thus transferred to the equatorial region of the eye, if the magnet tip is brought up to the center of the cornea and the current turned on, the piece of iron will be drawn into the anterior chamber to one side of the lens without injuring the latter. Such a method should be employed when the foreign body is lodged in the vicinity of the pole of the eye. Pursuing some such plan, Haab was successful in removing the foreign body in twenty-eight out of thirty-four cases in which the piece of steel was lodged in the retina or adjacent structures.

The objections to removing the foreign body in this case by an incision through the sclera have already been discussed. I overheard one colleague, after examining this patient, say to a friend: "If that was my eye I would leave it alone." And this has been the conservative decision of Dr. Gruening. And this leads us to a consideration of the possibilities in case we do leave it alone. The most favorable thing which may happen is that the little piece of iron will become completely encapsulated. If this takes place it is possible that it may remain in the eye indefinitely without doing any harm. But experience has shown that after perforation of the globe, even under perfectly aseptic conditions, by a piece of iron or steel which does *not* become encapsulated, the prognosis as to sight is generally very unfavorable unless the foreign body is removed. The chemical action of the iron causes such considerable changes in the tissues of the eye that the condition of *siderosis bulbi*, as it is called, or rusting of the eye, is to be regarded as a very dangerous malady of the eye. It was first described at the International Medical Congress at Berlin in 1890 by Bunge[20], who first introduced the term siderosis, although Lebet had previously demonstrated it experimentally, and Graefe and others had called attention to the fact that the rust color of the lens and iris was evidence of the presence of a piece of iron in the eye. As Bunge says: "The iron is dissolved by the carbonic acid gas of the tissues and the solution is diffused as a double carbonate of iron and precipitated in insoluble form by the oxygen supplied by the arteries." The iris becomes discolored a rusty brown, sometimes the cornea is discolored, as well as various layers of the lens. But the changes most disastrous to vision are those in the retina, which becomes degenerated, especially if the foreign body is in the vitreous. Von Hippel[21] also has investigated the condition carefully, and numerous reports of cases have been published, so that the condition is now fairly well understood clinically. The retina becomes highly atropic, showing changes very similar to those seen in *retinitis pigmentosa* and often becomes detached; the lens becomes cataractous and is often absorbed, even when the capsule is intact. In one of Von Hippel's cases the beginning of the process could be established two months after the injury, though the time varies from two months to two years and more. Whether this process of siderosis will take place or not in any case depends altogether upon whether the foreign body is completely encapsulated or not. In a case examined by Hertel[22], the foreign body was almost but not completely encysted. Yet siderosis with its disastrous effect on vision took place. It would seem, furthermore, from one of Von Hippel's cases that when the process has once well begun, the removal of the foreign body does not put an end to it, for he removed a piece of steel five months after the injury, yet siderosis progressed and the vision continued to fail. The size of the foreign body, moreover, does not seem to have any bearing on the subsequent changes, for in Hertel's case an extremely minute particle produced destructive changes. Sections of these eyes, after removal, are stained a deep blue color when soaked in a solution of ferrocyanide of potassium and dilute hydrochloric acid (The Perls Reaction).

Premonitory Symptoms of Siderosis.—In many cases a symptom, whose possible presence it is very important to remember, precedes the change of siderosis, viz., a high degree of hemeralopia (night blindness), or great impairment of vision if the illumination is poor. Vossius[23] considers this an important symptom in uncertain cases, and in one patient he made the diagnosis on this symptom alone and found and removed the foreign body. In 35 per cent. of the cases collected by Eisenberg[24] there was hemeralopia, which developed in one case in two months after the injury. If, therefore, we decide in a case like this to leave such a foreign body undisturbed, the patient should remain more or less under observation, and if vision begins to fail or hemeralopia develops, then an attempt should be made to remove the particle. This would probably be more difficult to do than if it had been removed immediately after the injury, as it would probably be more or less encapsulated.

The importance of keeping such a patient under observation is illustrated by a case of Hirschberg's[25] with an iron sliver in the retina, with almost normal vision, which he published in 1875. He did not remove it. In January, 1901, after twenty-six and one-half years, he saw the patient for the first time again. The eye was stone blind, with cataract and cyclitis, and according to the statement of the patient became blind within a year after the injury. So that it cannot be denied that an eye is not absolutely free from the possibility of danger as long as a piece of iron or steel remains in it.

Last June a patient was sent to my clinic through the courtesy of Dr. Gruening, which illustrated the effect of siderosis on the eye. The patient, an Italian, had previously lost his right eye, and a year before a particle of iron or steel had penetrated his left eye, and this was followed, so he stated, by progressive failure in vision, so that when I saw him he could only see movements of the hand and had to be led to the hospital. The iris was of a dirty brown color and the sclerotic had lost its whiteness, presenting a rusty brownish shade. Seated before the giant magnet he had great pain, and the eye became red in the ciliary region below when the magnet tip was placed here, but evidently the body

was more or less encapsulated, for we could not move it. Examination with the sideroscope was negative, but the radiograph revealed the presence of a foreign body in the lower outer quadrant of the ciliary region. I had decided to make an incision here and endeavor to extract it. But when, as a preliminary, I presented him with a little paper to sign, authorizing the operation with a full understanding of its possibilities, he disappeared and did not return.

If the foreign body should be lodged in the retina and the vision was seriously impaired, I think no one would question the wisdom of at once attempting to remove it.

After the foreign body has been removed, the eye may even then be lost through infection, and have to be enucleated. In some of these traumatic infections some surprising results have been reported by Haab and others by the introduction into the anterior chamber or vitreous of sterilized rods or disks of iodoform. In some cases a rapidly progressive suppuration has seemed to be checked and the eye saved from enucleation. When serious infection does not take place, the prognosis, so far as preserving the shape of the eye, is in many cases very good, and oftentimes very good vision is preserved, though this latter will depend on the character and location of the traumatism. Of course the entrance of the foreign body into the eye may have damaged it so seriously as to make its removal imperative. While a blind or almost blind eye is oftentimes much to be preferred to an artificial one, yet we must not forget the patient's other uninjured eye, nor attempt to keep a badly damaged or sightless organ at the risk of losing the other by sympathy.

Finally, how are we to interpret complete absence of pain when an eye which has been recently penetrated by a foreign body is brought up to the giant magnet?

1. The first and obvious conclusion is that there is no foreign body in the eye, or at least that if there is, it is not of iron or steel. But one must be exceedingly careful in not deciding this too quickly, for not infrequently only patience and perseverance will accomplish the end desired. If not at first successful, we must approach the magnet to the eye in every conceivable direction by having the patient look up and down, to the right and left, etc., for thus the pull of the magnet will operate in different directions, and be apt to loosen or pry the foreign body out. Repeatedly turning the current on and off quickly has the effect of jerking it. Sometimes we only succeed after repeated attempts on several successive days, in bringing the foreign body into view or eliciting the symptom of pain. We must not forget, furthermore, that there may be more than one particle of metal in the eye.

2. The body may be enveloped in a fibropurulent exudation in comparatively recent cases, or may be firmly encapsuled if it has lodged in the eye for any length of time, as months or years. Either of these may frustrate our attempts to elicit the symptom of pain or to remove the foreign body. The particle might be in an insensitive part of the eye (as in the lens), but the magnet usually quickly draws it into a sensitive part.

3. The foreign body may be so minute, or so deeply located in the eye, especially if it be enveloped in a clot, that the power of the magnet may not be sufficient to move it. Fehr[36] recently reported an extremely interesting case, seen an hour and a half after the injury, in which the foreign body perforated the sclerotic. The ophthalmoscope revealed a thin, small, bright piece of metal floating in the vitreous, but attached to a blood-clot leading to the wound of entrance and which moved about with the foreign body when the eye moved in various directions. (The particle was thus suspended a few mm. in front of the retina.) The sideroscope proved that it was iron or steel, and yet every conceivable manœuvre with the giant magnet failed to get it or tear it loose from the blood-clot in the vitreous. The attempt was repeated on the following two days, and on the fourth day Volkmann's new magnet was tried, but all failed to move the foreign body. All the magnets got so warm that the attempt had to be given up, and with Volkmann's new magnet the pole itself got so hot that one could not touch it, which showed some fault in construction. It was not until the eighth day that, during a seance the patient suddenly gave evidence of pain, and the ophthalmoscope now showed that the foreign body had disappeared from its previous position, and it was localized in the vicinity of the ciliary body, whence it was extracted not without considerable difficulty, weighing only 1 mg. In this case, had the media been more or less hazy on account of blood in the vitreous, for example, so that the foreign body could not have been seen with the ophthalmoscope, the attempt would probably not have been continued with such perseverance, if the sideroscope had not been used. This shows the delicacy of Hirschberg's sideroscope, for here the foreign body was exceedingly minute (weighed 1 mg.) and was back near the retina, and yet the reaction was quite positive. It should always be used in doubtful cases. To give an idea of the size of such a particle an illustration is here given of a piece of iron wire 1 cm. long, which weighs exactly 1 cg. That is, if this piece of iron is cut into ten pieces of equal size, each piece will weigh 1 mg., and yet this minute mass, even if way back close to the retina, as in this case, can be drawn out by means of the Haab magnet. (Fig. 3.)

4. Double perforation: The foreign body may have passed entirely through the globe and be partly or wholly in the orbital tissues. The great increase in the number of cases of double perforation reported in the last two or three years may possibly be somewhat dependent upon the growth of manufacturing, but to a much greater extent it seems to me upon the great improvement in our diagnostic methods, and the increased care with which these cases are investigated. Natanson[37] of Moscow has collected fourteen of these cases, and Hellgren of Stockholm reports six, and I have found three others, which makes twenty-three cases of double perforation. Of these twenty-three cases six eyes were saved with normal vision in one and more or less impaired in five. In five of these the diagnosis could be made by the appearance of the second perforation in the fundus, but it is to be remembered that sometimes when the media are clear what seems to be the point of exit in the fundus is only where the foreign body has impinged against the fundus, and thence rebounded into the interior of the eye somewhere. The large magnet or sideroscope would diagnose this condition, however. In eight of the cases the foreign body was found only after enucleation, and in several of them it is probable that the eye might have been saved had attempts at localization been made before searching in the globe for the foreign body. If the latter penetrates into the orbital tissues so that it is not in contact with the globe, it apparently does no further harm, and in no case was suppuration caused, so that the mere double perforation does not necessarily mean the ruin of the eye. But if the piece of metal remains in con-

tact with the globe, or possibly is sticking through *its* posterior wall (it was thus located in six of the eyes removed), a dangerous condition of irritation is produced destroying the eye by cyclitis, or causing sympathy in the other eye. In Berlin's case he had begun to enucleate the eye when in cutting the tendon of one of the muscles the foreign body accidentally caught between the blades of the scissors at the back of the eye, when it was seized with forceps and extracted; the muscles already divided were reunited, and all irritation in the eye subsided.

In all these twenty-three cases the large magnet failed to extract the foreign body, or diagnose its presence by pain, except one or two in which the piece of metal was partly in the eye and partly in the orbit. The sideroscope was used in thirteen of the cases, eight times with positive result. The *x*-ray was used in ten cases, and in all ten it was successful. In these cases of double perforation the foreign body is usually of relatively large size, so that the radiograph sometimes leaves no doubt that the foreign body is extra-ocular, but if the latter is very close to the walls of the globe it may be very difficult to say positively whether it is in or outside of the eye. As Hirschberg[28] says, "There is no pathognomonic sign of a double perforation, but we must be guided by negative symptoms. In recent cases the foreign body cannot be seen, though the media may be clear, and the test with the large magnet is negative; possibly also that with the sideroscope. In old cases there is no siderosis, which is suspicious if there is considerable deviation of the needle. But most sure is the *x*-ray. A proper consideration of all the symptoms alone will assure the diagnosis so as to prevent our overlooking a foreign body actually present and leaving it in the eye to the injury of the patient, or seeking for a foreign body not present in the eye, which is equally harmful."

To recapitulate briefly. We find that

1. An eye in which a piece of iron or steel is buried invariably deteriorates, and ultimately becomes blind (siderosis bulbi) if the foreign body is not removed, unless it becomes completely encapsulated. In many cases this degeneration is preceded by the symptoms of hemeralopia.

2. If the foreign body is in the anterior segment of the eye, the Haab magnet is almost universally used, at least to get the particle into the anterior chamber.

3. The injury in the great majority of cases, when it is in the anterior segment of the eye, is not attended with a prolapse of the iris, and the occurrence of this complication makes it probable that the foreign body has not penetrated the globe. This symptom, however, is not a reliable one in case the foreign body has made a large or irregular wound in the eye.

4. If the foreign body has penetrated into the vitreous, or posterior part of the globe, localization either with the sideroscope, or *x*-ray, had better precede any attempt to extract it, especially if the lens is still transparent. After the particle has been localized it can be removed by way of the anterior chamber with the Haab magnet, or by opening directly into the sclera near where the particle has been located. As to which is the better method to be employed in this class of cases, is still a matter of discussion among ophthalmologists.

5. If the symptom of pain cannot be elicited with the Haab magnet, this is to be interpreted as evidence (*a*) that there is no foreign body in the eye, (*b*) that it is enveloped, in recent cases, in a fibropurulent exudation, or a blood-clot (Fehr's case), or (in less recent cases) that it is firmly encapsulated, (*c*) that it has passed entirely through the globe and is lodged partly or wholly in the orbital tissues (double perforation).

DISCUSSION.—In the discussion of this paper, Dr. De Schweinitz of Philadelphia made a very important observation, viz., that in several cases of traumatic cataract which had come under his care during the last few years, the *x*-rays had revealed a foreign body in the eye of which the patient was ignorant, and that in these cases he had removed the foreign body before extracting the cataract. This observation suggests the importance of first examining all these cases of traumatic cataract with the *x*-ray so as to discover whether or not a foreign body is in the interior of the eye.

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20. Transactions International Medical Congress, Berlin, 1890, Bd. III.
21. *Graefe's Archiv.*, Bd. 40, I; 42, IV.
22. *Ibid.*, 44, II.
23. *Ärztlich. Sachverständig. Zeitung*, No. 7, 1896.
24. Inaug. Dissertation. Giessen, 1901, "Über Siderosis."
25. *Centralblatt für praktische Augenheilkunde*, 1903, p. 12, Note 3.
26. *Ibid.*, October, 1903, p. 291.
27. *Klinische Monatsblätter für Augenheilkunde*, 1902, p. 513.
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35 WEST FIFTY-THIRD STREET.

Cactus as Compared with Other Cardiac Remedies.—A. J. Mann says that cactus is contraindicated, in all visceral tumors, hemorrhages, active hyperæmias and all vasomotor lesions. In febrile state it renders good service to the heart by giving strength and nutrition, which is of great value when the fevers are long and exhausting, but it will not reduce the temperature like strophanthus, or the other arterial sedatives. It may be used in conjunction with those agents of a depressing nature when prescribed, or it may be combined with aconite, phytolacca, macrotys, colchicum, capsicum, helonias, avena, belladonna, pulsatilla, and many other agents to enhance their effects or modify their action. It is superior to digitalis in nontoxicity, noncumulative action, does not irritate the stomach and causes no spasm of the renal circulation or albuminuria.—*Medical Summary.*

WHEN AND HOW SHALL WE OPERATE FOR PROSTATIC HYPERTROPHY?*

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THE advance made within the last few years in the treatment of the enlarged prostate gland has been so great that I think the time has come when we are in a position, on basis of our practical experience gained, to discuss intelligently the two most important questions connected with this highly interesting subject, namely: When shall we operate for prostatic hypertrophy and how?

The disturbing element in settling the first question, I think, has been the divergence of opinion regarding the propriety of advising the use of the catheter as a *routine measure*. If surgeons could agree on this point, I can see no reason why the indication should not be speedily cleared up.

As the matter stands, it could occur that at a recent discussion as to the best treatment of the trouble under consideration, the opinion was freely expressed, that we still are at sea with reference to the proper advice to be given to prostatics seeking relief. This view, to my mind, is no longer justified. The evolution of prostatic surgery has advanced sufficiently, I hold, to warrant us in taking a more determined stand in the matter. I think it is right for us now, to say: As soon as the catheter must be given into the patient's hands, the time has come when operative intervention should be urged.

The risks involved in self-catheterization are too grave to justify us in allowing our patients to assume the same. While it is true that prostatics *may* catheterize themselves with impunity, for years, even under most adverse external circumstances, it is also true, that catheterization, though in the hands of the most skilful surgeon and in spite of every possible aseptic precaution, may prove a menace to the life of the patient, even the very first time it is performed—all the more, of course, if regularly performed by the patient himself. The fact to be reckoned with then is, that it is absolutely impossible to foretell what the results of continued catheterization will be.

This uncertainty alone, it seems to me, ought to be ample argument against the propriety of advising the use of the catheter as one of the *surgical* procedures in the treatment of this disease.

I, therefore, hold that the *regular* use of the catheter by the patient himself should no longer be a routine advice.

Still I do not wish to be misunderstood. This dictum does not exclude the advisablility of a short period of catheterization in the hands of the attending physician, in the event of sudden, absolute retention so frequently met with in the course of the disease, and which is often soon overcome by the temporary use of the catheter.

I further do not say, and do not want to be understood to say, that the catheter has or should have no place at all in the treatment of prostatic enlargement. There are certain exceptions when its use is justifiable. For instance, we meet prostatics, especially among the well-to-do, intelligent class, who readily learn and faithfully carry out regular aseptic catheterism and vesical irrigation, and when neither patient nor physician is willing to take the risk of an operation, slight though this risk may be; or, there may be complications, such as advanced diabetes, chronic myocarditis, and contracted kidneys. Such patients may get along well with the catheter introduced once or twice in twenty-four hours, while operation might possibly mean death.

It is not this class of cases that my remarks have reference to. I speak of the rank and file of prostatics, the men who leave in the morning and return home at night, working for a livelihood for themselves and their families, and for whom it is impossible to observe the necessary asepsis in all its details. Here the family physician or surgeon should at least suggest an operation; he should explain its advantages as well as its dangers, and should *not* give the catheter the first place in the list of remedies at our disposal. So long as the catheter receives the *first* consideration, we shall not, I fear, arrive at any satisfactory solution of the question as to the best advice to be given a prostatic. The catheter must be relegated to the rear; it must be our last instead of our first resort—in the average case.

Then, too, the mortality resulting from long continued self-catheterization doubtless would be found to exceed that of any operative intervention now in vogue.

This point, viz., the discontinuance of advising the use of the catheter in prostatic disease as a routine measure, having been agreed upon, the problem would then be solved in a most simple manner—that is to say, operative intervention would be advised in every case as soon as regular catheterization becomes necessary.

As to the method of operation, the choice would lie between prostatectomy and galvano-caustic prostatotomy (Bottini's operation), the only two standard operative procedures now recognized.

Should the patient refuse operation of any kind, then, of course—but only then—the regular use of the catheter would be resorted to. Thus, one would *fall back* on the catheter as the only available means of relief, instead of *primarily advising* it.

Having stated my views as to the question "When shall we operate for prostatic hypertrophy?", I shall now proceed to discuss the *methods* of procedure to be employed.

Generally speaking, I consider prostatectomy to be the most radical, the most surgical procedure—in short, I believe it to be the most nearly ideal treatment for prostatic enlargement. If it be true—and we know that it *is* true—that the trouble of a prostatic is a mechanical one, that the obstruction caused by the enlarged gland is doing all the mischief—then it stands to reason that the total removal of such tissue represents the best cure.

Thanks to the arduous labors of many of our colleagues, the technique of the operation has been perfected to such a point that we are enabled, in most cases, to avoid future complications. The procedure is, therefore, a comparatively safe one, its mortality being estimated at 5 per cent. or less, surely not more than that of Bottini's operation.

Hence, I now advise prostatectomy wherever I find no contraindications, such as, for instance, advanced diabetes (5 per cent. sugar and more), pronounced anæmia, very soft gland, marked contracture of hips, etc. (personal experience), and have personally done the operation by the perineal route, in ten cases—in nine during the last eighteen months. I found the route to the prostate by way of the perineum to be the typical and safe operation which my former experience with the same in opening prostatic abscesses on antiseptic principles,* removing a sequestrum from the tuberculously inflamed

*Read, by invitation, before the Brooklyn Medical Society, and before the Harlem Medical Association.

**New Yorker medizinische Monatsschrift*, 1894, No. 1.

gland and evacuating the glandular tissue from within the capsule, for chronic gonorrhœal prostatitis (three cases) had taught me to consider it.

As far as the age of the patient is concerned, at which prostatectomy may still be safely done, I have extended the limit indefinitely. With other words, I consider there should be no limit, *the patient's general condition* being the only point to be taken into account when advising radical operation.

The dangers that might arise from general anæsthesia can be well overcome by employing spinal anæsthesia. The latter, I believe, has a great field in prostatic surgery in old patients, and will, no doubt, tend to widen greatly the indication for prostatectomy. In one of my patients spinal anæsthesia afforded me ample time to enucleate the prostate and extract a large calculus from the bladder. The patient was presented before the New York Surgical Society, cured, in January, 1903.

Superficial anæsthesia with ether, given by the drop-by-drop method, as well as with laughing gas, administered by a number of surgeons, when shelling out prostate glands of larger size by the suprapubic route, must also be mentioned in this connection.

Therefore, if to-day a patient with symptoms of enlarged prostate comes to me for advice, I proceed as follows:

I inquire as to the frequency of micturition and other subjective annoyances produced by the disease. I palpate per rectum to see if the gland can be diagnosed in this way. As regards this point, it should be borne in mind that in 33 per cent. of the cases such tumor is not discernible with the finger in the rectum, while intravesical inspection with the cystoscope reveals its presence, as also that of a trabecular bladder, the latter being, cystoscopically, the foremost pathognomonic symptom of the enlarged prostate. If the patient has never been catheterized before, I prepare him with quinine for two to three days, giving three times 8 grains per day, sometimes adding methyl blue, after which the catheter is introduced under due aseptic precautions, the patient having previously emptied his bladder as far as he was able. If the amount of residual urine is found to be considerable and the patient declares that something must be done to give him relief, I propose operative interference. I emphasize the superiority of prostatectomy, pointing out that it will produce the most satisfactory and lasting results. Should the cutting operation be refused, or I should have come to the conclusion that in the given case Bottini's operation is preferable, then I urge the latter. If both operations are refused by the patient, the catheter must, of course, be resorted to.

Cystoscopy I propose in all cases in which the kidneys are still in good condition. In the presence of advanced pyelitis and pyelonephritis, I rather abstain, knowing the dangers of intravesical instrumentation in such cases. Cystoscopy will readily show the presence of a vesical calculus or calculi, as well as their size, which knowledge often enables us to determine whether extraction through the neck of the bladder may be accomplished. Cystoscopy will also reveal the presence of a median lobe as well as the general configuration of the whole gland. It will thus greatly assist us, in establishing the indication for the operation, best adapted for the individual case. All of these points, of course, are of less value to the surgeon who employs the suprapubic operation only, in which event the finger will detect much of this interesting detail.

Cystoscopy, however, is absolutely indicated in that 33 per cent. of patients suffering from the symptoms of prostatic enlargement, but in whom rectal palpation does not show the presence of a tumor. Here one glance, with the prism within the neck of the bladder, and one turn of the instrument will show the intravesical prostatic tumor as well as the trabecular bladder.

As to the technique I employ in doing perineal prostatectomy, this does not vary much from that of other operators. I prefer the semilunar, pre-anal incision, the highest point of the curve corresponding to the lower third of the bulbous portion of the urethra. I consider this incision preferable to the transverse one that reaches the lower end of the symphysis, where the flap turned downward is too high to allow the catheter placed in the bladder for drainage to pass out straight. Some surgeons therefore divide this flap in the middle, place the catheter at the lower end of the incision and close the upper part again by suture. I have used the semilunar, pre-anal incision, as originally advised by the late Professor von Dittel of Vienna in 1874* for the last fourteen years whenever attacking the prostate by the perineal route, and see no reason, at present, to change it for the one made in the median line. It certainly allows the most satisfactory access to both lateral lobes, and does not injure any important structures, inasmuch as it is carried through the subcutaneous fat at either end only. After completion of the enucleation the wound is stitched up bilaterally. After the bulbo-cavernosus muscle is reached and its tendinous junction with the external sphincter ani muscle exposed and divided, a point so well described by the originator of the method in 1874 and 1889,† and later again by Zuckerkandl, ‡ the membranous urethra is easily reached by blunt dissection and incised on the staff.

By working bluntly backward on either side of the incision, the lateral lobes are at once exposed. If stones are present in the bladder these are primarily extracted after stretching of the vesical neck; or, if too large and hard, they may be crushed and evacuated through the prostatic urethra or removed by suprapubic incision. Now Young's metallic retractor—which I have used in my last cases to my greatest satisfaction—is introduced, opened, and the prostate pulled down. This retractor, I would mention parenthetically, is simple and clean and of great help to the operator. It permits of any amount of traction, enables the surgeon to always know when the walls of the urethra are approached and thus to avoid injury to the same; incidentally it works as an excellent hæmostatic by compression. Now the capsule of one of the prostatic lobes, preferably the right one, is throroughly incised, close to the prostatic urethra (1 cm. deep, according to Young). I have, so far, always used a straight, longitudinal incision. Young recommends that this incision be made slightly convergent toward the upper end in order to be quite sure that no injury to the ejaculatory ducts be done—a modification well worth adopting, as the slight deviation of the incision does not interfere with the subsequent enucleation. I then try, in as blunt a way as possible, to reach the nucleus or nuclei of the gland, which are carefully shelled out. In semi-soft and small glands this may at times prove difficult; but, with a little patience, can always be accomplished. Sharp retractors and forceps of various size may have to be employed. Of course, the larger and harder the gland, the easier the work. During all this time of enucleation, the retractor, either held by the assistant or by the operator him-

**Wiener medizinische Wochenschrift*, 1874, Nr. 16.

†*Wiener klinische Wochenschrift*, 1889, Nos. 21-23.

‡*Ibid.*, Nos. 28 and 29, 1891.

self, is pulling the prostate down into or toward the external wound, indicating where to stop in order to avoid injuring the prostatic urethra and bladder. Thus we are enabled to do at least the principal part, if not the entire operation, under the direct guidance of our eyes. On reaching the prostatic urethra inwardly, the prostatic tissue immediately adjacent, to it is left behind as originally advised by Rydygier* who called it "enucleation resection." As I have stated before, further experience will have to show whether this part of the prostatic tissue can be left intact and a cure effected nevertheless. Young's more recent observations regarding the preservation of this tissue, the "ejaculatory bridge," as he calls it, seems to bear out Rydygier in his claim that resection be preferable to enucleation of the prostate.

The other lateral lobe having been enucleated in the same way as the first and the median lobe, if present, having been reached through one of the two emptied lateral cavities and removed, I put a divided so-called gutter-drainage tube into the bottom of each cavity, filling the latter with strips of aseptic gauze, sufficient to control the hemorrhage. Then a single large drainage tube with a lateral hole next to the distal opening, or, better still, such a tube with a small-sized catheter tied to it by a few silk threads, is introduced into the bladder and carefully gauged, so that its distal end does not press against the posterior vesical wall. It is then fastened with a silkworm gut stitch to the upper border of the external wound, the corners of the latter closed by a few interrupted silkworm gut sutures and dressings applied. Only in patients suffering from a pronounced chronic vesical catarrh, permanent irrigation is instituted; otherwise the small catheter is plugged and continuous drainage carried out, same as in other vesical cases. Twice daily the bladder is washed with saline or sterilized weak boric-acid solution, followed by ichthargan in doses of increasing strength. The tampons and drains I generally leave untouched for five days, when the former are removed and the latter somewhat shortened, but left in place until the second principal dressing, which is done two days later. The catheter held by the silkworm gut stitch remains *in situ* for seven to eight days. After it is removed, I allow the patient to urinate through the perineal wound; if prostatic urethra and bladder have not been injured, the patient is able from the start, to retain his urine and empty his bladder at certain intervals.

From the twelfth or fourteenth day on, a sound of sufficient size to insure proper patency of the canal is introduced for a short time once or twice a week, preceded by irrigation with boric acid and ichthargan. After the removal of the sound, the patient is requested to pass the solution that was injected into his bladder. Later the patency of the posterior urethra is tested with the sound from time to time.

Older patients with chronic bronchitis are made to get up shortly after the removal of the catheter—that is, at the beginning of the second week; younger patients, when complicating pneumonia is not threatening, may remain in bed somewhat longer.

As regards the relative value of perineal and suprapubic prostatectomy, I do not think any definite decision can be rendered in favor of either, so far.

The tendency on the part of some surgeons to employ one method to the exclusion of the other, is unjustified. Both methods are useful and excellent procedures. The choice will probably depend largely upon the peculiarities of the case, and upon the inclination and practical experience of the individual operator. Although with the advanced technique of perineal prostatectomy also in coping with a large median lobe, and in view of the seeming drawback of the suprapubic operation, that it will always have to be done in the dark (more so, at least, than the perineal one), it would seem but reasonable to assume that the perineal route will eventually receive the preference.

Still future developments may prove this assumption to have been erroneous. So far it has been shown that prostates forming a tumor of some size can be rapidly and thoroughly enucleated by the suprapubic route.* But, on the other hand, we come across glands, especially among those of soft and semi-soft consistency, that have as nuclei tumors the size of a pea or small filbert and that cannot be shelled out of the surrounding tissues *en masse*. Such glands, I am sure, cannot be removed to advantage, if at all, by the suprapubic route, while if attacked by way of the perineum, they can be nicely enucleated. These last remarks have reference especially to patients operated upon in the earlier stages of the disease.

We therefore must learn to individualize and endeavor to determine with the help of all available diagnostic means (*before* resorting to the knife), which route seems best adapted to the given case. Principally, however, I think the choice will hinge upon the question of the possibility of preserving sexual power, provided, of course, this is a matter of import to the patient.

Personally, as stated before, I have done perineal prostatectomy in ten patients, with eight recoveries and two deaths, due to accidents beyond my control, as will be seen from the following brief histories regarding these two cases:

In one case death occurred on the operating table after the successful completion of the operation, as a result of suffocation. The narcosis was in the hands of a young, inexperienced narcotizer, and death could have certainly been averted, had a more experienced man conducted the anæsthesia.

In the other case death was due to an overdose of morphine. The patient, a man of eighty, was greatly debilitated, suffering from paralysis agitans and partial contracture of the hips. Septic conditions had developed in consequence of suppuration of the gland. The prostate was thoroughly shelled out at the patient's home, and on the third day after operation, when the patient was on the highway of recovery, an overdose of morphine was administered by the night-nurse, producing such profound symptoms of poisoning, that antidotes, etc., were of only temporary effect and could not save the patient.

Considering, that these deaths were due to circumstances in no way connected with the operation as such, I think I may with propriety claim my mortality in perineal prostatectomy so far to be nil.

A most important, and yet unsettled question, as just mentioned, is that of impotence following prostatectomy. Carefully collected, reliable data regarding this point with reference to the two routes—perineal and suprapubic—are still missing.

Of course, in the consideration of this point we must not confound impotence with sterility. The preservation of the ejaculatory ducts does not necessarily imply the preservation of the power of erection. A patient's ejaculatory ducts and posterior urethra may have remained absolutely intact during the operation, he may have emissions of semen through the normal channel, and yet may become totally impotent.

Centralblatt für Chirurgie, No. 41, 1902.

* At time of correcting proof: Within the last few weeks I have had this experience myself in six cases.

The cause of this most unwelcome sequela must, it seems to me, be looked for in the interference with the nerves, which induce the proper filling of the corpora cavernosa with blood. Future statistics will show, whether impotence is more frequently caused by the perineal or by the suprapubic operation. The decision of this question will, of course, greatly influence the surgeon in selecting the route, for, as mentioned before, either procedure has its good points.

In spite of all that has been said in favor of prostatectomy, the fact remains that there *are* cases in which special circumstances are present rendering prostatectomy contraindicated, or the cutting operation is absolutely refused—and such cases are by no means rare in our daily practice. It is in *these* cases that Bottini's operation should hold undisputed sway, and not resort be taken to the catheter as the only remaining means of bringing relief, as done by the opponents of Bottini's operation.

In a paper read by me before the last meeting of the American Surgical Association at Washington* I have tabulated my cases of enlarged prostate treated by Bottini's operation within the last five years, 59 in number. I was able to trace 34, which were reëxamined or heard from in April, 1903. Of these, 10, or 28 per cent., remained cured; 18, or 54 per cent., materially benefited; 6, or 18 per cent., were not improved. Of 15 patients who had used the catheter regularly, 10, or 66.6 per cent., laid the same aside permanently. The mortality of the operation was 6.9 per cent., *i.e.* 4 deaths as a direct result of operation in the entire series of 59 cases. It must be mentioned, however, that two of the fatalities occurred in the first 12 cases, when the instruments were rather poor and sufficient personal experience was lacking, one in the second and one in the third dozen of patients operated upon. In the last 23 patients there has been no death directly due to the operation. It is worth stating that these 59 cases were not selected ones, but were operated upon as they came along.

Of 23 cases that could be utilized with reference to the important question of the maintenance of sexual power after Bottini's operation, it was found to have been fully preserved in 20, or 86.9 per cent. It was alleged to have been more or less interfered with in three. This surely is a good showing compared with prostatectomy, especially with perineal prostatectomy.

Out of this series I have picked out the following three cases, in order to demonstrate what can still be accomplished by Bottini's operation in patients to whom life has become a burden and who could have been helped in no other way.

Case I.—Mr. H. H. H., sixty years, has had urinary trouble for the last eight years; of late very frequent and painful micturition and overflow at night. At times there was bilateral lumbar pain and rather profuse hæmaturia. Prostatectomy, as well as Bottini's operation, had been strongly advised against by a prominent surgeon on account of the co-existing advanced kidney trouble. The establishment of a permanent suprapubic fistula, that was suggested, was not consented to.

The patient came under my care on July 2, 1900. Physical examination at that time showed a man greatly depressed and in an extremely anæmic and weak condition. Spontaneous micturition was very painful and frequent, every thirty to forty-five minutes during the day; overflow during night. A most gentle introduction of Nélaton's soft rubber catheter produced intensely painful spasms and was immediately followed by hæmaturia. Residual urine—700 c.c. Rectal palpation shows prostate large and soft, and painful on compression; its upper border cannot be reached with the finger. Urinary analysis revealed a marked secondary affection of the kidneys. There was blood, a large amount of pus and mucus; hyaline and granular casts; cells from bladder and pelvis of the kidney. Amount of urea discharged in twenty-four hours—14 grams. *Diagnosis.*—Chronic pyelonephritis and cystitis. In view of the seriousness of the complications and the fact that a colleague had absolutely refused to do even Bottini's operation, it was but natural that I too should hesitate to do it. However, the patient, as also his devoted wife, well aware of the greatly increased risk of the operation, implored me to proceed and do the best I could under the circumstances. So I consented. Cystoscopy was omitted in view of the complicating pyelonephritis. On July 7, after the usual careful preparation, Bottini's operation was done under local eucaine anæsthesia and a suggestive general anæsthesia with alcohol and water.

Beak of the incisor, on exploring interior of bladder, did not strike a stone. After hugging the gland, the tip of the beak could be felt per rectum, 7½ cm. from the sphincter ani muscles, the distance between these muscles and the lower border of the gland being 3½ cm. In order to make the division as thoroughly as possible, the posterior incision was now carried to a length of 4½ cm.; that through right lateral lobe (which latter was found the larger of the two on rectal palpation) 3½ cm.; through left, 3 cm., both at an angle of 45°. A permanent catheter was left in the bladder. The patient stood the operation beautifully. There was not the slightest reaction. After ten days, during which the bladder had been irrigated twice daily, the permanent catheter was removed on trial, but the patient was unable to urinate spontaneously. It was, therefore, replaced and worn until July 26, or nineteen days after operation, when regular catheterization and vesical irrigation were begun instead. After a few days the patient began to pass his urine spontaneously, without pain, at regular intervals, 4, 5, and 6 ounces being voided at a time; but there was still residual urine, varying from 10 to 15 ounces. On August 5, or one month after the operation, 92 ounces were passed spontaneously within twenty-four hours.

When the patient called on me again, after a two months' stay at his country home, where he had been attended by a colleague and nurse, I was agreeably surprised to find him free from his former despondency, and in possession again of his old pluck, which, it was said, had always been a spec al characteristic of his. Some color had returned to his cheeks; his eyes were bright. He urinated every two or three to four hours in varying quantities without pain, and the hæmaturia had ceased entirely. The total amount of urine passed in twenty-four hours was 60 to 130 ounces, of which about two-thirds were voided nights, one-third during the day. There was some overflow during sleep, which was caught by a glass urinal placed between his legs. Bowels were normal. Residual urine, though present, did not annoy the patient. He remained in this good condition for the following two years, refusing, to my regret, a second operation. He never again suffered pain, nor did the hæmaturia return. He died in the spring of 1903, from the effects of his advanced bilateral pyelonephritis.

*"Prostatectomy and Galvanocaustic Prostatotomy (Bottini's Operation), Their Present Status in the Radical Treatment of the Hypertrophied Prostate Gland."—Medical Record, October 24, 1903.

This case beautifully illustrates what may still be accomplished by means of Bottini's operation in seemingly hopeless cases. This patient, before a great sufferer and an invalid in the true sense of the word, with a bilateral pyelonephritis so severe that an operation on the prostate had been refused by others, and unable, on account of intense pain and bleeding, to longer continue the regular use of the catheter, was, by means of Bottini's operation, transformed into a man who could again enjoy life, who attended to his business regularly, from morning till evening. Surely a brilliant result, even though the one operation had not entirely overcome the mechanical obstruction caused by the enlarged gland. Had I had my own way, a second Bottini operation would have been done three months after the first. As it was, I had to be contented with conditions as they were. Here prostatectomy most assuredly would have been absolutely out of question; only an operation of less magnitude, if any, could be attempted.

The next case to be narrated illustrates the usefulness of Bottini's operation in closing a persistent suprapubic vesical fistula that had resulted after cystotomy; it also shows most strikingly the beneficial effect of the operation upon the sequelæ of prostatic enlargement in general, in the presence of a co-existing marked pyelonephritis.

Case II.—Mr. X, seventy-five years old. First noticed trouble in micturition, fifteen years ago. Soon required catheter; vesical catarrh developed. In 1890 a prominent New York surgeon performed a suprapubic cystotomy with the hope of finding a stone. This expectation, however, was not realized; a suprapubic fistula remained, in which a tube was worn for two years. All vesical symptoms continued. Upon the advice of a surgeon at his home, the permanent tube was removed, and it was found that there was very little leakage above the symphysis. By catheterizing himself three to four times in twenty-four hours, the patient managed to get along tolerably well for a while. Soon, however, the bladder became very irritable. So one year later his doctor reopened the bladder and removed two phosphatic stones, snipping off, at the same time, a portion of the middle lobe of the prostate. After this the patient was much better for three years. Then the vesical symptoms again returned and the patient submitted to unilateral (left) castration, which was followed by a decrease in the size of the prostate, but brought no improvement in the symptoms. Lumbar pains, pointing to a complicating, bilateral pyelitis, were noticed during the patient's sojourn at the seashore in 1897. The physician there, evidently looking upon the trouble as urethral fever, advised discontinuing the use of the catheter, suggesting instead a female silver catheter of very small size to be passed through the suprapubic opening and to serve for vesical irrigation at the same time. This procedure was kept up for the next few years. However, the suprapubic fistula never was patent, a condition which was a source of incessant annoyance to the patient. In May, 1899, Bottini's operation was performed at a hospital in the patient's town, and he was discharged the day following. No improvement. One month later a second Bottini operation was done by the same physician. Twenty-four hours later fecal matter passed per urethram: a rectourethral fistula distal to the prostate gland had been established, and the same allowed a great deal of thin fæces to pass through the anterior urethra and external meatus.

When first seen by me, November 8, 1900, the small silver catheter was introduced by the patient through the suprapubic fistula about ten to twelve times in twenty-four hours. Sometimes he passed his urine in a fine stream through the suprapubic opening, but he was always wet, had marked tenesmus; frequent slight hæmaturia. Otherwise the patient is a well-preserved man, presenting a funnel-shaped suprapubic fistula which just permits of the passage of the small catheter mentioned before. Prostate per rectum is very large; upper end cannot be reached. There is intercommunication between the rectum and the membranous portion of the urethra, sufficient easily to admit the tip of the index-finger on rectal palpation.

In view of the exceptional history and complications of the case as well as the comparatively satisfactory condition of the suprapubic fistula, it will be readily understood that I was not much inclined to perform a third Bottini operation, as demanded by the patient, prostatectomy by either route being excluded by the patient's general condition as well as by the rectourethral fistula present. I very clearly pointed out to him the dangers and possible consequences of Bottini's operation in his present condition, suggesting that it might probably be best for him to leave good enough alone. However, he insisted; the permanent suprapubic leakage meaning such physical and mental torture to him, that he was willing to take any risk. I consented reluctantly, knowing full well, that the usual asepsis, which is of such great importance in the surgery of the uropoietic system, would be rendered impossible by that fistula.

Bottini's operation was done on November 27, after preceding internal medication. Spinal anæsthesia with cocaine was used. Irrigation of bladder through suprapubic wound. Then, with the assistant's finger compressing the rectourethral fistula, irrigation of anterior urethra, followed by the usual injection of sterilized paraffine. The prostatic incisor then slipped into the bladder with great ease. Before starting the operation, the interior of the bladder was carefully explored for a stone, with negative result. On trying to hug the prostate the beak slipped off; a second and third attempt was made with the same result. Diagnosis: large median lobe. Three incisions were made as usual, the posterior one being done twice.

The reaction was by far slighter than anticipated. Although, it is true, he developed epididymitis on the right side and an infiltration of the remnant of the cord on the left, his urinary organs were otherwise not affected. On the fourth day the patient was out of bed. Voluntary micturition through the urethra occurred for the first time within the last ten years on the eighteenth day after operation, but did not continue. On January 4, thirty-eight days after operation, the first larger amounts were voluntarily discharged through the normal channel, so that during the twenty-four hours closing on January 5 the patient had passed 32 ounces per urethram. A part of the urine, of course, always ran through the rectourethral fistula into the rectum. By introducing the catheter through the suprapubic fistula at regular intervals, the patient managed to keep himself perfectly dry.

A truss, as used for ventral hernia, with an air pad served as an additional safeguard against leakage. On January 9, 1901, the patient left for his home, his condition being greatly improved in every respect. Under date of January 17, his physician wrote me as follows: "Permit me to tender you my hearty congratulations for the good work you did in such a complicated case as that of Mr. X. He is doing well; the urethral flow is improving rapidly and he is walking out in the sunshine."

On the 4th of February the patient himself wrote: "The fistula has become so tight that I have difficulty in introducing the catheter. I stopped wearing the belt about a week ago; there is not a particle of leakage."

After enjoying this favorable condition for almost two years, the patient insisted upon having the rectourethral fistula closed. This was attempted at his home, but, unfortunately, without success. Soon afterward he died, as a result of his chronic trouble.

Thus a suprapubic fistula due to cystotomy in the presence of an enlarged prostate gland, having persisted for ten years, became definitely closed, and normal urinary drainage that had been suspended for the same number of years, was reëstablished by Bottini's operation, and that in a patient whose condition rendered prostatectomy as well as the continued regular use of the catheter through the normal channel impossible.

CASE III.—J. S., eighty years of age, was brought to me suffering from a far-advanced paralysis agitans with contracted hip-joints and absolute retention. His widowed daughter had been taught to catheterize her father, as the people were too poor to afford a trained male attendant. After months of faithful work the daughter had broken down under the strain, and then the question as to what might possibly be done for the patient became most urgent. As a matter of course, I was opposed to performing even Bottini's operation upon the patient, but the relatives insisted upon more than palliative work, being willing to take any risk. Thus, in the summer of 1902, Bottini's operation was done at the hospital; a very troublesome after-treatment followed. The result was that the patient got rid of the catheter absolutely, and now has very little trouble with his urinary organs.

These three cases will prove what may still be accomplished by means of Bottini's operation in otherwise positively hopeless cases, prostatectomy by either route being contraindicated and the use of the catheter having become intolerable.

What Bottini's operation can do in ordinary cases of prostatic enlargement, I have tried to show by the statistical data given above, covering a series of fifty-nine cases.

Surely, an operation that may be the means of accomplishing such excellent results should have the fullest and most careful consideration. To my mind the operation certainly does not deserve to be cast aside as worthless or unsurgical on merely theoretical grounds. It clearly should be classed as one of the surgical procedures for the radical treatment of the enlarged prostate gland. As recent contributions to the literature by some of our best men show, the truth as to its value is already being more generally recognized in this progressive country.

After all that has been said, I hold that the surgeon, in order to do justice to the prostatics entrusting themselves to his care, should train himself so as to be able not only to perform perineal or suprapubic prostatectomy properly, but also to do Bottini's operation. For, no one method of operating is applicable to all forms of prostatic enlargement; in other words, we must select the operation that suits the case.

1. *Conclusions.*—In view of the present advanced status of prostatic surgery, the catheter should no longer be advised as a *routine measure* in the surgical treatment of the disease under consideration.

2. Operative intervention should be urged as soon as the time for the regular use of the catheter has come.

3. Prostatectomy, being the most radical as well as the most surgical procedure, commands the first place in the treatment of the hypertrophied prostrate gland, especially since the technique has been perfected to such a point as to render the operation a comparatively safe one, the mortality having been shown to be less than 5 per cent.

4. The perineal route seems preferable to the suprapubic, for the reason that it enables the surgeon to do the operation more under the guidance of his eyes.

5. The choice of route in the average case will probably hinge on the question of preservation of sexual power, provided this point is of importance to the patient.

6. The patient's age, as such, does not furnish a contraindication to operation; it is his general condition merely, that has to be taken into consideration.

7. Where the effects of general anæsthesia are feared, spinal anæsthesia is indicated.

8. If the operation with the knife be refused or contraindicated, Bottini's operation should be advised, since it, too, yields excellent results.

9. Thus, we have two useful methods of operation for prostatic hypertrophy, viz., prostatectomy by the perineal or suprapubic route, and Bottini's operation, each holding its own place, and one complementing the other.

700 MADISON AVENUE.

A CASE OF HYPERPYREXIA WITH RECOVERY.

BY H. WALTON WOOD, M.D.,
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AUTHENTIC reports of hyperpyrexia have been recorded, varying from 108° to 148° (Jacobi), but, excluding some cases of insolation and status epilepticus, the majority of others are attributed to hysterical disturbances, mostly occurring in females.

The case which is here reported occurred in a male who presented no stigmata whatever of hysteria, and gave no evidence of neurotic diathesis in the anamnesis. The patient was a well-developed, well-nourished and robust Nova-Scotian, twenty-five years old; habits good; and by occupation a night supervisor in the hospital.

The first symptom was a hard chill occurring at noon, corresponding to the middle of his sleeping hours. He was unable to sleep the remainder of the day, and I was called to see him about five hours after the chill. His temperature at this time was 102.3°; pulse 82, of good tone and rhythm; respiration 22, fairly deep, and free from pain. He complained of chilly sensations with a dull headache, and aching of the muscles of his back and back of his legs, accompanied by a general feeling of malaise. These symptoms were ascribed to the febrile condition. No sharply-defined pain was complained of and no definite location of pain. His tongue was slightly coated, but his bowels were said to have been regular and in good condition. Auscultation of his lungs demonstrated the vesicular murmur to be more pronounced than normal over the lower lobe of the right lung, especially marked during the end of inspiration and beginning of expiration. There were, however, no well-defined râles. Inspection showed both sides undergoing rhythmical and equal excursions. Percussion, negative. Palpation gave a slight increase of fremitus over the right upper lobe. There was no cough or dyspnœa. There was a slight relaxation of the walls of the pharynx with a small degree of congestion. Tonsils not enlarged. The heart was found to be in good condition. The sounds were normal, with no murmurs or arrhythmia

in action. Examination of abdomen, negative. Blood examination did not show any leucocytosis or organisms. The urine showed a slight trace of albumin, otherwise negative.

Four hours later his temperature had risen to 105.2°. A sponge bath, with an alcohol rub following, was given, and an ice-cap placed to his head, which reduced his temperature .5°. The next temperature was taken one-half hour later, or ten hours after the chill, and was found to be 107°. A sponge bath was again given with little, if any, effect upon the temperature. The patient at this time was very restless, tossing from side to side, and apparently was suffering from pain in the hypogastric region, as he was rubbing his abdomen with his hand, and had his thighs flexed. His pulse was 120, regular, small, and soft. His respiration was 36, and was not as deep as formerly, but regular.

His temperature, half an hour after his last sponge bath registered 112°. A control test was made, and the thermometer was found to register correctly, after which the patient's temperature was again taken and still found to be 112°. His respiration at this time was 90, very shallow and panting in character, with momentary cessations at irregular intervals, but did not simulate the Cheyne-Stokes' type as the excursion was regular, and did not fade gradually into the cessation, but would stop abruptly. Neither were the pupillary or pulse changes indicative of the Cheyne-Stokes' type. The pulse was 140 and regular, but thready in character. There was a slight flushing of the skin all over the body, which was covered with a light perspiration.

A tub of water containing large pieces of ice was then placed beside the bed, and his whole body was vigorously bathed with ice water, and rubbed with cakes of ice by two nurses. An ice-bag was placed over the præcordium, and ice was placed at the sides of his neck over the carotids, and under the arms. The temperature of the room was successfully lowered by raising the windows, with outside temperature at 15°. This treatment was continued for thirty-five minutes, and when his temperature was again taken, it was found to be 103.2° (a drop of 8.8° in thirty-five minutes).

The first indication of a reaction was noticed in the respiration, which became a little deeper and slower, followed closely by an improvement in the pulse. After the temperature had dropped a slight shivering was noticed, and a blanket was put around the patient and a hot-water bag at his feet.

His mental condition remained clear until the temperature reached 105°, when he became somewhat flighty in his talk, and appeared to be in a dreamlike confusion, from which he passed into a comatose condition. When the patient's temperature was 112° he could not be aroused at all. After his temperature began to fall he passed from this comatose condition into a delirium with auditory and visual hallucinations. During the delirious period he was totally disoriented for time, place, and persons, but comprehended with difficulty anything spoken to him. His mind was clear when his temperature again reached 102.5°.

One hour after the height of the fever was reached he had another rise to 103.8°, and remained at that elevation until the evening of the second day, when it dropped to 101.3°, where it remained, varying less than a degree a day, until the fourth day, when it reached 102.5°, but quickly dropped in a few hours to normal, from which it fell to 97.4° on the sixth day. After this it rose to normal, and did not again rise during convalescence.

He was allowed to sit up in bed after his temperature had remained normal for eight days, and returned to work in good physical condition three weeks after his first symptom. He had, however, requested to be allowed to resume his duties a week earlier.

The only drug treatment used in the case was a small dose of a coal-tar antipyretic at the onset, and a laxative of cascara sagrada three times during the course. His diet for the first few days consisted of egg-nog and milk, which was gradually increased by the addition of broth, eggs, toast, etc., until a regular diet had again been resumed.

He has apparently suffered no sequelæ except a catarrhal otitis media, which did not appear until after he had resumed his duties.

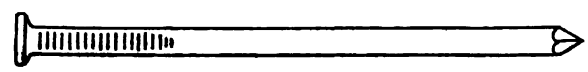
CASE OF NAIL IN THE DEEP URETHRA.

By G. FRANK LYDSTON, M.D.,
CHICAGO.

PROFESSOR OF SURGICAL DISEASES OF THE GENITOURINARY ORGANS, MEDICAL DEPARTMENT, STATE UNIVERSITY OF ILLINOIS; SURGEON TO ST. MARY'S AND SAMARITAN HOSPITALS.

A MAN, thirty years of age, married, laborer by occupation, was brought into my office by his physician with the following history:

Twenty-four hours previously the patient inserted a tenpenny wire nail, head first, into his urethra, for purposes best known to himself. The nail slipped from his fingers and was swallowed up by the urethra. Some hours later, becoming frightened, he consulted his family physician, who made persistent but ineffectual attempts to remove it. As a result of the irritation of the foreign body, and the traumatism incidental to attempts at removal, urethral hemorrhage and inflammation of the entire penis had developed. There was partial retention of urine. I decided that it would be unwise to introduce instruments into the urethra under existing conditions, until I had made an effort to locate the nail by palpation. Careful examination of the entire course of the urethra failed to discover the foreign body until the finger was introduced into the rectum, when the nail was readily felt, and could be



Nail Removed from the Deep Urethra.

outlined with a clearness which would have been surprising to one unfamiliar with the palpation of foreign bodies in the deep urethra. The nail lay diagonally along the canal, with its point embedded anteriorly in the right side of the wall of the membranous urethra. The head of the nail apparently lay just within the vesical neck, where it could be felt quite distinctly. The question now arose as to how best to remove the foreign body. As the point was embedded in the urethral wall, it was obvious that some difficulty would be experienced in dislodging it. In so dislodging it there was danger of pushing the nail into the bladder, which would require a cystotomy. The location in which the nail was found was a very fortunate one, and it seemed unwise to send the patient to the hospital, there being danger that the foreign body would become dislodged and enter the bladder on the way. The patient was poor and could ill afford the time and money necessary for the sojourn in the hospital which a cystotomy might demand. Taking the foregoing points into consideration, I considered it best to perform immediately a perineal section.

I placed the patient upon my office table, and after making the skin of the perineum aseptic, injected in the proposed line of incision a few drops of a one per cent. solution of cocaine. A small quantity of 4 per cent. was injected directly into the urethra. A small incision was made in the perineum

upon the point of a medium-sized urethral sound. The incision in the urethra was just large enough to admit the tip of the index-finger. The opposite index-finger being placed behind the head of the nail, *from* within the rectum, it was gradually worked loose from the point of impaction in the membranous urethra, and worked forward until it could be felt by the finger in the perineal wound. The latter finger was replaced by forceps and the nail withdrawn. The entire operation required less than one minute from the time the cutting began. Three catgut stitches were taken in the urethra, and the patient sent home on the street car in company with his physician, who was instructed to pass the catheter at regular intervals. Recovery was complete and rapid.

The nail removed was the ordinary wire nail, of the size known as the tenpenny. Its form and size are shown in the accompanying illustration.

The case is an interesting one, as showing especially the readiness with which the foreign body could be felt from the rectum, and the ease and simplicity with which a perineal section can be performed upon the surgeon' office table in cases of emergency.

100 State Street.

CHEMICAL AND PHYSIOLOGICAL ACTION OF THE POTASSIUM CHLORATE AND IRON MIXTURE.

By W. R. DREYFUS, A.B., Ph.D.,
NEW YORK.

CHEMIST TO THE DEPARTMENT OF PUBLIC CHARITIES OF THE CITY OF NEW YORK, AND CONSULTING CHEMIST TO BELLEVUE AND ALLIED HOSPITALS.

I believe there is no remedy which is better known to the medical and pharmaceutical profession, or which has become more of a "specific" in medical practice than the chlorate of potassium and iron mixture, popularly known as "Jacobi's Special." The formula and directions for its use are as follows:

Potassii chloratis	80 gr.
Tinct. ferri chloridi	160 ♏
Glycerini	fl. 2 ♁
Aquæ	q. s. ad fl. 8 ♁

Use as a gargle in doses of ½ fluidounce; internally for children from two to six years old, one teaspoonful every hour if required.

The value of chlorate of potassium gargles, also of ferric chloride as styptics, respectively disinfectants, are too well known to be set forth here. What has, however, made the combination of chlorate of potassium and ferric chloride so interesting is that neither of these chemical agents produces the same gratifying results when used alone, or when employed alternately. No matter whether diphtheritic serum is used or not, 50 per cent. of all physicians still rely on this remedy as a great aid in combating the bacillus diphtheriæ. As it is therefore a fact that neither chlorate of potassium nor ferric chloride produces the same results as their combination does, what explanation can be advanced for the antigermicidal action of this compound?

The liquor ferri chloridi of the U. S. P. contains at least 5 per cent. free acidum hydrochloricum U. S. P., which is equal to 1, 6 per cent. by weight of absolute hydrochloric acid; the tincture of ferric chloride contains about 0.4 per cent. of absolute hydrochloric acid. I take it for granted that the prescription is dispensed *lege artis*, *i.e.* that the tincture of ferric chloride is not added to the chlorate of potassium. In the latter case the free acid besides the acid salt (ferric chloride) would set free the chloric acid ($HClO_3$) from chlorate of potassium under decomposition. On the other hand, if the chlorate of potassium be dissolved in water and the ferric chloride added, no reaction will be noticed; the same reaction, however, takes place, only with the exception that the chloric acid set free out of a portion of the chlorate of potassium remains stable in the cold aqueous solution. There is present, therefore, in a well-prepared solution of "Jacobi's Special," besides the chlorate of potassium and the tincture of ferric chloride, some undecomposed chloric acid. At a higher temperature and in contact with organic matter, the chloric acid is split up into perchloric acid, chlorine peroxide, and water according to the following equation:

$$\underbrace{3\,HClO_3}_{\text{Chloric Acid}} = \underbrace{HClO_4}_{\text{Perchloric Acid}} + \underbrace{2\,ClO_2}_{\text{Chlorine perox.}} + H_2O$$

Such a decomposition probably takes place when a solution is employed for medication. In contact with the bacillus diphtheriæ the temperature of the solution is raised, and some of the water is withdrawn. All chlorine derivatives, but especially chlorine peroxide, are fatal to bacteria, and especially to the bacillus diphtheriæ. While the germicidal power of chlorine peroxide is greater than that of chlorine itself, it is milder and more innocuous to higher animal life.

I do not venture to assert that the specific action of "Jacobi's Special" is due only to the energetic disinfecting power of chlorine peroxide in the nascent state, but the explanation above given is in all probability correct.

A CASE OF TURPENTINE POISONING.*

By E. D. NEWMAN, M.D.,
NEWARK, N. J.

D. W., aged fifty-seven, appeared at my office on November 30, 1903, with a history as follows: he is married, and has been working as a varnisher. Six days before I saw him, while going to his employment, he felt slightly nauseated; on his essaying to speak, as he puts it, "he got stuck;" he knew the words, but could not enunciate them; on his return to his home, his wife noticed this loss of coördination, and also his decided thickness of speech; she likened it to that of a drunken man; he had noticeable incoherence of ideas, decided exhilaration of mind, and diminished muscular strength.

On his appearance at my office, he informed me that he had been suffering for some weeks with frontal headache; that on the two days previous, at about 11 P.M., he had feelings of smothering. For some days he suffered with irritability of the bladder. There was no blood nor pain when passing his urine, but frequent desire; eructations were frequent, no purging, rather slight constipation; labored breathing, and the bronchial secretion was increased; no increased sexual appetite. When he was eating, at times the tongue had a tendency to go between the teeth on the right side of the mouth; the taste was decidedly impaired, and he could not, if blindfolded, tell one article of food from another; in swallowing, it seemed as if something wanted to go down beside the food; the mouth looks reddened at the margin of the gums with some white deposit. He could not blow air through the right nostril, but on examination I found the cavity patent; on attempting to read, he did it in a hesitating way, and with thickened tones and many lisps; such letters and sounds as are produced when the tongue is pushed against the teeth were the ones noticed as most affected (c, s, z, th, tt). On further questioning I learned that about twelve years ago he had an attack somewhat similar in character; at that time he could work but one-half of the regular period, urinating frequently, sometimes as often as twelve times an hour; the urine contained blood and caused pain in passing;

*Reported at the Physician's Club, of Newark, N. J., January 8, 1904.

he was nervous and morose, and had the same sensation in swallowing as in the present attack; he also had bleeding from the gums; the arms and legs were not affected in either attack.

He had been working as varnisher for about nine years when he had the first attack; he ceased working as such, when he began to recover and remained well until this attack; about June 1, 1903, he again started to work as varnisher, and this attack began about five months after his second attempt at this trade. His urine had the odor of violets and remained fresh and sweet, with no evidence of decomposition for 120 hours, in a room with an average temperature of 70° F.

As is known, varnishes are generally made in one of three ways, with oil, spirits, or turpentine. This patient used the latter, and thus occurred the turpentine poisoning. The points of interest are:

(1) The susceptibility of the patient.
(2) The acute onset.
(3) The profound poisoning.
(4) The poisoning by inhalation.
(5) The extreme rarity of the case.

81 New Street.

THE SIMULTANEOUS OCCURRENCE OF TYPHOID AND MALARIAL FEVERS IN THE SAME PATIENT.

By V. E. WATKINS, M.D.,
Medical Department, U. S. Army Fort Miley, California.

In an article on typhoid and malarial fevers at Chickamauga, appearing in the *Journal of the Association of Military Surgeons* for February, 1904, the writer remarks: "It is much to be desired that a positive statement might be made as to the co-existence of typhoid and malarial fevers in the same patient."

The occurrence of these two diseases simultaneously in the same patient is so rare as to be almost a medical curiosity; but that such a combination does occur is an indisputable fact.

Two well-established cases came under my observation in the fall of 1898. Both patients were soldiers who had served in Cuba, where the malarial infection was probably contracted.

The first case was admitted to hospital, Fort McPherson, Ga., on August 30, 1898. The temperature was high and there were chills at irregular intervals during the month of September. The typhoid-fever symptoms in this patient were not marked, but the diagnosis of a mixed infection was confirmed by the demonstration of the estivoautumnal organism in the blood, and by the obtaining of a positive Widal-reaction.

The second case was that of a private of the Hospital Corps, who had been an attendant on typhoid-fever patients for some two months prior to his admission to hospital. About three months had elapsed since his return from Cuba, where he had had an attack of malarial fever. He was admitted as a patient to hospital on December 1, with a well-marked case of typhoid fever. Widal reaction was positive. During the third week chills occurred on alternating days with irregularity in the temperature. A microscopical examination of the blood at this time showed the presence of the tertian organism.

The clinical picture of the double infection is not characteristic, but will depend upon which process is the more active. A correct diagnosis from the symptoms alone is well-nigh impossible, and recourse must be had to the microscope.

Dedication of a Hospital.—The addition to St. Francis' Hospital, Freeport, Ill., built at a cost of $47,000, was dedicated June 8, by Archbishop Quigley.

Technique for the Application of Bier's Venous Congestion.—Henle says that one of the reasons why this excellent therapeutic measure has not attained greater popularity lies in the technical difficulties of its application. The proper degree of venous stasis is reached when what is known as "hot congestion" is produced—that is, the venous return is checked only sufficiently to cause a feeling of warmth and tingling. If the constriction is too tight, "cold congestion" is produced which is therapeutically ineffective and is very painful to the patient. It requires much skill and patience to adjust a rubber bandage so that exactly the proper degree of compression results, and the author employs a modification of the Riva-Rocci sphygmomanometer to accomplish the purpose. The extremity is encircled with a closed tube of rubber connected with a mercurial manometer and with a bulb for inflation. By forcing air into the tube the required compression can be easily produced and accurately graduated, while the manometer reading gives a record of use in making subsequent treatments.—*Zentralblatt für Chirurgie*, April 2, No. 13, 1904.

Vaginal Cæsarean Section.—Dührssen continues to advocate very warmly this method of rapid delivery by deep cervical incisions or by vaginal cæsarean section. About one hundred cases of the latter operation have now been reported, and the author considers it one of the most desirable means of rapidly emptying the uterus, particularly in eclampsia. In cases in which some dilatation has already taken place so that the internal os is obliterated four incisions carried up to the vaginal vault will usually give abundant room for delivery. To avoid complications it is important to make the posterior incision first. When the cervix is wholly undilated, splitting up of the anterior and posterior uterine walls, together with the anterior vaginal wall, can be safely performed by any gynecologist and makes delivery easily possible. The posterior incision is an essential part of the technique, and the difficulties some authors describe have been largely due to attempts to deliver through only an anterior incision. Prophylactic nicking of the perineum is also often necessary in primiparæ in order to save injury to the pelvic floor. The author has not given up the use of the metreurynter, however, but always makes a trial with it before resorting to the more radical procedures to which his name is attached.—*Zentralblatt für Gynäkologie*, April 2, No. 13, 1904.

Notes on the Treatment of Neuralgia by Injection of Osmic Acid.—G. A. Wright calls attention to the fact that most of the surgeons who have used osmic acid have injected it more or less at random, without exposing the nerve trunk. Such a method is quite sufficient to account for irregular and defective results, and it is also remarkable that so little is said of any ill effects considering the very marked changes that osmic acid produces in the tissues. In all the writer's cases he has exposed the nerve and injected a 1½ or 2 per cent. watery solution into the trunk or into branches. Sometimes the injection has been both toward the periphery and toward the center, and the acid has generally escaped more or less freely into the tissues immediately around the nerve.. Most of the writer's cases are much too recent to attempt to draw any conclusion as to the permanent value of the method. It is also impossible to eliminate the effect of the exposure and the mechanical results of the manipulation and puncture of the nerve, and in some cases of unintentional section by the trephine. The writer believes, however, that if this method is employed, the nerve should be fully exposed. He also believes that the immediate results in his cases, as regards both harmlessness and at least temporary relief, quite justify the use of the plan before resorting to any such severe procedure as excision of the Gasserion ganglion. It must be remembered that pain may continue for some days or even longer after the injection and then pass off. The writer then appends a list of cases.—*Medical Chronicle*.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

THOMAS L. STEDMAN, A.M., M.D., ASSOCIATE EDITOR.

PUBLISHERS

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THE PRACTICAL FACTOR IN IMMUNITY—BACTERICIDAL OR CONSTITUTIONAL?

THE perusal of an article in the *Journal of Medical Research* for May, by Dr. A. B. G. Nicholls, demonstrating the presence of bacteria in the mesentery of normal animals, is calculated to rouse thought on the ever-living question of immunity from disease. The author cited shows that in many of the lower animals bacteria are present within the various cells and capillary channels of the mesentery. Adami had previously observed this vital absorption of bacteria, so to speak, in normal, as well as cirrhotic human livers, and Nicholls has found it equally in the normal kidney in man and the lower animals. He says: "These facts strongly suggested that bacteria were constantly passing from the various epithelial and mucous surfaces of the body into the interior of the organism, whence they were taken up by the blood or lymph and carried to the various organs. In the case of the liver the presumption was that the bacteria were taken up from the lumen of the bowel and carried by the portal circulation directly to the liver, or else that they were removed by the lacteals and lymphatics and thus discharged into the blood, whence they reached the liver in the process of excretion."

By special technique (which included instantaneous killing and rapid removal and staining in thionin), and examination under a Reichert or Zeiss 1–18 or 1–20 objective, a 1–12 not giving sufficient magnification, Nicholls found in the rabbit's mesentery certain bodies which he considers bacteria, giving his reasons at some length; and an identical condition of things was found to exist in the mesentery of the guinea-pig, cat, and dog. Nicholls says: "Of late years evidence has been accumulating that in healthy animals bacteria are constantly passing in from the various surfaces of the body to become lodged in certain tissues, notably the lymph glands, and the discovery that microorganisms can be demonstrated in the mesentery affords one link in the chain of proof which has hitherto been wanting." Macallum has shown that the leucocytes take up iron from the intestine and carry it as far as the villi, and the capillaries of the liver and spleen. Ruffer, examining the intestines of healthy animals for bacteria, found leucocytes on the free surface and between the epithelial cells, many of which contained bacteria, while crowds of microorganisms could be demonstrated within the Peyer's patches. Recently several observers have found the pneumococcus and B. tuberculosis in the peribronchial glands of healthy animals, and Nicholls has observed microorganisms in the healthy mesenteric glands—observations which are in accord with those of Bizzozzero, Ribbert, and Adami. "Collectively these studies appear to afford conclusive proof that in healthy animals phagocytes pass out constantly to the mucous surface of the intestine and return loaded with food particles, fat, bacteria, etc., which they deposit eventually in the various organs. One path of entry is certainly through the lacteals and lymphatics, but another may be through the radicles of the portal vein."

Finally, to complete the tale of evidence, Ford has obtained cultures from healthy organs, as has also Nicholls. The latter concludes by saying: "That bacteria are constantly passing from the various surfaces of the body to the interior of the tissues, in which they can be demonstrated by special methods, is opposed to the long standing opinion that, in health, the various epithelial surfaces afford a complete protection against the entry of bacteria into the organism. Indeed, this conception that in health the organs are sterile has been accepted as a fundamental fact in our views regarding infection. Even now, although so many separate observers have brought forward clear evidence indicating that this is a false conception, the old doctrine regarding the sterility of the normal organs is still being taught. We found it laid down clearly in a textbook of general pathology by a well-known pathologist across the water, published within the last few weeks. I cannot but think that if the simple experiment here described be repeated with reasonable care, it must establish the contrary view beyond cavil; the view, that is, that the normal organs are not actually but only potentially sterile; bacteria are carried into them, but, in health, undergo a fairly rapid destruction."

These results seem to offer much food for thought. Of late years the bacteriological tree has borne much fruit, and to-day one of its most popular products is the conviction that the hygienic millennium is to be furthered by a public anti-bacterial crusade. Without denying some value to the efforts now being made in this direction in many places, the results likely to accrue would, in our opinion, be rather dearly purchased if the pursuit should lead us to forget that after all the final question is one of the physiological personal equation; the factor which used to be called, somewhat vaguely perhaps, "individual resistance," and which we now describe as the sum total of the phagocytic and antitoxic actors. Certainly one who has served in a chronic hospital can, in the case of an old patient succumbing to a "terminal pneumonia," much more easily think of him as having had the microorganisms present for a long time, and that a point was finally reached where "resistance" ceased to operate, than to believe that just that day for the first time he came in contact with the etiological organism.

EARLY BLOOD CHANGES DIAGNOSTIC FOR TYPHOID FEVER.

FOR a long time it has been known that the absence of an increase in the leucocytes speaks in favor of typhoid fever as against suppurative and some inflammatory affections. In the last number of the *Deutsches Archiv für klinische Medizin*, Drs.

Ludwig, Kast, and Carl Gütig give the results of their examinations of the blood in 105 cases of typhoid, with special reference to the question of its availability for *early* diagnosis. For this purpose they analyze the conditions found at the first examination. Of the 105 cases, 97 (or 92.4 per cent.) showed a total leucocyte count of less than 7,000; 6 cases showed between 7,000 and 9,000; and only 2 cases showed above 9,000. These figures are for all the cases, taken without reference to whether they were complicated or not. Forty of the cases were complicated; the lesions being severe bronchitis, lobar and lobular pneumonia, suppurating bed sores, severe icterus, ulcerous colpitis, gonorrhœal urethritis, abscesses, cystitis, etc. In nearly all of these case too, the numbe of leucocytes in the early stages of the typhoid was under 7,000. Two cases of abscess showed an increase in the leucocytes, and the same hyperleucocytosis was seen in individual cases between the forty-first and forty-sixth days of the disease, after the fever had almost or quite defervesced. ne accident, however, was specially apt to bring about a leucocytosis, namely, hemorrhage. One of the three cases showing as many as 29,000. The experience of the authors then justifies the in laying down the rule that, in the vast majority of cases, complications do not alter the natural typhoid blood state of hypoleucocytosis, and that this is especially true of the earliest stages of the disease; but that the leucocyte count is valueless for differential purposes, if a short time before it is made a severe hemorrhage has occurred. With some limitations given below, then hypoleucocytosis points toward typhoid fever, and the more distinctly the more marked its degree, a count of less than 5,000 being especially significant. Kast and Gütig's results are, therefore, in complete accord with those of Kühn, who found the same condition in 92 per cent. of his cases, and who considers that for early diagnosis this sign is entitled to outrank all others. On the other hand, the existence of a hyperleucocytosis tends to exclude typhoid fever, and that disease is negatived with the greatest probability by a count of over 12,000.

The other conditions which, in Kast's and Gütig's experience, have shown a low leucocyte count, are: Measles, malaria, pulmonary tuberculosis, Banti's desease (two cases), severe anæmia, miliary tuberculosis (two cases out of eight), and overpowering general infections; the degree being slight in the first three, and considerably too high in the remaining conditions. In particular, as regards the differentiation of typhoid from tuberculous meningitis, the high normal or increased leucocytosis in the latter disease, is an important point. And between typhoid and severe sepsis or pneumonia, the shifting between high and low in the last two conditions contrasts with the persistently low count of typhoid. With a low leucocyte count in anæmia, for the exclusion of typhoid great caution is required, as the co-existence of the two conditions under mask of a similar blood condition, is by no means impossible.

As regards the comparative merits of hypoleucocytosis, and the clumping of the bacteria which constitutes the Gruber-Widal test, the authors award the greater weight to the latter sign when available. The value of the condition revealed by the blood count, however, lies in its frequently being available at a time when the Gruber-Widal reaction is not obtainable. In fourteen of their cases the blood had already taken on the characteristic typhoid picture, though it was as yet impossible to get the Gruber-Widal reaction.

The authors also point out the low numbers that obtained in the fatal cases, and their experience leads them to believe that the higher figures maintained constantly for a long time, afford grounds for a favorable prognosis. They found a fall in the number of lymphocytes especially ominous. And the same was true where toward the end of the fever complications depressed the leucocyte curve further.

The condition of the blood in paratyphoid fever is, in essential particulars, the same as in typhoid.

EPIDEMIC TRICHINOSIS; EOSINOPHILIA, AND SPLENIC ENLARGEMENT.

In the *Deutsches Archiv für klinische Medisin* for April 14 last, Dr. Karl Schleip gives the results of his personal investigations of an epidemic of trichinosis which originated between August 19 and 26, 1903, at Homberg and environs. The epidemic was a mild one. While in former epidemics the mortality had reached as high as 30 per cent., in the present one no death occurred, though during the third and fourth weeks the prognosis in many cases could not have been favorable. The conclusions reached by the author are that the clinical symptoms in trichinosis are not sufficient to establish a certain diagnosis of that condition. Especially is the diagnosis difficult in cases occurring separately much more so than during an epidemic. Indeed the occurrence of numerous unrecognized sporadic cases shows that such cases are rarely diagnosed, the disease being perhaps unrecognizable. In the direction of a clearer recognition of the disease the Homberg experience bids fair to be of practical value. Two facts of great value were determined: First, that a distinction from typhoid fever based upon the presence of an enlarged spleen, the presence of which has been regarded as a valuable differential point in favor of typhoid, is worthless, as out of forty-six cases repeatedly investigated the spleen was enlarged in thirty-eight, a percentage of 82.6; and, secondly, that in the presence of a marked increase of the eosinophile leucocytes we have a differential mark that amounts, for practical purposes, may be regarded as pathognomonic. For, although apart from its occurrence in helminthiasis generally, eosinophilia is known to occur in some skin diseases (pemphigus, acute dermatitis, chronic dermatitis herpetiformis, etc.), still these conditions are easily discriminated from trichinosis clinically. The existence of eosinphilia in trichinosis was first observed in 1896 by T. R. Brown, who pointed it out as specific for the character disease. Since then it has several times been found. The chief value of this symptom lies in its being a practically certain diagnostic mark, and, moreover, one which is available for diagnosis at a time when the trichinæ have not yet migrated into the muscles and within reach of the spear. In the Homberg epidemic the eosinophilia occurred regularly, and was of a high grade.

As regards the individual stages of the disease, too, the fluctuations in the relative proportions of the different leucocyte species is characteristic.

These fluctuations are conditioned, first, by the action of the metabolic products excreted by the trichina on the places of formation of the leucocytes; and, secondly, through an alteration during convalescence of the lymphatic apparatus, and probably also through a disintegration of the eosinophile leucocytes. During the disease, in many cases a leucocytosis appears; in almost all cases a high-grade eosinophilia is present, while the neutrophiles show, both percentually and absolutely, a diminution. In the stage of convalescence a marked increase takes place in the lymphocytes, with a simultaneous deluging of the blood with blood-plates. Coincident with the diminution of the chemotactic matters excreted by the trichinæ, the neutrophile cells show an effort to regain their normal numbers, and the eosinophilia gradually vanishes. In the peripheral blood the eosinophilia have the normal appearance. From the rarity of transition forms between them and the basophiles, it is impossible to draw any certain conclusion as to the origin of the eosinophile cells.

The interstitial myositis in trichinosis is strongly marked. It is conditioned by a heightened immigration of eosinophile leucocytes to these foci, which probably represent the track of the wandering parasites. The stronger gathering of the eosinophiles in the muscles is due to the fact that the specific irritation is here greater than at other points. The absence from the muscles in trichinosis of immature eosinophiles, together with the complete absence of eosinophiles in other forms of myositis, speaks against the view that the esoinophile granules originate through a disintegration of the muscle substance.

The regularity of the occurrence of eosinophilia in all diseases conditioned by the presence of helminths, even that of helminths which do not migrate into the body, and consequently do not produce myositis, points much more to the conclusion that the leucocytosis is a result not of the myositis but of the helminthiasis, that is to say, of a chemotactic working of helminthic products.

As regards the degree of enlargement of the spleen, measurements of 12.9, 10.5, 7.5, and 14.8 centimeters were not rare. All measurements were made in the erect posture. Upon recovery the enlargement disappeared.

With respect to the length of the incubation period many cases developed the day following ingestion of the infested meat. Indeed with some, digestive disturbances showed themselves immediately after ingestion. The longest period was eleven days; the more general three to six days.

The Dangers of Improperly Sterilized Milk.

Women, nowadays, are generally glad of any excuse in order to avoid feeding their children at the breast. Thus they appear only too willing to believe implicitly the specious advertisements of the manufacturers. Sterilized milk has gained a great reputation as being freed by the process it undergoes from injurious germs, and is given freely to children in the belief that such is always the case, and that milk treated by sterilization is a harmless and nutritious food. Unfortunately, however, the so-called "sterilized" milk is not frequently all that its name implies. Putting on one side the contention that by sterilization milk is deprived of some of its best properties, there are other features in connection with sterilized milk that are worthy of notice.

Dr. William Robertson and Mr. William Mair describe in the *British Medical Journal*, May 14, the result of investigations made by them into the bacteriology of sterilized milk. The conclusions reached are these: The first and obvious conclusion arrived at, say the authors, is that the designation "sterilized" milk, as applied to that sold from corporation depôts, is wrong and misleading, and we would suggest the substitution of the term "Milk Prepared for Infants." In this way there would be no sailing under false colors, nor will undue confidence be placed in the keeping qualities of infant's milk. (2) Every customer should be carefully instructed as to the necessity for keeping the milk in as cool a condition as possible. This instruction will especially be necessary in summer when the temperature often exceeds 70° F. (3) Faith in the powers of our steam sterilizers should not be too implicit. Accordingly in hot weather each day's supply ought to be sold as it is prepared. (4) As an additional precaution, all bottles, after being taken from the sterilizer, should be placed in warm water, and gradually cooled.

The writers point out that Flügge, Lubbert, and Weber show how it is not difficult to understand why imperfectly sterilized milk may be the cause of diarrhœa and intestinal troubles. If imperfectly sterilized milk is allowed to stand in warm rooms it will soon become a source of danger to the consumer, and it is therefore necessary to avoid this possibility by insisting that all "prepared" milk be stored in cool places.

Aliens, Dirt, and Disease.

In Great Britain there has recently arisen an outcry against the time-honored custom of allowing persons of foreign birth to land indiscriminately and settle in that country. The situation has now reached the acute phase, and so strenuously has public sentiment declared itself against the continuance of such methods that an Aliens' Bill has been introduced into the National Legislature, with the view of excluding undesirable immigrants. However, several noted Englishmen are not in favor of the passage of a law of this nature—among these being Mr. Bryce—who has asserted that Russian and Polish Jews are very much healthier than the London workers of British stock. The cudgels for the native race have been taken up by Mr. Bishop Harman, ophthalmic surgeon to Belgrave Hospital for Children, who shows that, at least so far as affections of the eye are concerned, aliens are not nearly so healthy as Londoners of the same class. The alien suffers from conjunctivitis, trachoma, and blepharitis, very much more than does the native, even from five to twelve times as much. All these diseases are contagious, some are epidemic, and others are endemic.

Mr. Harman says that the chief factor in the spread of eye affections is dirt and overcrowding. The incidence of eye affections was more than twice as heavy in the "dirty" schools as in the clean schools. Bacteriological results show that dirt is not far removed from a synonym for disease, in that dirty and ill-kept children are the hosts of more septic organisms than clean children. The examination of native and alien children, according to Mr. Harman, shows that superficial inflammations of the eye are much more frequent in the alien than in the native; also that the alien is deficient in visual acuity to a much greater extent than are the natives of London generally, or of the very poor

natives living under conditions similar to those of the poor alien. The experience gained in New York City of the eye affections of immigrants, and especially of Russian and Polish Jews, will corroborate the statements of Mr. Harman. Eye disease, trachoma in particular, is extremely rife among immigrants of this class, and the widespread prevalence of this malady in New York during last summer was wholly due to aliens suffering from the complaint getting into the city. Its contagious nature quickly spread trachoma far and wide. In self-defence it is right and just that aliens who are apt to spread disease should not be allowed to land. Moreover, in an overcrowded land—like England—strict discrimination should be exercised as to persons of foreign birth desiring to make their homes in the country.

The Feet of the Japanese Soldiers.

All military men are agreed that the feet of soldiers must be in good condition in order that they can fulfil their duties efficiently. No troops, the feet of whose members generally are not sound, are able to carry on a long campaign successfully. Napoleon, Wellington, and many other celebrated generals have insisted upon the necessity of soldiers being suitably shod. Indeed, good food and good feet are two most essential points in determining the issue of a war. The Japanese, according to all reports, is in almost every respect an ideal soldier. He is brainy, enduring, strong, and, moreover, is able to thrive on a diet which would mean almost starvation to a European, He is, in addition, patriotic to fanaticism, and, as is well known, fanatics have ever been most redoubtable fighters. But he has a weakness, and, in the opinion of Dr. Martignon, late resident physician to the French Embassy in Pekin, a fatal weakness—his feet are defective. Hi body is of iron, but his feet are of clay. The *British Medical Journal*, May 14, referring to this matter, gives an apropos quotation from Rudyard Kipling. That writer in "My Lord the Elephant," puts into the mouth of one of his characters, Mulvaney, the witty Irishman, these words, "I had a bootgall, but I was all for keepin' up wid the rig'mint and such like foolishness, so I finished up wid a hole in my heel that you cud ha' dhrew a tent-peg into. Faith, how often have I preached that to recruits since, for a warning to them to look after their feet. Our dochtor, who knew our business as well as his own, he sez to me—in the middle of the Tangi Pass it was—"That's sheer damned carelessness, sez he, how often have I told you that a marchin' man is no stronger than his feet—his feet—his feet! sez he." The feet of the Japanese are not naturally weaker or worse than the feet of other Orientals—probably better—but the authorities, in their zeal to copy accurately the equipment of European infantry, have shod their soldiers in thick heavy boots, and have in this respect overshot the mark. The Japanese have been accustomed for generations to wear sandals, paper shoes, or those made of a soft material or to go barefooted. Thus to put persons not used to having their feet restrained into heavy leather boots was an experiment not altogether in accord with the high intelligence displayed by the Japanese authorities in all other matters relating to war. The mistake may cost them dear, may even influence the result of the war.

The Census of India.

The census of India, which was taken in 1901 and which has been published recently, contains many facts of interest to the medical profession. The total population of the great British dependency was, at the time of the taking of the census, 294,361,056, next to China the most thickly populated country of the world. The gross increase of population, however, since the previous census was only 1.5 per cent. Taking India as a whole, but one-tenth of its inhabitants live in towns. There are in the Empire only 963 females to 1,000 males. There is no evidence of any serious concealment of females in the enumeration, and the difference in the proportion of the sexes must be sought in the excess of male births, which occurs in India as in Europe, and in the heavier female mortality arising from the comparative neglect of female children. Such children are unwelcome, especially where husbands are difficult to get, and they are often ill-fed, ill-clad, and neglected in sickness. Infanticide seems to be rare. Premature cohabitation and child-bearing, with unskilful midwifery, hard work among the lower classes, and other adverse conditions, enhance female mortality.

In the last twenty years there has been a striking and continued decline in the number of all afflicted persons—insane, deaf mutes, blind, and lepers in India. This must be ascribed partly to better enumeration, partly to improved sanitation and extended medical relief, partly to the severe effects of the famine and plague on the poorer sufferers. Insanity is rare in India, and Eurasians and Parsees are most affected by it. Operations for cataract mainly account for a large decline in blindness, which prevails most in hot, dry areas. The prevalence of leprosy is greatest in Benar, Assam, and Bengal, but the disease is extraordinarily local. In Western Bengal it is twice as bad as it is anywhere else, and the figures are 37 per 1,000 for males and 17 for females, as against 0.48 and 0.17 respectively for India generally. The eating of badly-cured fish does not seem to explain leprosy in Western Bengal if it does anywhere, and the areas of greatest prevalence differ as to diet, as well as in race, climate, etc. The census shows a decline of 23 per cent. in lepers since 1891, but the disease is probably more rife than figures show.

In India both birth rate and death rate are high, and the excess of the latter over the former is only about one-half of that in England. Consequently the population increases less rapidly in India. The mean age of the persons of both sexes is about twenty-six years.

The Feeding of Infants.

The need of giving to infants proper food, that is to say, mother's milk, is being continually urged. Notwithstanding that the vital importance of thus feeding babies is made the subject of discussion by medical men everywhere, women as a rule appear to be little affected by arguments and continue to feed their young children in the manner which gives the least trouble to themselves. Accordingly, the cry is heard on all sides that the civilized races are degenerating.

Sir James Crichton Browne, in the Presidential address to the British Association of Sanitary Inspectors, recently delivered by him, treated this matter from a somewhat novel standpoint. He first drew attention to the disastrous consequences to infants of their being deprived of their natural food from the maternal breast, and showed by statistics that this shirking of duties on the part of mothers was followed by most serious consequences. Figures prove that of 150,000 infants who die annually in England in the first year of life, three-

fourths have been fed artificially, and one-fourth nursed at the breast. In France the mortality of breast-fed children is 8 per cent. while that of hand-fed children is 61 per cent. The true cause of this excessive death rate among artificially nourished children, although disguised under the names of various diseases, is in the vast majority of cases malnutrition. The speaker further considered the question from the purely commercial point of view and calculated the pecuniary loss to the nation of abstaining from maternal nursing. He computed that the normal milk supply of English mothers for the year 1901, based upon the birth rate, would have been 63,000,000 gallons, and worth at one shilling per gallon, £3,150,000 ($15,750,000). As to the quantity wasted or suppressed, there are no means of accurately estimating, but it is certain, judging to the extent to which the custom of artificial feeding of infants prevails in England, that a very large proportion of the total amount of mother's milk provided was not utilized for its intended purpose. The way in which the ordinary well-to-do woman, and especially the fashionable woman, evades her duties to the child she has brought into the world, and to the nation of which she is a member, is, thinks Sir James Browne, disgraceful. He therefore, earnestly asked medical men to exert their influence and to endeavor to persuade their female patients to nurse their own children and not to evade this manifest duty upon any trivial excuse.

News of the Week.

The Medical Staff in the Isthmus.—Col. William C. Gorgas, U. S. A., chief sanitary officer on the Isthmus of Panama, together with his first assistant, Major Louis La Garde, sailed for Colon on Tuesday of this week. He has requested the appointment from civil life of 300 physicians to care for the 50,000 laborers who will be employed in the work on the canal. Dr. La Garde will be in charge of the hospital work, having his headquarters at the old French Hospital in Panama.

An American Hospital in Malta.—Mr. Henry L. Clapp of New York, for the last ten years or more a resident of Malta, has commissioned a firm of New York architects to design a hospital which he and Mrs. Clapp propose to build upon St. Julian's Hill, a suburb of Valetta in that island. In a recent letter to the architects Mr. Clapp wrote: "I want the hospital to be of a thoroughly American type—the plans to be prepared by American architects and up to date in every respect. I am the only American resident on the Maltese Island, and I desire to have this hospital an honor to the Stars and Stripes, which will float over it, and a blessing to my countrymen who may need such a refuge in a foreign land." The hospital will be for the care of acute cases only, and no patients with consumption or any incurable disease will be admitted. There will be a Washington Hall, a Lincoln Hall, a Victoria Hall and an Alexandra Hall. In the plan there will be a place for a museum building. The Nursing Sisters of the Little Company of Mary, well known in Malta, will have charge of the nursing department.

Dr. Spratling's Appointment to Bellevue.—The Municipal Civil Service Commission has decided not to recognize the appointment by the Trustees of Bellevue and allied hospitals of Dr. William P. Spratling, formerly Superintendent of Craig Colony for Epileptics at Sonyea in the Genesee Valley, as superintendent of Bellevue Hospital. His appointment from a place in the State service, *vice* Superintendent Mabon, who entered the State service, is questioned, and it is contended that he should have been subjected to a civil-service examination. The commission holds that before it can certify to Dr. Spratling's salary he must be subjected to an examination. Assistant Superintendent Michael J. Rickard was pressed as a candidate for the place and was defeated by only one vote at an animated meeting of the trustees. The trustees who voted for Dr. Spratling contend that the Municipal Civil Service Commission has no power to overrule the State Commission.

Officers of the American Surgical Association.—At the closing session of the American Surgical Association, June 17, the following officers were elected for the year 1904–1905: *President*, George Ben Johnson, Richmond, Va.; *Vice-President*, Emmett Rixford, San Francisco; *Secretary*, Dudley T. Allen, Cleveland; *Recorder*, Richard T. Hart, Philadelphia; *Treasurer*, R. S. Fowler, Brooklyn. San Francisco was chosen as the place of meeting for 1905. A resolution of respect to the memory of Dr. James S. Dunn, who died suddenly on the night of June 16, was adopted. The following were elected to fill vacancies in the membership, which is limited to 125: Drs. Harvey G. Mudd of St. Louis, Charles H. Frazier of Philadelphia, Archibald MacLaren of St. Paul, and Charles B. Porter of Boston.

The New St. Luke's Hospital in St. Louis.—The new hospital building of the St. Luke's Hospital in St. Louis was opened recently. The building occupies a plot of ground 475 x 350 feet, covering over half of a city block. It is situated on the crest of a hill in the resident section, and in one of the healthiest and most beautiful sections of the city. The buildings are on the modified pavilion plan, fireproofs and a separate building for nurses. The cost of the buildings and furnishings was $350,000, and the appointments throughout are of the most approved and complete pattern. The three operating rooms are complete in every detail, with separate chambers for sterilizing instruments and dressings, surgeon's disrobing rooms with shower and tub bath, and retiring rooms. The hospital is governed by the Episcopal denomination, and maintained by private subscription and public contributions, though it has an endowment fund of $75,000. Dr. Harvey G. Mudd is the surgeon-in-chief.

The Delaware State Medical Society.—At the annual meeting of this society, held at Lewes on June 12, Dr. Alexander Lowber of Wilmington was elected president, and Dr. John Palmer, Jr., 1900 Delaware avenue, Wilmington, secretary. The next meeting will be held in Wilmington on the second Tuesday in October, 1905.

A Curious Insurance Ruling.—An interesting decision was rendered a short time ago by a Philadelphia judge in a suit against the Metropolitan Life Insurance Company. A man took out a policy in 1889, in which was a clause providing that after two years the policy should be non-contestable except for non-payment of premiums or fraud. In 1903, the insured, who had paid all his premiums when due, was hanged for murder. The company refused to pay and the executors brought suit. After citing a line of cases bearing upon the subject, Judge Ralston said: "We consider, therefore, that upon grounds of public policy the law of Pennsylvania forbids recovery upon a policy where the insured has been executed for crime, and this whether the policy contains a clause upon the subject or not, and even if it stipulates that the company shall be liable in such a contingency. The rule for judgment is discharged. This is visiting the sins of the father upon the children with a vengeance; for of course the punishment of the dead man is not increased, the only

sufferers being his wife and children, already deprived of his support by the execution.

Smallpox in the Ohio Penitentiary.—Two cases of smallpox have broken out in the Ohio State Penitentiary at Columbus, Ohio. The Penitentiary Hospital has been quarantined.

Failure of Electrocution.—At the Ohio Penitentiary annex during the past week two miserable failures have occurred in electrocuting condemned men. Michael Shiller was given an initial shock of 1750 volts but revived, later he received 1900 volts for eight seconds; this was run down gradually to 250 volts during fifty-three seconds, after three minutes he again revived and was again exposed to the current for two minutes. Moses Johnson, the second victim, required eighteen minutes of intermittent shocks before he was pronounced dead.

Association of American Medical Colleges.—The fifteenth annual meeting of this association was held in Atlantic City, N. J., June 6, 1904. Fifty-two colleges were represented. Four colleges applied for membership and were accepted. The application of one college was not acted upon, pending further investigation. The total membership of the association is seventy colleges. The association acted favorably on the recommendation of the Special Committee to continue the visitation and inspection of all the college that are members, and the following committees were appointed to report at the next meeting: *Committee on Uniform Curriculum*, Geo. M. Kober, W. J. Means, and Parks Ritchie. *Committee on Medical Education*, Fred. C. Zapffe. This Committee to confer with similar committees from the American Medical Association, Southern Medical College Association, American Confederation of Reciprocating Examining and Licensing Medical Boards, The National Confederation of Licensing and Examining Boards, The American Institute of Homœopathy, The National Association of Eclectic Physicians and Surgeons, and the Association of Physio-Medical Physicians and Surgeons. This committee is to consider the question of medical education in all its phases, including preliminary education and entrance requirements. Papers were read by Wm. H. Wathen, Louisville; H. L. Taylor, Albany, N. Y.; Geo. M. Kober and Seneca Egbert, Philadelphia. The following officers were elected for the ensuing year: *President*, Samuel C. James, Kansas City, Mo.; *Vice-Presidents*, R. Dorsey Coale, Washington, D. C.; R. H. Whitehead Chapel Hills, N. C.; *Secretary-Treasurer*, Fred. C. Zapffe, 1764 Lexington Street, Chicago. *Judicial Council*, Wm. J. Means, Columbus, Chairman; Randolph Winslow Baltimore; H. B. Ward, Lincoln, Nebr.; Geo. M. Kober, Washington, D. C.; Thos. H. Hawkins, Denver, Colo.; Parks Ritchie, St. Paul, Minn., and John M. Dodson, Chicago. The next meeting will be held on June 5, 1905, at Portland, Ore.

The American Gastro-Enterological Association held its annual meeting at Atlantic City, June 6 and 7. A symposium on Gastric Ulcer was the chief topic of the proceedings. Harlow Brooks, New York, discussed the pathological anatomy, and W. G. MacCallum, Baltimore, the pathogenesis. Campbell Howard analyzed the post-mortem and clinical statistics of many hospitals in the United States and Canada. Symptomatology, course, complications, sequelæ, and differential diagnosis were discussed by M. Einhorn, J. Kaufmann, M. Manges, all of New York, and H. W. Bettmann of Cincinnati. Medical and surgical treatment were discussed by S. W. Lambert and J. A. Blake, both of New York; the condition of the blood and urine was discussed by T. Futcher, Baltimore, and the occurrence of gastric ulcer in children by E. G. Cutler of Boston. Other papers were read by J. C. Hemmeter, J. Friedenwald, both of Baltimore, C. D. Aaron of Detroit, F. H. Murdoch of Pittsburg, and F. B. Turck of Chicago. The following officers were elected for the coming year: *President*, S. J. Meltzer, New York; *Vice-Presidents*, F. H. Murdoch, Pittsburg; H. W. Bettmann, Cincinnati; *Secretary*, C. D. Aaron, Detroit; *Member of the Council*, W. G. Morgan, Washington. The next meeting will take place in New York during the Easter vacation.

The Basis for Medical Charges.—Judge Ryan of St. Louis recently decided that the finanical condition of a patient should not be taken into consideration by physicians in making charges for professional charges. "The character of the service, the seriousness of the complaint, the skill and time required, the result reached," he says, "are elements to be considered, but not the wealth or poverty of the patient." The decision was rendered in setting aside the verdict of the jury in the suit of Dr. M. P. Morrell of St. Louis against Dr. J. J. Lawrence of New York. Dr. Morrell came to this city and performed a surgical operation on young Lawrence, charging $30,000. The jury awarded him $12,000, but Judge Ryan deemed even this amount excessive..

To Guard British Interests at the Lisbon Congress.—In order to allay the feelings of irritation and disappointment rankling in the minds of those who attended the Madrid Congress, and to reassure these and others who may contemplate attending the Lisbon Congress, the British National Committee announces that it will "take steps to prevent or reduce to a minimum at the Lisbon meeting the annoyance, discomfort, and disappointment experienced in Madrid in regard to traveling facilities, lodging accommodation, etc." To attain this end it is purposed to have a local British Committee at Lisbon to keep in touch with the executive of the Lisbon Congress.

A Russian Red Cross Scandal.—In a despatch from St. Petersburg to the Berlin *Post*, it is stated that a Russian general lost over a million rubles through speculation in stocks, and took the money from the Red Cross Treasury. In order to avoid scandal, the Empress Dowager, who is the protectress of the Red Cross Society and a friend of the thief, reimbursed the sum. The dispatch further says that several of the nobility have also been guilty of irregularities in connection with the Red Cross management.

A Gift to the Home for Incurables.—At the recent annual meeting of the Society of the Home for Incurables, Vice-President D. O. Mills announced that a check for $25,000 had been received from Miss Emily A. Watson for the purpose of adding a story to the south pavilion. At the beginning of the year just ended there were 276 patients in the Home. Thirty were discharged and 50 died and 81 new patients were admitted during the year. There are 88 free patients, 13 life-bed patients, 37 on endowed beds, and the remainder are pay patients.

Another Medical College in New York.—It is stated in the daily papers that a medical school and a law school will be added to St. John's College, Fordham, in the Borough of the Bronx. Formal application has been made to the State Board of Regents for permission to have included in the curriculum the departments of law and medicine. The charter of the college, obtained in 1846, is that of a university, and the name of the institution will be changed from St. John's College, Fordham, to St. John's University. The trustees of Bellevue and Allied Hospitals recently purchased several lots on the grounds of

St. John's College as a site for the new Fordham Hospital, and the clinical facilities of this hospital will probably be at the disposal of the new medical school.

Carnegie Biological Laboratory Opened.—A branch of the Carnegie Institute, at Washington, was formally opened at Cold Spring Harbor, L. I., on June 11, with appropriate ceremonies. The branch is established for the purpose of carrying on the work of the institute during the summer months. The laboratory will be in charge of Dr. Charles B. Davenport, who has had charge of the biological laboratory of the Brooklyn Institute for the last ten years. The two institutions will work in harmony and will carry on their researches together. The construction and maintenance of the institute are provided for by funds from the Carnegie Institute, at Washington. The object of the new institution is to afford facilities for the study of the various branches of evolution—heredity, descent, relationships, and development of species both of animals and plants.

Reorganization of the American Red Cross.—At a recent meeting of the Red Cross Society in Washington, the trouble which has divided the members of the society into two factions was, it is hoped, satisfactorily adjusted. All of the trustees and other officers, with the exception of three, resigned and a new set was elected. Ex-Surgeon General W. K. Van Ruypen of the Navy was made president and Dr. Walter Wyman, surgeon-general of the Public Health and Marine-Hospital Service, vice-president. The appointment of a special committee was authorized to adopt resolutions in recognition of the services of Clara Barton, the former president of the society. A resolution complimentary to Miss Barton was offered at the meeting, but is was ruled out of order.

Plan to Record all Consumptives.—Dr. John H. Simon, Health Commissioner of St. Louis, is endeavoring to have all cases of consumption reported to the Board of Health, and secure to that body authority to supervise such cases. Dr. Simon's plan is to have each case recorded as soon as possible, and by the observance of certain rules, to be issued by the Health Department, obviate the dissemination of the disease. The houses will not be placarded as is done in the case of diphtheria, typhoid fever, etc., but persons sick with consumption are to be reported to the Health Department, and that body is to have a supervising control over the care of the patient.

Obituary Notes.—Dr. JOHN H. DORN of .this city died suddenly on June 17, in London, while on his way to a health resort in the south of France. He was born in Johnstown, N. Y., April 9, 1840. He enlisted at the beginning of the Civil War and was captured at the first battle of Bull Run. At the close of the war he returned to the Albany Medical College, where he had begun his medical studies. He was graduated in 1865 and began practice in New York. In 1875 he was appointed Police Surgeon, and he remained in that office until 1895.

Dr. JAMES HENRY DUNN of Minneapolis, Minn., died suddenly in St. Louis on June 16. Dr. Dunn delivered an oration before the American Surgical Association, and shortly after retired and went to his room at the Southern Hotel. Several hours afterward a chambermaid entered his room and found him dead. He appeared to be in the best of health, and had taken active part in the proceedings of the meeting, and his death was a great shock to the members. At the autopsy it was found that death was due to parenchymatous myocarditis. Dr. Dunn was fifty-five years old when he died. He was president of St. Mary's Hospital in Minneapolis, and Professor of Genitourinary Diseases in the University of Minneapolis. He was Minnesota's delegate to the International Congress at Copenhagen in 1884, and President of Minnesota State Medical Association in 1889. He was a graduate of the New York University Medical School in the class of 1878.

Dr. MICHAEL J. HUGHES, port physician of Wilmington, Del., died at Bedford Springs, Pa., on June 19. He was graduated from Jefferson Medical College in the class of 1883. He had for several years been port physician, and he was also a member of the Wilmington Board of Health.

Obituary.

NATHAN SMITH DAVIS, M.D., LL.D.

CHICAGO.

DR. N. S. DAVIS, through his life-long interest in the American Medical Association, perhaps the best-known physician in the country, died at his home in Chicago on June 16, at the ripe age of eighty-seven years. He was in good health up to within a few days of his death. He was born in Chenango County, N. Y., on January 9, 1817, and was graduated from the College of Physicians and Surgeons, Fairfield, N. Y., in 1837. He began practice in Vienna, N. Y., but soon removed to Binghamton, and in 1847 came to New York City, where he edited for a time the *Annalist*. In 1849 he received a call to the chair of physiology and pathology at Rush Medical College, Chicago, and moved to that city the latter part of August as soon as the subsidence of the cholera epidemic of that year left him free to follow his own inclination. He continued to reside in Chicago until his death.

A resolution which Dr. Davis introduced at a meeting of the Medical Society of the State of New York in 1845, calling for a national convention to discuss medical education, gave the incentive to the foundation of the American Medical Association, and for that reason and because of the intense devotion which he always showed to the organization, he was often called the "Father of the American Medical Association." He was also one of the founders of Northwestern University, the Chicago Academy of Sciences, the Chicago Historical Society, the Illinois State Microscopical Society, the Union College of Law, and the Washingtonian Home for Inebriates. His fame as a physician was by no means confined to the boundaries of Illinois, for he bore an exalted reputation in his profession throughout the entire country. In 1855 he became editor of the *Chicago Medical Journal*. In January of 1860 he started a new magazine, and called it the *Chicago Medical Examiner*, which he continued as an independent journal until 1873, when both publications were merged under the title of the *Chicago Medical Journal and Examiner*. In 1883 he was chosen editor of the *Journal of the American Medical Association*. The most important of Dr. Davis' writings is said to be a textbook on agricultural chemistry, used in district and public schools. He was also the author of a history of medical education and institutions in the United States, from the settlement of the British Provinces to 1850. He was a frequent contributor to current periodical medical literature. Dr. Davis was President of the International Medical Congress of 1887, and was Dean of the Faculty of Northwestern University, a professor in Rush Medical College, and one of the staff of Mercy Hospital for forty years.

Correspondence.

OUR LONDON LETTER.

(From Our Special Correspondent.)

MEDICAL COUNCIL—ROYAL COMMISSION ON TUBERCULOSIS—CANCER AND HETEROTYPICAL MITOSIS—MEDICAL TEMPERANCE ASSOCIATION—REGISTRATION FOR BARBERS—HOSPITAL FINANCES AND APPEALS.

LONDON, June 3, 1904.

THE General Medical Council concluded its sitting on Tuesday. The session was not so long as usual, thanks chiefly to the less time demanded by its penal work, and which always suggests that the council is a very imperfect tribunal.

An inordinate amount of time was bestowed on the dispute between the council and the two Royal colleges, and more than once the discussion was animated—not to say heated. A revised course of study was submitted by the colleges, in which some slight concessions were made to the views of the council, but the members were by no means satisfied. It was reserved, however, for Sir Victor Horsley to give full expression to this feeling by moving that the proposed new courses were not "sufficient." A resolution which meant that the college should be reported to the Privy Council. The members hesitated, as usual, to take so decisive a step. But as the finances of the council are in so unsatisfactory a condition it was determined to ask the Lord President of the Privy Council to introduce a bill into Parliament to confer on the Medical Council power to establish a compulsory register for medical students and to exact a fee of £1 for registration. This was denounced on behalf of the colleges as an attempt to undermine them and at the same time minister to the propensity of the council to grasp at both power and money, and after all why should the unfortunate student be fined because the council has squandered its funds? A much more sensible suggestion would be to reduce expenses; but for this purpose it seems the only way would be to reduce the fees of the members and to restrain their talkativenes .

The most effective speech was that of the president, Sir W. Turner, who invited the councillors to reflect on what might be the consequences if every corporation held only to the letter of its ancient charter, which would not be held in every thing to suit modern methods of scientific progress.

There was another warm debate on biology, the consideration of which has once again been postponed, a resolution having been passed requesting the Education Committee to report on the question and on the advisability of including in the curriculum certain subjects without requiring them to be also included in the examinations for qualifications.

The Royal Commission on Tuberculosis issued an interim report on Tuesday. They were instructed to inquire "(1) whether the disease in animals and man is one and the same; (2) whether animals and man can be reciprocally infected with it; (3) under what conditions, if at all, the transmission of the disease from animals to man takes place, and what are the circumstances favorable or unfavorable to such transmission." So far the experiments carried o t have proved that such transmission can occur, and the commissioners have thought it their duty to make this short interim report for the reason that the result at which they have arrived, namely, that tubercle of human origin can give rise in the bovine animal to tuberculosis identical with ordinary bovine tuberculosis, seems to "show quite clearly that it would be most unwise to frame or modify legislative measures in accordance with the view that human and bovine tubercle bacilli are specifically different from each other, and that the disease caus d by the one is a wholly different thing from the disease caused by the other."

This brings us back to the view universally entertained until Koch's remarkable communication to the London Congress. The commissioners obtained about two hundred bovine animals for the purpose of their inquiry. Some were supplied with food mixed with tubercle of human origin and others were directly inoculated with human tubercle. The material for these experiments were taken from twenty different cases and from different organs. Other animals were inoculated under conditions as similar as possible with material from other bovines. The general result was that tuberculosis more or less acute, according to the circumstances of the individual case, was set up. The commissioners carefully compared the disease arising in bovines from human tubercle with that set up in the bovines by material of bovine origin. So far they found the one, both in its broad general features and in its finer histological details, to be identical with the other. Up to the present time they have failed to discover any character by which the one can be distinguished from the other. Their records contain accounts of the post-mortem examinations of bovine animals infected with tuberculous material of human origin, which might be used as typical descriptions of ordinary bovine tuberculosis.

Messrs. Farmer, Moore, and Walker's researches on malignant growths have given rise to the erroneous idea that they consider heterotypical mitosis is a sufficient explanation of the phenomena of carcinoma. But they disclaim any such notion. In their papers before the Royal Society they gave no occasion for such a conclusion, although it may have been easy enough to gather a near approach to it from the condensed abstracts that have been circulated by the press. The heterotypical mitosis in certain of the cells in malignant tumors resembles that of the sexual cells in the ovary and testicle and has been spoken of as reduced, because the number of chromasomes is no more than half of the number produced by the ordinary somatic cells. In the tissues of benign growths they do not find similar mitoses. They do not pretend to explain the relation between heterotype mitosis and the life history of carcinoma.

The British Medical Temperance Association cel brated its twenty-eighth annual meeting last week, Prof. Sims Woodhead, F.R.S.E., presiding. He said it was by no means an inactive body, but has had an important influence in strengthening the temperance cause. A lantern demonstration of colored photography and a musical entertainment followed the report and formal business, after which Mr. A. Pearce Gould gave an address in which he urged that the scientific view rather than the social should be adopted by medical men in their intercourse with patients.

Registration being the fashionable cure for all evils, it is proposed on no less authority than the Medical Officer of Health for the city to register barbers. Among other things, those registered would have to discard powder puffs for pulverizers, have all shelves of glass, refuse to serve a customer apparently suffering from any skin or hair disease, keep razors and combs in a 5-per-cent. solution of sodii carb., boil all curlers and tongs for ten minutes and so on. Regular customers are advised to provide their own requisites. Perhaps the barbers will next agitate for diplomas.

Hospital festivals and demands for money have been numerous during the week. On Tuesday His Royal Highness the Duke of Connaught presided over the annual festival of King's College Hospital. He spoke of the interest of the Queen in hospitals, of the work of Lord Lister at King's, and of the approaching removal to Denmark Hill. Subscriptions amounting to £2,160 were announced. Last evening there was a meeting in the new locality in aid of the project, when it was announced that 500 guineas had been voted to the building fund by the Grand Lodge of English Freemasons.

A great fancy ball was held on Tuesday evening at the Albert Hall on behalf of Charing Cross Hospital. The program was not concluded until the early hours of Wednesday morning.

Lord Glenesk presided at the annual meeting of the West London Hospital and referred to the lost forceps' case. He pointed out the necessity of operating in a hurry on the patient's admission *in extremis*, and further that it had to be hastily concluded, as the patient was rapidly sinking. He was glad the case had been reported to the coroner, so that poor patients could always feel they had every protection. He hoped good might come out of the evil, and that such events should become impossible. The report showed a total expenditure of £11,330 and income of only £10,216.

Yesterday, at the annual meeting of the North Eastern Children's Hospital, it was stated that without immediate help most of the wards must be closed; £9,000 had been spent on the enlargement on the prospect of increased subscriptions. But these have not come in. It seems another instance of reckless building on the chance of a public response to a cry for help. But what a time is this to indulge in such hopes!

OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

SANITARY PROBLEMS IN THE PHILIPPINES—OBSTACLES TO HYGIENIC REFORMS—HOW TO OVERCOME NATIVE PREJUDICE AND IGNORANCE—DIFFICULTIES OF COMMUNICATION—DIVERSITY OF RACES AND TONGUES—NEED OF A COMMON LANGUAGE.

MANILA, May 4, 1904.

WITH a more extended acquaintance with the Filipino, his beliefs, customs and surroundings, one is tempted to forecast the future and estimate the sanitary progress which it may fairly be anticipated a continuance of the American policy will bring to these islands. Under Spanish rule, health matters were largely neglected, sanitary organization was defective and the little that existed served chiefly for purposes of "graft" and corruption. Some few sani-

tary regulations held a place in the local ordinances, but were rarely enforced except as a means of extortion by the unscrupulous. In the great majority of communities, no laws having to do with the public health existed, and the individual pursued his way from the cradle to the grave untroubled by any responsibilities affecting the health of his fellows. In the smaller villages and among the less civilized tribes the insanitary conditions of primitive mankind were the rule. These sanitary defects were not, however, fairly chargeable to the Filipino, for the latter took the Spaniard as his model in all things, and was not aware that the Spanish nation, as a whole, in matters sanitary, is regarded as least advanced among the civilized peoples of the world. The sanitation introduced by the Americans was therefore a new thing to the Filipino. It was unfortunately not introduced gradually, but the appearance in the islands, in rapid sequence, of the infections of bubonic plague and Asiatic cholera caused its measures to be applied in their greatest stringency broadcast over the archipelago and in places and among persons in whom there was not the faintest conception of what constituted the elementary rules of a hygienic mode of life. The necessary sanitary precautions against epidemic outbreaks of the above-mentioned diseases were such as would have provoked considerable opposition from an even more intelligent population, and it was therefore not strange that the Filipino—suddenly surrounded by irksome restrictions of a nature previously unknown and whose purpose was little understood, instituted by persons whom he had been taught by the Spaniards to distrust and with whom he had but recently been at war—should have harbored resentment against sanitary control over his life and opposed it by every means in his power. The measures instituted meant interference with business and social communication, financial loss, interference with the privacy of the home and the removal and treatment of the sick and the disposal of the dead in a manner which was opposed to personal preference and offensive to religious teaching. Under the circumstances, on looking back over the whole situation, the wonder is not so much that the Filipino often nullified measures intended purely for his welfare, but that his opposition to these unknown measures was not more general and pronounced. The American is too apt to regard the situation here from his own standpoint, instead of assuming that which tradition, race, and environment have forced upon the Filipino, and to argue from the false hypothesis that the latter has had the benefit of equal educational and civilizing facilities with himself and reasons from a sound knowledge with the clear perception and unbiased mind of the Anglo-Saxon. On the contrary, the great majority of Filipinos live in small hamlets under the most primitive conditions, cut off from the world by lack of facilities for communication, and with mentalities dwarfed by environment and lack of opportunity. Too much cannot be expected under such conditions any more than that in the United States the schoolboy twelve or fourteen years of age cannot be expected to perform a man's part or possess the discretion of an adult. Patience, charity, forbearance, and a desire to understand the native attitude are therefore urgently demanded in the prosecution of any sanitary purpose. On the whole, the Filipinos are a very tractable people and submissive to proper authority. Like any other class the world over, however, they view the innovation and the unknown with a suspicion which disappears only with closer acquaintance and a more thorough knowledge. Declaration not only of the purpose but the reasons therefor and the ends to be obtained should therefore be fully set forth. It would seem that perhaps at the outset this matter was disregarded, and the effort made to enforce new laws the purposes of which were not understood by the natives, with the result that there was not, in many cases, any effort for coöperation by them and the passive opposition frequently aroused, was sufficient for the complete nullification of the measures intended for their benefit. A prime essential for sanitary success therefore consists in securing the confidence of the Filipinos, making them understand that the authorities are working for their welfare, and in allaying the popular impression that sanitary work is carefully devised for the sole purpose of their annoyance. It must not be forgotten that the mass of the people are absolutely fatalistic and disinclined to help themselves, believing that their lives are so regulated by the Divine Will as to render human effort unavailing. This belief is not confined to the pagan tribes and the Mohammedans of the south, but is very strongly entertained by even the higher classes of the Christian tribes as a result of the mediæval type of Catholicism inculcated by the Spanish friars, jealous of medical science and anxious to have it thought that the sole power over health and disease reposed in the Church. Such a belief was a powerful aid in their control of the minds of the people, and the whole attitude of the friars toward preventive medicine was secret opposition and open contempt. The kind of religion taught by them could not stand the light of modern education and was not at all of a kind which would receive the approval of American Catholics. Nevertheless, this attitude of the Church has left its impression and must be reckoned with in the prosecution of sanitary work. First and foremost, the Spanish friars should be replaced by American priests. With very few exceptions, the former neither understand us nor our institutions, dislike our purposes and methods and regard the collapse of their power as the result of American sovereignty. They cannot be reconstructed and should therefore be removed. With American priests largely installed in their places, the unquestioned power of the Church over the people should be recognized and utilized and the hearty coöperation of the American-bred priests would be gladly granted. The priest is the power in the small community, and his influence determines the attitude of his parishioners. The church should thus be worked through literature circulated through its medium, and in the case of all important measures the support of subordinate priests enjoined by the local insular hierarchy. This support will be even more readily secured because of the recent native defection from the Catholic Church, both resulting bodies of which are anxious to secure the governmental favor. The new independent Catholic church numbers its adherents chiefly among the poorer classes, whom it is most important to reach in a sanitary way and probably controls half of the Christian natives. It will probably not be able to maintain its existence long, but for the next few years it should be reckoned with and utilized. The seceding native priests of the new church will not be individually inclined to support sanitary measures strongly, but their attitude can be directed by their superiors, who are eager for recognition. The Protestant churches are numerically unimportant, but their heads are energetic Americans, whose influence will be valuable and will be given without reservation to any worthy purpose. Every effort should be made to inculcate the knowledge among the people that disease is largely preventable, and that epidemics are not the sign of divine wrath for dereliction in church duties. Just so long as disease is regarded as inevitable and retribution for sin, the necessary measures for its prevention will not be taken.

Another practical difficulty in the way of sanitary work is found in the inadequacy of communication throughout the islands. Here all roads (and steamer lines) lead to Manila instead of Rome, and it may often be necessary to make a journey to and from Manila, lasting a week or more, in going from one place to another a hundred miles distant. There is but one short line of railroad in the islands. There are but few roads, the majority of those are bad, and all of them are practically impassable during the five or six months of the rainy season. During this season whole districts can scarcely be entered, roads are flooded and washed out, and unbridged watercourses become uncrossable, roaring torrents. The chief means of communication is found in the small interisland steamers. These dodge about among the islands, picking up cargo. Except in a few instances, they have no fixed day of sailing, and scarcely any of them pretend to make their runs on any schedule time. The majority of them are owned by large trading companies and are operated primarily in their business, little attention being paid to the general carrying trade for other parties, and the dates of sailing and ports of destination being altered without notice. These vessels trade to the chief shipping points, whence further travel or shipments must be made by small native sailboat or canoe. In addition, it is not infrequently required that the person to whom shipment is made must see to the removal from the vessel, almost always anchored far from shore in the absence of wharves, of the articles shipped. Should the consignee be absent and have failed to secure some one to act for him, the goods sent him are invariably brought back to Manila. In addition, there are practically no sheltered ports on the entire Pacific side of the Archipelago, and during the monsoon from November to June almost no landings can be made on that coast through the rough surf. On the other hand, the coast washed by the China sea has but few harbors in which landing can be made during the typhoon season from June to November, and the best that can be done during that period is to make landing at the nearest port and secure such transportation over the difficult roads as opportunity offers. The interior is penetrated by canoes, which go up the shallow but often long rivers, except in the season of flood. The interior of Luzon is penetrated for several hundred miles in this way, but transportation of this sort is naturally slow and primitive. Finally, there are many large interior sections which can be reached only on foot or horseback, and at least two provinces of Luzon to which access is had only on foot and burdens are carried in and out by bearers. Thus to go from Nueva Vizcaya province to the end of the railroad, 120 miles, takes a week—from the end of the railroad to Manila, 140 miles, takes seven

hours. Some of the smaller islands are even yet visited by steamers but twice a year, in spite of the effort being made to bring all parts of the Archipelago into better communication with the capital. Mail service naturally depends on facility of communication, and is in many places infrequent and irregular. Telegraphic communication, through the military telegraph lines, is now far better than it ever was before, but a large number of districts are not penetrated. Further, as the lines were intended to be temporary only, they are constantly being broken and communication interrupted. Outside Manila there is no telephone service. Under such conditions, sanitary work can be prosecuted only with difficulty. Disease may assume an epidemic form before report of its existence has reached the authorities, emergency orders are delayed by infrequent mails or broken telegraph lines, and employees may be held up for weeks awaiting transportation while unchecked pestilence rages. Supplies sent out spoil en route, are misdelivered or are returned to the sender as a result of the absence of the consignee or the ignorance or indifference of the carrier. Under such circumstances, the best laid sanitary plans may at any time be nullified. This contingency is only to be avoided by the creation of better means of communication, a satisfactory condition of which is, from present indications, at least a generation off. Much depends in this respect upon the influx of capital and the commercial development of the country, and the insular laws are at present of such character as not to attract capital to the islands.

Another factor interfering with sanitary work is the great dissimilarity of peoples, customs, and languages throughout the islands. It is said that no less than eighty-one native languages and dialects are spoken in the Archipelago, and for circulation in the island of Luzon alone the Board of Health lately printed circulars in eleven languages. The ethnological field presented in the Philippines is probably the richest for any place of equal area the world over. The tribal system prevails, and even those of the same racial stock are hostile to each other and many were until lately at war. The savage tribes wage constant feuds with each other, and between Christian Filipino and Mohammedan Moro there is undying enmity. Predatory bands and tribes of head-hunting savages render certain districts unsafe for small American parties, and in Mindanao there are still places where a body of a hundred white men would not dare to venture. The Americans have already explored the islands more than the Spaniards did in three centuries; yet there are still many primitive savages who have never seen a white man. One tribe cannot understand another's language and is unacquainted with affairs outside its own territory—frequently persons in all tribes will be found who have never been five miles from the place where they were born. Even within the same tribe, the inhabitants of two neighboring towns regard each other as foreigners. The diversity in appearance, customs, language, and religion between such main types as the Filipino Negrito, Moro, and Igorrote is complete, and the minor types have almost as little in common with each other. In spite of the efforts of the anti-imperialists to create such a political entity, there is no such thing as a Filipino nation, nor can there ever be. Differences are too great to fuse them all into a single national type. The various units will undoubtedly come closer together, and some, like the negrito, will disappear before a higher civilization, but highways, railroads, and telegraphs will never bridge the gulf which race, religion, and custom has created between the various tribes. A common language, as a means of intercommunication, is much to be desired. This will naturally be English, as none of the native languages possess any literature or is in sufficiently general use to warrant its supplanting the others. This general adoption of a single language is, however, far in the future. English is being generally taught in the schools, but is practically in the position of a dead language, as it is not used in everyday life, and will rarely if ever be employed by a large part of those to whom it is now being taught.

A QUESTION OF PRIORITY.

To the Editor of the Medical Record:

Sir: Dr. D. Tod Gilliam says, in the Medical Record of May 14, 1904, in regard to uterine suspension by the round ligaments, as recently advised by Bardescu (*Centralblatt für Gynäkologie*: "I simply wish to claim for this country that which is due and of which she is often deprived. The credit for original work and investigation." As laudable as Dr. Gilliam's patriotism is, so defective is his claim for priority in this method. A glance at the *Centralblatt für Chirurgie* for August 21, 1897 ("Eine neue Methode der Hysteropexie"), shows that I practised uterine suspension by means of round ligaments just two years and seven months before Dr. Gilliam published his account of the procedure.

Carl Beck, M.D.

VACATION FOR THE DOCTOR.

To the Editor of the Medical Record:

Sir: While many may say there is no vacation for the worker in the medical profession, and least of all for the young practitioner, and while the recent graduate may, of all others, be least able to pay for an outing, I think that not only does the younger man need a change and relaxation from the responsibilities, but the middle-aged doctor as well will be enabled to keep his arteries softer if he will go away for a couple of months a year. I desire to describe a plan whereby one may enjoy a summer holiday at the cost which has more than once been presented to me in the following words after having taken such trips, "You don't owe me a cent, and you can come aboard anytime you like, and stay as long as you're a mind to."

The coasting trade of the United States upon the seaboard and great lakes requires many hundreds of schooners in its service, and it is upon these vessels that veritable yachting cruises may be taken for the asking, and at little or no expense to the voyager. The captains, who are usually part owners of the vessels in which they sail, will be found a most approachable set of men. While a letter of introduction from a ship brokerage firm may be useful in obtaining the desired end, these keen observers of human nature, after but a few moments of conversation, will be found willing to take the inquirer into the family groups of their floating homes without more ado. Having made a number of cruises under such circumstances as have been related, varying from a few days' run down the coast to trips into "deep water" lasting over months of time, the statement of the ease with which a cruise is arranged for may be accepted. The welcome one receives is the best aboard, a room in the cabin, a plentiful supply of good, plain food; fresh, cool sea-air to breathe, and sunshine, with a slattening sail in a calm or the rush of waters in a strong breeze to lull one to sleep at night. The associations are with a class of men from whom one can learn many and strange things in the sailorman's art, whose chief characteristic is resourcefulness. To see an uncouth, long-legged, and loosely-jointed mate aboard a "down-easter" con his logarithms after taking a "sight" is enough to make a senior collegiate thoughtful. I have known some of these men able habitually to come within a few hundred yards in their calculations of the exact position of their vessels, and have known some smart United States Naval officers to be twenty-seven miles in error when approaching our coast.

To be driven past Cape Hatteras in a gale of wind while aboard a two-masted schooner riding under a double-reefed foresail, may make it difficult for one to maintain his equilibrium of body, but it will aid him in securing the proper balance of his importance among his fellows.

Frederic Griffith, M.D.

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THE LOCAL USE OF QUININE IN HAY-FEVER.

To the Editor of the Medical Record:

Sir: So many remedies have from time to time been proposed for the relief of hay-fever, that subjects of this peculiar malady have become very skeptical as to their value; and very naturally so, for they all have one serious drawback—the uncertainty of their action.

The writer offers a method of using quinine locally in typical cases of hay-fever, which has proven remarkably successful in his hands. The treatment consists of the employment of a saturated solution of the quinine sulphate in sterilized water, as a nasal spray, and the application to the mucous membrane of the nares of an ointment consisting of quinine and vaselin in the proportion of thirty grains to the ounce, the applications being made every four to six hours. After trying various unguents and combinations, I have found simple vaselin to be the best. The white vaselin is not suitable, nor is the liquid vaselin. Lanoline is an ideal base, but is too offensive to the sense of smell. The use of the spray alone will not suffice, but should be used as an adjunct to the ointment. Spraying the nares will at once stop all symptoms of coryza, but the effect will not be maintained long unless followed by the thorough application of the ointment. This may account for the failure of this treatment as first suggested by Helmholtz, who employed only the spray. The application of the ointment should be made at least every six hours, and it may be necessary to repeat it every four hours. An application at bed time, and at two or three o'clock in the morning, will prevent all symptoms through the night. Two or three applications of the spray should be made in the twenty-four hours, at the times when the patient has found the irritation to be at the maximum

degree of intensity. In respect to the mode of using the ointment, the little finger is the most convenient applicator.

As far as the effects of this simple remedy have been observed, the results are as follows: Used according to the foregoing suggestions, the symptoms of coryza are immediately removed, nor will they return as long as the treatment is continued. The usual accompanying irritation of the conjunctivæ of the Eustachian tubes and palate quickly subsides. Opportunities have not been had so far to test this treatment in irregular types of the disease, or to estimate how far these results may be modified by individual peculiarities, but, so far as its effects have been noted, it seems fair to conclude that hay-fever subjects will find this a remedy of actual value, and that it will promptly and completely relieve a large proportion of these cases.

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Progress of Medical Science.

The Boston Medical and Surgical Journal, June 16, 1904.

Human Slavery as a Prevention of Pulmonary Consumption.—Thomas G. Mays draws very interesting comparisons between the state of health of the negroes when in slavery over forty years ago and that at the present time. There has been a tremendous increase of consumption and insanity in this race. This increase is due to the heavy economic and industrial burdens which were suddenly placed on their shoulders. They had neither the wisdom, mental strength, nor organized constitution to withstand this strain. This change in the race is due also to improvidence of living, to poor and improperly prepared food, to ignorance of the laws of physiology, to bad hygienic surroundings, to overcrowding, laziness, and the lack of persistent employment, to improper care and nursing when ill, to dissipation of all sorts, to lack of self-restraint, to alcoholism and other vices. The writer believes that efforts of prevention should be made which comprise the inculcation of sound principles of hygiene; the eating of wholesome and properly prepared food; the wearing of suitable apparel; the avoidance of damp and overcrowded dwellings; the abstinence from nerve-strain and overwork; the shunning of strong drink and other vices; the encouragement of useful labor and training in physical development; the supervision of proper convalescence from what to them seems a trivial cold or cough. The writer thinks it would be well to inaugurate a campaign of education by means of a charitable organization. A city could be divided into sections and canvassed by physicians whose duty it would be to teach these people how to live properly and to care for them in illness.

Journal of the American Medical Association, June 18, 1904.

Notes on Curettage.—A. P. Stoner says that this operation has become such a common practice that there are few practitioners who will not attempt the operation. He believes, however, that comparatively few surgeons become skilled in the use of the curette. Faulty technic is often manifested in operations on cases of simple endometritis. Then, again, cases for curettage are not always properly selected, in either of which case the patient receives little or no benefit; indeed, may become much worse. The uterus should be first outlined bimanually, and before the curetting is begun, the uterine cavity should be carefully explored with a dull wire curette. Then with the image of the uterus, and especially its cavity in mind, every part of its surface is systematically scraped with a thin sharp curette, the cornua being separately treated with the smallest sized instrument. The cavity is then washed with sterile water, and no packing used except in septic cases; a little loose iodoform gauze may be left in the vagina, which should be changed twice daily. Practically the only danger arising from the operation is that of infection. This can usually be avoided by the practice of scrupulous cleanliness. Indeed, the preparations for curettage should equal those for vaginal section. Infection following perforation of the uterus by the curette appears to be a rare occurrence. The peritoneum is able to take care of a great deal of toxic material, so long as it remains unimpaired, by handling or prolonged contact with the atmosphere.

The Prophylaxis of Fourth-of-July Tetanus.—In a special article on the "Prophylaxis and Treatment of Fourth-of-July Tetanus," the writer says that the abolition of blank cartridges and giant crackers would have reduced the number of deaths last year to less than twenty, and this is probably true of all other years. Display fireworks, such as Roman candles and rockets, caused but few tetanus infections, and, so far as we could learn, there were none from paper caps, torpedoes, and the small firecrackers. Surely these harmless forms of explosives ought to be sufficient for the entertainment of the children, and for "instilling patriotism" of at least equal value with the toy pistol and the cannon cracker Blank-cartridge wounds form as deceptive a class of wounds as can be imagined. Usually they present simply a rather clean-cut perforation in the skin, about which are imbedded many powder grains, for the wound is usually produced with the muzzle of the pistol but a few inches away from the skin. This is not a serious appearing wound, and if the boy's parents are not familiar with the danger he runs from tetanus they are likely to think that a simple dressing is all that he needs. And even if he is taken to a physician, too often the same opinion is expressed. The surgical treatment of the wound must be most thorough. Merely opening the wound and picking out the wads, even if followed by drainage, is evidently inadequate; and if we take into account that tetanus spores, even in the test-tube, are not killed by 5 per cent. of carbolic acid in ten hours, it is evident that no amount of washing of the wound with antiseptics will assure safety from tetanus infection. Safety demands that every part into which dirt from the surface can have been blown be cleaned out, and so packed that air can enter and wound secretions escape. This requires anæsthesia and careful dissection. The greatest difficulty in most cases will probably lie in the objections of the parents of the boy, and this must be met with instruction as to the dangers and the necessities of the situation. The prophylactic administration of tetanus antitoxin is entitled to much serious consideration. Whatever may be said concerning the treatment of advanced tetanus by antitoxin, there is no room for doubt that as a preventive it is most efficient. We now possess numerous instances of its unquestionable value in checking epidemics of tetanus in hospitals and maternities. We have been unable to learn of a single instance in which a person who had been given antitoxin soon after receiving a suspicious wound has developed tetanus. On the other hand, we have not learned of any harmful results from its injection into persons not infected with tetanus. It therefore seems safe to assume that a person who receives a prophylactic injection of tetanus antitoxin will be protected against tetanus, and will not be injured by the procedure.

Medical News, June 18, 1904.

Vesical Retention of Urine.—Fred C. Valentine and Terry M. Townsend summarize this paper as follows: When danger to life is not imminent, the domestic methods ordinarily employed may relieve the vesical retention, provided no mechanical obstacle exists. Diuretics, diluents, and antispasmodics are of no use in vesical retention of urine. Opiates and general anæsthesia are useful only under certain circumstances. Capital surgical intervention may be necessary to cure the basic condition, but the urgent symptoms can, in most instances, be relieved without life-endangering procedures. Even the youngest general practitioner can carry every case of vesical retention of urine to a successful issue. The cause of the retention must in each case be ascertainedt Only most exceptionally does a case present which cannoe be relieved by minor procedures. No bladder should be suddenly entirely emptied because of the danger of hemorrhage *ex vacuo*.

The Danger of the Use of Opium in Infancy.—T. D. Crothers states that the physiological action of opium and its alkaloid are more striking in infancy and childhood, than in later life. The organism is more unstable at this time, as well as less resistant. The sedative action of opium is that of palsy. The higher the organism, the more pronounced the effect from smaller doses. It is impossible to tell what organic changes may follow from the chemical and physiological action of any form of opium. It is hard to decide, when it is given in infancy, whether its effects are transient or whether each dose does not create a demand for its further use. In cases in which the effects of the drug are rapid and pleasing, the demand for it is pathological and an ominous symptom of the danger of its use. Nursing children may be quieted by opium taken by the mother. Children have been permanently injured in this way. Continuous sedation or palsy of the sensory centers in early life is never repaired. The writer gives instances showing the great injury done to children by this drug. Among its effects are nervous dyspepsia, beginning soon after puberty and continuing till some form of alcohol or opium is used. Early and profound exhaustion from overwork or excitement, low vitality and feeble, nervous resistance are natural sequels of its use. Defects and degeneracies appearing in early manhood suggest the same cause. The writer believes that the magnitude of this danger is not at present recognized. Too much caution cannot be given against the use of narcotics in infancy. Opium is probably among the most dangerous of these drugs, because it is so easy to obtain, and its effects are apparently so simple.

Water Anæsthesia in Surgery, and Its Suggestions in Medicine.—Joseph Clements describes two cases illustrating the effects of the injection of distilled water. In one case five hemorrhoids were injected with the water, emptied, clamped, tied, and cut away. The operation took about fifteen minutes, and the patient returned home at once after the operation. In another case two fistulæ were opened and scraped, one after the injection of water, and the other without water injection. In the last process the pain was intense. The writer describes the process as follows: The water enters the interspaces of the tissues and fills them; the pressure of the distention causes rapid osmosis into the intracellular interspaces which are between the granular appearing substance, the protoplasm, temporarily suspending intracellular respiration. This, like the heart-beat, is incessant, and when it is stopped, local "death" is caused for the time being. The nerve centers are paralyzed and no afferent impulse is sent, and no response arises in the central ganglion, and pain is consequently impossible. There is just as much of "curative" or other "property" in distilled water as in solutions of cocaine or any drug. In other words, there is none whatever. The "property," the therapeutic or whatever action arises, is protoplasmic. Upon the fact and principle of protoplasmic activity are to be interpreted all organic phenomena.

New York Medical Journal, June 18, 1904.

Labor Complicated by a Fibroid and Ruptured Uterus.—The patient of E. T. Hargrave was a negress of thirty-nine years who had had nine previous normal confinements. When summoned to her he found that she had had about one hour previously a sudden sharp pain in the right side, and when first seen was in collapse. Forceps delivery was tried, but could not be done, and podalic version was attempted. The introduction of the hand into the uterus showed a large tear in the right side of the fundus, through which loops of bowel could be felt. A fibroid was also detected. Removal to hospital was advised and rallying measures at once instituted, but the patient soon died. The author believes that the main causes of rupture were ergot (given before his arrival by an ignorant nurse), the presence of the fibroid, and an unusually large fœtus.

A Case of Splenomyelogenous Leukæmia.—C. M. Ross reports the case, his patient being a man aged thirty-four years. His symptoms began with œdema of the feet and legs, more marked at night, and with epigastric distress. These continued for ten weeks when he sought admission to the hospital. Blood examinations enabled a definite diagnosis to be made. After a week's stay in the hospital without improvement, he went away and died six days later after a condition lasting twenty-four hours, during which he became wildly delirious, refused all nourishment, and finally passed into coma with suppression of urine and abolition of superficial and deep reflexes. The noteworthy points of the case were: (1) Absence of any etiological factor; (2) absence of constitutional symptoms until splenic enlargement caused by pressure, œdema of the feet, gastric trouble, and dyspnœa; and (3) the typical picture shown by the blood, the white cells consisting largely of myelocytes numbering almost one-fourth as many as the red cells with the comparatively small diminution in red cells and hæmoglobin. No malarial parasites were found.

Appendicular Abscess with Fish Bone in the Appendix. Operation; Recovery.—The case is reported by W. P. McIntosh. His patient was a man of fifty-four years with the usual symptoms of appendicitis. He was not operated on till about three weeks after his initial symptoms, which underwent several remissions. The incision was made high up and rather long. On opening the abdomen considerable foul-smelling pus escaped. The appendix was above and behind the cæcum and was imbedded in the abscess wall. It was long and much thickened, and was perforated about the middle. The examining finger came in contact with a small hard substance about 4 cm. in length, lying across the appendix. The parts were strongly adherent to the intestines, and were bound down by adhesions. The appendix was surrounded by inflamed mesentery, the whole forming a large granular mass. The abdomen was packed around with iodoform gauze and the mass dissected out. The foreign body proved to be a fish bone, about one inch and a half long, and about the thickness of an ordinary silver probe. The appendix with adherent omentum was about five inches long and two inches in diameter. Recovery was uneventful.

American Medicine, June 18, 1904.

The Antiseptic Treatment of Smallpox.—Samuel M Wilson calls attention to the excellent results following the daily use of the scrubbaths. When it is used thoroughly before the primary papules develop, it appears to prevent vesiculation. When too late for that, it does away, to a great extent, with the repulsive appearance and foul odor characteristic of patients who do not have this treatment. If vesiculation has begun before the patient is seen, the summits of the vesicles must be punctured, compresses of full strength of hydrogen-dioxide solution applied, and these followed by a mask wet with some antiseptic. A solution of mercuric chloride—1 to 1,500—gives good results. The application of the dioxide followed by the mask may be used several times daily, if desired, and appears to add to the patient's comfort as well as promoting desquamation. Cases treated in this way have had only a few faint traces of scars, although the vesicles were large and numerous. In several cases the scrub bath with toilet soap has left the patient with only a few perceptible scars. The disease was also of very short duration.

Strangulated Femoral Hernia Containing the Vermiform Appendix.—Emery Marvel reports this case. The patient was a woman of sixty-eight years. The patient was operated on for incarcerated femoral hernia. After the bowel had been replaced in the abdomen, the finger was inserted through the femoral ring into the abdomen, where the vermiform appendix was recognized and brought out. It was folded upon the cæcum and constricted at a level with the cæcal constriction produced by the incarceration of the ring. The appendix was about seven inches long, enlarged at the tip, with a foreign substance in the lumen. The mesoappendix, as well as the mesocæcum, was very much elongated, and allowed of the appendix being easily brought out through the femoral canal. The appendix was dissected out, amputated, stump invaginated, and cæcum replaced again. Union was by first intention, and the patient left the hospital on the thirteenth day. The author notes that the aged may, and most often do, recover and repair with favorable comparison to the young.

The Lancet, June 11, 1904.

Ptomain Poisoning Followed by Desquamation.—Percy T. Goodman reports being called in the early morning to a family of seven persons who had all partaken of a fish supper on the previous evening. They were in a state of collapse, with pallid faces, clammy perspiration, and cold extremities, and were complaining of severe abdominal pain and vomiting. In two cases diarrhœa was present with very offensive stools. There was no urticaria or rash of any description. None of the family had any rise of temperature or sore throat. Warmth was applied to the extremities and a purgative was given followed by stimulants (ammonia and ether). All the patients recovered. Ten days later the mother brought one of her boys for examination of the hands and feet from which the skin was coming off, chiefly on the palmar surface, in large flakes. The mother also had some slight desquamation on the forearms. The other children, whose ages ranged between seven and sixteen years, had the same desquamation on the palms of the hands and the soles of the feet. The father alone was not affected in this manner.

Sequel to a Case of Inoperable Cancer Treated by Oophorectomy.—Walter Edmunds recalls a case of scirrhus of the breast, reported in *The Lancet* of March 29, 1902, in which symptoms of intrathoracic growth appeared five years after amputation. There was also a recurrence in the remaining breast. Oophorectomy and thyroid feeding were resorted to, with the result that at the time of the report, a year after the operation, the patient was much better. The tumor in the breast and axillary glands had almost disappeared and the dyspnœa, too, had nearly gone. The further history of the case is that nine months later the tumor in the breast had somewhat increased and was commencing to involve the skin: the dyspnœa, too, was somewhat worse. Three months later the skin over the tumor had ulcerated, and on this account it was thought advisable to amputate the breast. The patient died from heart failure while under the anæsthetic. At the post-mortem examination a mass of secondary growth was found at the bifurcation of the trachea involving the roots of the lungs. Although the oophorectomy did not save the patient's life it produced for a time great benefit; the tumor in the remaining breast almost disappeared, while the small growth behind the ear did completely disappear; the symptoms due to the intrathoracic growth were also greatly relieved.

British Medical Journal, June 11, 1904.

First Manifestation of Heart Symptoms about the Age of Forty.—John C. Thorowgood recalls the death of Dr. Thomas Arnold at Rugby. Dr. Arnold was forty-six years old at this time and had always enjoyed active muscular exercise. He retired in perfect health one night, and early next morning died in his first attack of angina pectoris. Necropsy disclosed the presence of but one coronary artery. It was of unusually small caliber, and

very slightly atheromatous. The walls of the heart were thin, and a few atheromatous patches were found on the aorta. This one small coronary artery had kept the heart going until the age of forty was well passed by.

A Bacteriological Inquiry into the Sterilization of Hands.—J. Rupert Collins reviews certain experiments and believes that they point to, if they do not justify, the following conclusions: The nail-brush used should be either boiled before use, or better still, kept always in an antiseptic solution. Vigorous scrubbing is required for at least five minutes. The water should be as hot as can be comfortably born. Chemical antiseptics of efficient strength should be used for cleansing the skin, and it is preferable that they should be used in the primary washing as well as in the final soaking. With sufficient time and care sterilization is not impossible. The mode of preparing the skin of the patient for operation will be similar to that found best for sterilizing the hands of the surgeon, though probably less friction will be required.

Pregnancy after Removal of Both Ovaries for Dermoid Tumor.—W. A. Meredith reports the history of this case. The patient was a woman of thirty-five, and recently married. The last menstrual period had terminated seven weeks before, and for eight weeks the patient had been troubled by nausea, and believed herself to be pregnant. Examination revealed the presence of double ovarian cystoma, probably dermoids. Early pregnancy was also suspected. The tumors were entirely removed and were found to be typical examples of dermoid growth. On the third day after operation, uterine hemorrhage began, and after persisting for forty-eight hours, culminated in the expulsion of a vesicular mole. Some months later menstruation began, and after nearly a year normal "periods" were established. After about a year longer, the patient began to be troubled with nausea, and at the end of the fifth month she began to feel movements at intervals. In another month the patient had a fall, followed by a miscarriage. The case illustrates the possibility of pregnancy after double ovariotomy for advanced dermoid disease under circumstances admitting of no doubt as to the complete extirpation of both ovaries.

Further Observations on the Therapeutic Value of Radium and Thorium.—J. M. H. MacLeod concludes, in regard to the therapeutic value of radium bromide, that its chief utility is in the treatment of rodent ulcer, and in the case of small rodent ulcers it acts almost like a charm. In rodent ulcers of a diameter larger than a shilling, treatment by the *x*-rays is more practical, as the whole of the ulcer can be exposed at once. In some cases of rodent ulcer which have been subjected to a long series of exposure to the *x*-rays, these rays seem to lose their effect, and the healing process becomes stationary. Radium may then be used with advantage, and the healing again stimulated. The writer believes that radium is of little value in regard to epithelioma. In the case of cancer of the uterus, further experience is necessary before any definite statement can be made. In lupus vulgaris, radium causes the disappearance of the granuloma and a replacement of it by healthy scar tissue, but this treatment is practical only in very small lesions. It is a useful adjuvant to the Finsen light and *x*-rays, as it can be applied to positions which are difficult to get at. In lupus erythematosus its value seems to be negligible. The results of the use of thorium do not appear to be at all encouraging.

Deutsche medizinische Wochenschrift, June 4, 1904.

Unilateral Nystagmus.—E. H. Oppenheimer reports an undoubted instance of this rare condition in an otherwise healthy child of fifteen months. A horizontal oscillatory nystagmus was present in the right eye while the left was perfectly normal and unaffected. He believes that it was purely optical in nature and due to a hypertropia. Treatment by atropine instillations in the normal eye was kept up for some weeks but without any visible effect.

Demineralization and Tuberculosis.—F. Steinitz and R. Weigert have made a series of practical experiments with a view of determining whether this theory holds good. The latter was first promulgated by the French writers, who claimed that a reduction in the inorganic constituents of the body, and hypoacidity, decreased the resisting powers of the organism against the entrance of the virus of tuberculosis and, in fact, rendered the soil more favorable for its growth. The experiments here reported consisted, not in an estimate of the metabolic exchange, but in analysis of the entire organism with reference to the mineral constituents. For this purpose the body of a child was employed which had succumbed to a general tuberculosis, and the results obtained by the chemical analysis compared with those already known of normal infants. The figures obtained show that the total ash from the child which died of tuberculosis was about the same as that from the four months' infant which succumbed to ordinary gastroenteritis, therefore no marked demineralization was present. The amount of lime, phosphorous, and magnesia was found to be somewhat less than expected. But this decrease in the mineral constituents was probably not specific for tuberculosis, but undoubtedly resulted from the well-marked rachitis from which the tuberculous child also suffered and from which the other infant was free. The potassium salts were unchanged, and the sodium and chlorine constituents were somewhat diminished. These observations seem to show that the theory of demineralization does not find any application in tuberculosis.

A New Method of Cardiac Examination.—M. Katzenstein proposes a method by which it is possible to estimate the functionating power of the heart, especially when about to be subjected to the strain of a surgical operation. Most of the methods for making this determination require that the patient be subjected to various exercises which necessitate his getting up out of bed, and this, in many cases, is a great disadvantage. The author's method is based on numerous observations made in animals, normal, healthy animals, that ligature of the larger arteries call forth increased activity on the part of the heart, which is marked by increased blood pressure, but no change in the pulse rate. This phenomenon remains until the collateral circulation is fully established, and gradually there is a return to the normal after several weeks as the resistance diminishes. Marked resistance in the arterial circulation brings about increased heart action, and this observation constitutes the rationale of the procedure, the technique of which is as follows: the pulse rate and the blood pressure are determined in the patient in a quiet, reclining position. Both iliacs are then compressed for a period of from two and a half to five minutes in the inguinal region and the changes noted in the pulse rate and the blood pressure. In a normally acting heart there is found an increase in the blood pressure of from 5 to 15 mm., of the mercury column, while the pulse rate remains the same or is slightly diminished. With a hypertrophied heart, the blood pressure is raised from 15 to 40 mm. while the pulse remains the same or is increased. Where there is a slight insufficiency, the pressure is o, and the pulse the same or greater. A marked cardiac insufficiency is accompanied by a minus pressure and an increase in the pulse rate. The method is simple and readily applied, and the only possible unfavorable circumstance is the effect of physical excitement, but with care this may be avoided.

Berliner klinische Wochenschrift, May 30, 1904.

A Case of Sinus Pericranii.—M. Littauer adds a tenth case to the nine already reported of this rare condition, which Stromeyer first described as a tumor under the pericranium which contains venous blood, and is in communication with the cerebral sinuses either directly or through the medium of the venous canals in the cranium. A number of varieties exist. A man of twenty-four years received a blow on the head which did not appear to be followed by serious consequences; but two weeks later, after having been in stooping position for a time, a soft swelling was noticed in the right temporal region, which disappeared when the erect posture was resumed. The tumor appeared intermittently whenever the head was bowed low, but was not accompanied by any symptoms. Examination was practically negative as regards the anatomical parts. The possibility of the fluid being the cerebrospinal liquor could be excluded, as neither a meningocele or a cerebral hernia was present. The contents must therefore have been blood which remained in communication with the general circulation. This could be brought about by a rupture of one of the veins of the diploei or an emissary vein from the injury and subsequent retraction and closure of the vessel prevented by the dense adhesions of these structures to the surrounding tissues.

A New Hæmostatic.—Theo. Landau presents a new drug obtained from the spleen by autolysis which, he claims, has well marked hæmostatic properties. He applied it successfully in a number of cases of menorrhagia and metrorrhagia in the form of injections. He is unable to report definitely on its mode of action, but thus far has determined that the effect does not depend on any contractile power exerted on the blood-vessels similar to that resulting from the use of suprarenal extract. Apparently the effect is produced by some influence exerted on the coagulation of the blood, and the action is a chemical one. Local application is ineffective. Its sphere of action seems to be in capillary hemorrhages, and the author has found it of particular efficiency in gynecologic affections. He believes, however, that it would also be of value to various internal diseases accompanied by hemorrhages, gastric ulcer, intestinal or pulmonary hemorrhages,

etc. He recommends the remedy, not as a substitute for surgical treatment, but only in those instances in which more radical measures are not immediately indicated. Hirsch reports on the method of securing this product and its mode of employment. The drug is an extract from the spleens of horses obtained by the method of antiseptic autolysis. Experiments on animals showed a reduction in the blood pressure and apparently an increased tendency of the blood to coagulate. The remedy is given by intramuscular injections in the gluteal region by preference, but may also be given subcutaneously. No unpleasant after-effects were noted. Fifty-nine cases of various forms of uterine hemorrhages were treated with good results in almost all cases, sufficient to stamp the article as an excellent styptic which is worthy of further trials.

A Case of Fatal Gastric Hemorrhage.—H. Hirschfeld reports a case in which a fatal issue was brought about by a gastric hemorrhage due to a ruptured arterial aneurysm of one of the gastric vessels. The patient was a man of twenty-eight years, who, during the course of seven years, had had severe gastric hemorrhage thirteen times. The patient was a hæmophiliac, and there was also a family history of this condition. To the last of these attacks the man succumbed, and at the autopsy the source of the bleeding was traced to a small miliary aneurysm situated at the base of a superficial ulcer in the gastric mucosa. There were also a number of varices in the immediate vicinity, but no evidences of ruptures of these. The author thinks that the fatal issue would have been avoided if the patient had not been a hæmophiliac. The differential diagnosis of such cases would be difficult, but in a case in which there are repeated hemorrhages from the stomach without the presence of pain, aneurysm should be thought of. Surgical interference would, in this instance, have been appropriate, but the patient's history forbade such a step being taken. The etiology in this case may be traced to a chronic alcoholic gastritis, which was found to have involved the mucus membrane with different degrees of intensity. The hæmophilia probably also favored the production of the aneurysm and the varices. One of the objects in reporting the case was the possibility of being able to restrict the number of so-called parenchymatous hemorrhages of the stomach, in which the source of the bleeding has never been definitely ascertained.

Münchener medizinische Wochenschrift, May 31, 1904.

The Dangers of Potassium Chlorate.—Buri believes that the dangers attendant upon the use of this drug are largely overestimated. He comments particularly on its value in the form of a tooth paste as a prophylactic against mercurial stomatitis. Fatal cases of poisoning have only resulted from the ingestion of large doses of a concentrated solution in error, and to avoid any possibilities of this occurrence, he advises giving the drug only in the form of compressed tablets or tooth paste. Only small daily doses are necessary and no unfavorable effects have been observed. It is also claimed that none of the so-called cases of chronic poisoning have ever been satisfactorily demonstrated.

Results of the Bassini Operation for Inguinal Hernia.—F. Frankel draws the following conculsions from a series of 250 cases operated on by this method. He believes that the only contraindication against operating in any case of non-strangulated inguinal hernia is that furnished by the patient's general condition, and if it is a question of anæsthesia, recourse should be had to local anæsthetics if possible. Operation should always be indicated, unless this conflicts with the statements just made, whenever other measures have failed or are inapplicable. But even when a truss apparently suffices, the advantages of radical operation should be made clear to the patient, especially as it does away with the dangers of strangulation. Among 185 cases out of 250 which could be traced, recurrences were found in seven. Secondary operations are recommended and were successfully done in three.

French and Italian Journals.

Treatment of Incontinence of Urine by Lumbar Puncture.—Babinski and Poisseau report that lumbar puncture may bring about a cure in incontinence of urine, whether of neurotic or of organic origin. These authorities cite cases showing the effect of lumbar puncture in this condition. One patient, a syphilitic, had suffered from organic spasmodic paraplegia for two years. When the incontinence reappeared, a second puncture overcame it. The method was not successful in the case of an atoxic patient who had been incontinent for four years.—*Journal des Praticiens*, May 7, 1904.

Semeiology of Stomatitis.—Fernand Levy, in discussing stomatitis, speaks of it as having the character of a local infection or as a complication of an illness by which the whole organism is affected. The observance of careful hygienic details in relation to the mouth, regular cleansing of the teeth, and immediate attention to carious teeth will do much to prevent stomatitis. In general maladies, the most minute attention to the care of the mouth, such as frequent rinsing of the mouth and teeth, will prevent the complication of stomatitis. Certain inflammations, such as mercurial stomatitis, can be avoided by special precautions. When once the inflammatory manifestations have appeared, local applications of the tincture of iodine, or methylene blue, cauterization with silver nitrate and antiseptic washes will rapidly ameliorate the condition.—*Gazette des Hôpitaux Civils et Militaires*, June 4, 1904.

Two Cases of Subcutaneous Angiomata in Children; Treatment.—Adrien Besson cites these two cases which came under the service of Duret. The first child was twenty months old. The tumor was about the size of a small nut, and of violet color. The mother had always noticed it, but for eight days it had been sensibly increasing in size. It was extirpated and dressed. At the end of eight days the bandages were removed and only a slight scar remained. The second patient was a child of sixteen months. The vascular nævus was of the size of a nut situated in the subclavicular region. Its base was large. Injections of Piazza's liquid were made daily for eight days. The result was excellent, but the child was removed before the tumor had entirely disappeared. The writer believes that when these tumors are limited and not in a position where scars are to be dreaded, total extirpation is indicated. When they are extensive with a large base electrolysis is the proceeding of choice. The coagulating injections of Piazza are indicated in intermediate cases.—*Journal des Sciences Médicales de Lille*, June 4, 1904.

A Special Type of Enteric Infection by Bacterium Coli.—F. Sicuriani has observed a small epidemic of five cases of fever similar to typhoid in many ways, but resulting from infection of the intestine by the bacterium coli. Such an epidemic appeared in Siena, in 1895, with a mortality of 70 per cent. Microorganisms were isolated from the fæces in the form of cocci, bacill,i and diplobacilli, resistant to Gram's stain. The cases observed by the author had a continuous, remittent or intermittent fever, varying from 37.8° to 39.5°, with a pulse and respiration that were little changed, and a good general condition. In most cases there was constipation, with hard, yellowish fæces, and meteorismus, but with little tenderness of the abdomen on pressure. There were no nervous manifestations, the spleen was not enlarged, and there was no eruption. Indican, creatinin, and urea were increased.—*La Riforma Medica*, May 11, 1904.

Rapid Recovery from Puerperal Septicæmia after Administration of an Injection of Formalin.—Hoerschelmann has had excellent success with the formalin treatment in a case of puerperal septicæmia. The patient was a primipara who was delivered of a dead fetus. The amniotic liquid and the placenta had a strong putrid odor. The patient quickly developed all of the symptoms of a violent septicæmia. The writer first administered nine drops of the tincture of opium by mouth, and then gave an injection of 600 c.cm. of salt solution with the addition of eight drops of a 4-per-cent. solution of formic aldeyhde. Within two hours, marked improvement supervened. About a quart of the solution escaped with fæcal matter after the injection Within five days the fever was entirely dissipated. The writer thinks that the history of the case deserves attention. He thinks that it is not prudent to give more than five drops of this solution in an injection.—*Gazette de Gynécologie*, June 1, 1904.

Infectious Disseminated Gangrene of the Skin Consecutive to Typhoid Fever in a Child of Thirteen Years.—B. Auché and Latreille report this case. The patient after an abdominal traumatism was taken ill with typhoid fever. Several vesico-pustules were noted in the center of a red area in the dorsal region. Within the next few days there appeared disseminated areas of cutaneous gangrene. They came the most often in the location of the vesico-pustules; one time in a red area which had no vesico-pustules; at other times they appeared where there were cutaneous abecesses. The pustules sometimes showed the characteristics of the pustules of variola. There were numerous cutaneous and subcutaneous abecesses. The vesico-pustules and the unruptured pustules, like the cutaneous abecesses, contained the yellow staphylococcus in pure culture. The gangrenous areas gave in culture the yellow staphylococcus and the colon bacillus. There were no diphtheria bacilli, nor anærobic microbes. The staphylococcus inoculated in the rabbit caused the formation of a large abscess which opened, and healed rapidly without any trace of the gangrenous process. The colon bacillus caused only a subcutaneous induration which disappeared very rapidly.—*Journal de Médicine de Bordeaux*, May 8, 1904.

Society Reports.

AMERICAN MEDICAL ASSOCIATION.

Fifty-fifth Annual Meeting, Held in Atlantic City, N. J., June 7, 8, 9, and 10, 1904.

(Special Report to the MEDICAL RECORD.)

(Continued from page 1028.)

SECTION ON GENERAL MEDICINE.

Third Day—Thursday, June 9.

Etiology of Cholecystitis and Cholelithiasis.—Dr. WALTER L. BIERRING of Iowa City, Iowa, called attention to the necessity of recognizing that this viscus constituted one of the most vulnerable points for infection in the abdominal cavity; it was analogous to the appendix and the fallopian tubes, except that while microorganisms were more or less constantly present in the lumen of the appendix normally the gall-bladder was generally free and infection of the gall-bladder concerned itself more with the contents than with the walls, the sterile bile becoming a culture medium for microorganisms. The gall-bladder, situated as it was between the bacteria hordes of the intestine and of the liver, was liable to infection. Experiments have demonstrated that a great many microorganisms flourish in the gall quite vigorously. Clinical and experimental observations showed that infection occurred in two ways: (1) by way of the blood, descending or hæmatogenous; (2) ascending, or by way of the common bile duct. Stoppage of the bile by gallstones or foreign bodies favored the growth of bacteria. The etiologic relation of cholecystitis and cholelithiasis had been found to be so close that those factors which pertained to the etiology of gallstones would also be catisative of cholecystitis. He said that cholelithiasis was very rare in early adult life, occurring usually after the age of forty. It was far more frequent in women than in men; this was probably due to child-bearing, tight-lacing, sedentary habits, and constipation. The deduction was made from the accumulated evidence of experimental and clinical knowledge of the pathogenesis of gallstones that while the essential cause was usually cholecystitis, there were other factors at work beside infections, and special attention should be given infectious diseases and altered metabolism which promoted a change in the bile chemically, so that it constituted an irritant. He was of the opinion that cholecystitis and cholelithiasis were secondary affections and that they would soon become rare diseases if we could eliminate the influences of improper wearing apparel, lethargic habits, constipation, gastric and intestinal catarrhal disorders.

Diseases of the Gall-bladder and Bile Ducts, in Relation to Diseases of the Gastrointestinal Tract.—Dr. BERTRAM W. SIPPY of Chicago presented this paper. He called attention to the close anatomical proximity of the gall-bladder and bile ducts to portions of the gastrointestinal tract. He divided diseases of the stomach and intestines rising from disease of the gall-bladder into those of nervous origin and those due to direct extension of the anatomical disease. Functional activity of the stomach and intestine was influenced in a reflex way by disease of the biliary tracts, but produced no serious results, while the extension of anatomical disease was fraught sometimes with most serious consequences. Pyloric and duodenal obstruction from cholecystitis coexistent with pyloric stenosis was serious. In the management of duodenal and pyloric obstruction consequent upon an attack of cholecystitis he advised postponing operation until the patency of the pylorus had been tested by rest and rectal feeding, except in cases in which immediate operation was necessary, because of serious local inflammation. Gastroenterostomy should rarely be performed at this time unless there was evidence of old pyloric or duodenal obstruction. If, after rest and rectal feeding, the obstruction persisted and the condition of the patient permitted, an operation for cholecystitis might be combined with gastroenterostomy. It was possible that a gallstone might occlude the lumen of the bowel with fatal result. In making a diagnosis between gastric or duodenal ulcer and cholelithiasis it was well to remember that there was not a single symptom of one that might not be present in the other. A fairly accurate differential diagnosis might be made between the two conditions by making a careful study of the whole clinical picture, not laying too much stress on any one symptom.

Diagnosis of Cholecystitis and Cholelithiasis.—Dr. PARKER SYMS of New York City said that the important diseases of the gall passages were (1) inflammatory disease of the gall-bladder and gallducts without stone; (2) gallstones in the gall-bladder and gall ducts without inflammation; (3) inflammatory conditions of the region surrounding the gall passages causing obstruction by pressure or distortion; (4) neoplasm of the gall passages, benign and malignant, with or without gallstones and with or without inflammatory disease. The prominent symptoms of these affections were: pain, tenderness, fever and chills, vomiting, change of pulse rate, collapse, tumor jaundice, urinary changes, blood changes, and stools. The pain was colicky, occurring often when the stomach was empty; tenderness was localized to the region involved, usually opposite the juncture of the ninth rib with its costal cartilage; fever was of an acute type, subsiding as rapidly as it rose; vomiting was of a reflex nature and independent of nausea, pulse was accelerated and tension increased; collapse might occur in severe attacks, tumor might be felt below the free border of the ribs; jaundice might be present or absent according to the degree of obstruction of the flow of bile; urinary changes were of interest in determining the presence and degree of jaundice, and the amount of leucocytosis was helpful in determining the presence of suppuration; stools showed the presence or absence of bile. X-ray examinations had thus far given no satisfactory results. He said that bile-passage diseases should be differentiated from gastric ulcer, appendicitis, renal colic, pancreatitis, phlebitis portalis, angina pectoris, empyema, subphrenic abscess, malignant disease of the pyloris, duodenum, pancreas, liver, kidney, etc. He described each of these affections and presented a chart of the diseases of the gall-bladder and ducts which aided in a more accurate diagnosis.

The Treatment of Cholecystitis and Cholelithiasis.—Dr. LUCIUS W. HOTCHKISS of New York City called attention to the general tendency to place diseases of the gall-bladder and bile ducts within the category of surgical affections. He divided treatment into two classes, first the medical or palliative, and second, the surgical or radical. He spoke of the opinion of some experimenters who thought that gallstones might be dissolved by administering sodium glycocholate or alkalies and bile salts with a rich diet. The rationale that aimed to relieve congestion and increase the flow of bile was perfectly sound. He thought that the great point to be determined was the border line between balneological and surgical procedures. He believed that as we learned to diagnose with more certainty there would be less call for difficult and dangerous operations upon the common duct and fewer cases requiring cholecystenterostomy. The danger in operation lay principally in delay. He was of the opinion that choledochostomy, choledochectomy, choledoenterostomy were possible only in rare conditions, and operations upon the hepatic duct were still in their infancy. Experience had shown him that certain cases seen in the first mild attack subsided quickly under medical treatment; cases in subsequent mild attacks were ideal ones for cholecystectomy, while in cases of repeated severe attacks cholecystostomy was always justifiable and the operation of choice, cases showing evidence of a mild local infection for a short time and suddenly developing signs of sepsis and peritonitis required early operation. It was wise to treat cases of common duct obstruction by calculus, expectantly for a week or two. In these cases the treatment must ultimately be surgical.

Ergot in General Practice.—Dr ALFRED T. LIVINGSTON of Jamestown, N. Y., endeavored to show that inefficient tone of unstriated muscular fiber was a common and serious element of disease, and that it was important to guard against or correct such an abnormal state of the tissues. He thought that the abnormal disturbance of blood distribution depended upon a relaxed state of the muscular coat of the blood-vessels. The location, degree, and persistence of such vascular relaxation, together with irritants or etiological factors, determined a variety of diseases which would not occur if there was a good tone of the vascular walls. He said that but a small percentage of humanity possessed a good state of tone; in all the unstriped muscular fiber of the body being thus more liable to disease. For inflammation of the arteries, veins, and lymphatics he prescribed rest for from two to five months and daily injections of ergot. Septic inflammation of veins and lymphatics had repeatedly yielded to treatment. He considered the serious and fatal elements of febrile disease in detail, and said that the evidence afforded by the action of ergot in shock was that the condition was not so much a paralysis of vasomotor centers as it was a disturbance of the equilibrium of the circulation, and the indication was to contract the dilated and engorged vessels and to establish an active circulation. Ergot was the agent that would do this. He regarded the toning of relaxed unstriped muscular fiber as of great importance in a variety of diseases and of vital importance in many instances.

Dr. HERMAN GRAD of New York reported excellent results from the use of ergot before, during, and after surgical operations in greatly relieving the nausea and vomiting which followed the administration of anæsthetics.

Dr. JAMES J. WALSH of New York spoke of the cases in Dr. Wakefield's service in which ergot had been of great benefit. He spoke of the relaxation of the blood-vessels in the abdominal region, and that it was claimed that two-thirds of the blood in the body could be contained in the abdominal vessels. By toning up the abdominal vessels, as by the administration of ergot, the circulation could be improved.

Dr. ALEXANDER LAMBERT of New York related his experience with 8,000 cases of alcoholism at Bellevue Hospital. The death rate in nine years had been about 3 per cent. in those patients with a wet brain condition, and that this death rate had been reduced about 44 per cent. by the use of ergot.

The Differential Leucocyte Count as an Aid to the Diagnosis of Fevers.—Dr. WM. KRAUSS of Memphis, Tenn., read this paper and presented the following conclusions: (1) It is not so much the absolute increased per cent. of large lymphocytes which is diagnostic of malarial infection as the relative increase over the small lymphocytes. (2) In cases of malarial infection without much fever and without quinine history, the polynuclears are markedly diminished and the large lymphocytes very much increased in proportion. (3) In the absence of an adenopathy, possibly also of influenza and measles, the above finding is positive evidence of present or very recent malarial infection. (4) During the rise of a malarial fever, or as a result of quinine therapy, the polynuclear leucocytes may reach 80 per cent., but in that event the large lymphocytes exceed in number the small ones. (5) In malarial hæmoglobinuria any of the various blood-findings characteristic of malarial fever may be present in any stage, and there is no evidence now at hand to explain this. (6) Malarial and typhoid fevers can be more positively differentiated from fevers of sepsis, pneumonia, rheumatism, malignant tumors, etc., by the differential leucocyte count than by the hæmatometer and it can be done on dried films sent from the bedside. (7) Malarial infection makes a strong impression upon the leucocytes no matter what other disease it is associated with. (8) It is said to rule out typhoid fever when the malarial variation is [illegible] as it is not malaria modifies the therapeutic test may decide before a Widal would appear. (9) In a gradually developing fever, the absence of marked increase in large lymphocytes or polynuclears during the first week justifies a preliminary diagnosis of typhoid fever.

The Pathogenesis of Uræmia and Eclampsia.—Dr. ROBERT N. WILLSON of Philadelphia presented this paper and offered the following conclusions: (1) That it is probable that there are at work in the cerebrum, as well as throughout the system of uræmic subjects, at least one, and probably several toxic substances, which exert their influence more or less locally upon the cortex. (2) That it is equally certain that other portions of the brain than the cortex are also acted upon, as in the production of coma, etc. (3) That no small part in the production of the uræmic and eclamptic condition is played by intracranial pressure, due to a temporary excess of fluid, whether acting independently of, or in conjunction with, the toxic substances already mentioned. (4) That lumbar puncture will at least temporarily relieve certain of the symptoms most readily ascribed to localized intracranial pressure; and that cases in which pressure is the main factor, drainage of the spinal canal may save life. The procedure, together with free bleeding, purging, and diuresis, should be added to our routine treatment of the condition. (5) That transfusion of normal salt solution by intravenous injection or hypodermoclysis, except in cases of anuria, or a greatly diminished urinary secretion, is contraindicated, as tending to increase the liability to saturation of the tissues. (6) That the results of lumbar puncture in the three cases cited in the paper would not warrant the assumption that relief of intraspinal or intracranial pressure could alone be depended upon to cure the uræmic or eclamptic condition, provided the toxic influence was a prominent one in a particular case.

Dr. JAMES TYSON of Philadelphia thought that we must consider some toxic agency responsible for the phenomena.

Dr. ALEXANDER LAMBERT of New York said that in eclampsia the lesions noted were often identical with those of acute yellow atrophy of the liver.

Dr. ROBERT N. WILLSON of Philadelphia emphasized the fact that when bloody fluid was withdrawn by lumbar puncture, the cases terminated fatally, whereas if clear fluid was obtained patients could recover.

Amœbic Dysentery: Its Local Lesions and Treatment.—Dr. JAMES P. TUTTLE of New York read this paper which was based upon his personal experience with seventy-four cases of amœbic dysentery, together with the information that he had gained from literature. The invasion of the colon by the amœbæ dysenteriæ caused this disease. The life of the amœbæ was indefinite at the body temperature, but at a temperature of less than 70° they lost their motility and life became extinct; heat would not restore them. The treatment should be directed to the local lesions, the destruction of the amœbæ and the prevention of a redevelopment from the spores. These spores were buried in the tissues and superficial washing would not destroy them. Simple cold water was very effective. The patient was placed in the knee-chest position and the bag elevated about three feet above the level of the hips. The water was allowed to run in slowly, the amount used being regulated by the tolerance of the patient. Local measures should be employed in the treatment of ulcers of the rectum and sigmoid. As it was possible that the appendix might be the seat of amœbic infection, it was wise to remove it in those cases in which the appendix was utilized as a means of introducing the cold water into the large intestine. In seventy-three cases treated by this method seventy cases had been cured.

Dr. PERRY PRACK of Chicago said that it had been his experience that the various solutions used had very little effect upon the amœbæ. He referred to oil, which acted as a powerful irritant and which excited peristaltic hyperæmia and had more or less effect upon the plasmodium. He employed hot water beginning with the water at a

temperature of 115° F. and gradually raised it to 131. After every treatment the amœbæ disappeared. He followed this by the use of ice water and the results were better than though he had used ice water alone.

Dr. A. W. Warden of Union Hill, New Jersey, gave an account of the beneficial results that he had obtained from the use of chaparro or a nargosa.

The Family Physician as a Factor in the Solution of the Tuberculosis Problem.—The speaker said that the family physician should be carefully trained in the early recognition of tuberculosis and should make calls at regular intervals whether the family was ill or not. He thought it important that there should be periodical examinations of the chest of each member of the family. At the slightest indication of predisposition to tuberculosis preventive measures should be inaugurated. He pointed out the need of more sanatoria, hospitals, better tenements, etc. The family physician should be the friend of the family as well as the medical advisor, and as such should be able to prevent the marriage of a consumptive.

Has Influenza Been a Causative Factor in the Increase of Appendicitis.—Dr. Phillip Marvell of Atlantic City gave a statistical review of the periods from 1884 to 1894, and from 1894 to 1904, as taken from the records of the Episcopal and Pennsylvania Hospitals. A comparison of these records showed that there had been a great increase of appendicitis during the latter period and also a great increase over all the more important pelvic and abdominal inflammatory diseases. He did not think this increase could be entirely explained by our better knowledge of diseases. He said that if we were unable to arrive at fixed conclusions we could make the following deductions: (1) That appendicitis had increased in the past five years much more rapidly than in either of the previous five-year periods studied. (2) That the accessory cavities were more frequently attacked, and when diseased, more likely to be aggravated by influenza than by other diseases. (3) That there is more than the possibility of the existence of chronic interstitial influenza, therefore a probability of its causative relation to appendicitis. (4) That the observations set forth in the abstracts which he had set forth in the course of his paper must be admitted as a measure of proof in favor of the inferences drawn and the conclusion arrived at.

Fourth Day—Friday, June 10.

Aneurysm of the Innominate Artery.—Dr. Albert P. Francine of Philadelphia summarized his paper as follows: A delayed and weakened beat in the right radial, absence of pulsation in the right temporal, a turgid external jugular, in association with paroxysmal attacks of dyspnœa and pain at the root of the neck or referred to the right side, were very suggestive of innominate aneurysm. The two signs to which he wished to call special attention were the regurgitant quality in the right radial pulse, which he did not think had been described before in this connection, and the more convincing sign in the supersternal notch behind and above the right sternoclavicular articulation in association with a distinctive angle of reëntry in the second interspace. If these aneurysms were not relieved by operation they would rupture sooner or later. In operating he employed distal ligation of the right common carotid and subclavian, one or both, either consecutively or, if necessary, at the same time. In uncomplicated cases this operation had proved highly successful, the sac becoming obliterated by organized clot.

Symposium.—"Arthritis Deformans."

Pathology and Etiology of Arthritis Deformans.—Dr. Thomas McCrae of Baltimore read this paper. He said that in our present uncertain state of knowledge of arthritis deformans it was important to determine whether we had one or more diseases included under this term. He described the anatomical distinctions between two types and expressed the view that they were varying manifestations of the same disease. This seemed to be supported by the fact of their occurrence in the same person. He reviewed the various theories as to etiology and favored the possibility of an infection as being the cause. There was as yet no positive evidence of a specific infection as against the possible agency of various ones.

Symptomatology in Arthritis Deformans.—Dr. James J. Walsh of New York presented this paper. He was of the opinion that uric acid had nothing to do with rheumatic conditions. Arthritis deformans could be traced in history in nearly all times, bones that had been buried perhaps 5,500 years ago showed the signs of the changes in arthritis deformans. English authorities have divided arthritis deformans into three groups: (1) The disease commonly known as osteoarthritis, often confined to the hip-joint and most common in old men. (2) A disease in milder form represented by deformities occurring in the terminal joints of the fingers and most common in women in middle life. (3) This form was one simulating acute rheumatism and produced lasting changes in the joints; it had a tendency to recur and ultimately cripple the victim permanently. It occurred more commonly in young women. The fact that the salicylates failed to reduce the fever or to lessen the pain and discomfort was the most characteristic differential diagnostic symptoms. Probably the most important feature of this affection was its tendency to recur.

The Treatment of Arthritis Deformans.—Dr. Clarence Edward Skinner of New Haven, Conn., said that for a routine treatment, to be modified according to the requirements of the individual case, was the following: (1) A diet as generous as could be digested and assimilated by the individual, and consisting largely of red meats. (2) Rest in bed for at least ten hours out of twenty-four. (3) A pill consisting of $\frac{1}{10}$ of a grain of strychnia sulphate and $1\frac{1}{2}$ grains of ferrous iodide three times daily half an hour before meals, and in emaciated cases one to four drachms of cod-liver oil three times daily after meals. (4) A dose of some one of the mineral waters before breakfast two or three times a week if constipation was present. (5) A body dry hot air treatment two or three times weekly. (6) Central galvanization two or three times weekly. (7) A general application of mechanical vibratory stimulation two or three times weekly. (8) A static electric application at least once every day, using in acute cases the Morton wave current localized over the affected joints or spine; in chronic cases, of long thick sparks to the affected joints one day and the Morton wave current localized over these joints the next. (9) With ankylosed joints in which the acute condition had subsided and the functional impairment was not due to osteophyte formation, passive movements every day, in the form of alternate flexion and extension, the attempt being made to increase the excursion of the manipulated member each time, was of considerable use. Fifty-one cases treated in private practice during the past four years showed what could be done by the application of this treatment. These cases were summarized as follows: Out of 24 patients who were totally incapacitated for the performance of ordinary duties, 6 were restored to a condition of unimpaired usefulness, 3 to a condition of but slight impairment, and 8 of the remainder discontinued treatment prematurely; out of 27 who were partially incapacitated, 7 were restored to unimpaired usefulness, 4 to but slightly impaired usefulness, and of the remainder 14 discontinued treatment prematurely. Out of 36 patients who were suffering constantly from pain, 10 were relieved entirely, in 12 pain was reduced to some extent, and 11 of the remainder discontinued prematurely. Of 15 cases in which pain was present, only on movement, 5 were relieved entirely, 3 were greatly relieved, and of the remainder 8 discontinued treatment prematurely; of 25 cases in which partial ankylosis of one or more joints was present, 13 were completely relieved, 12 partially, and 11 discontinued prematurely. Of 27 cases in which the general condition was bad when the treatment was begun, 10 were restored to normal health, 12 were greatly improved; of

19 cases in which the general condition was fair, 5 were restored to normal health and 8 were greatly improved.

Dr. GOLDTHWAIT of Philadelphia did not think the nomenclature was important so long as we knew what we meant by the terms used. He said that Dr. McCrae had mentioned the atrophic and hypertrophic types, but there were many cases encountered which he termed infectious arthritis. It was quite possible to distinguish these by means of the radiograph. In the disease as described by Still he did not know whether it was atrophic or hypertrophic in character. He thought it strange that we should have these two types of the same disease, and no man had stated that from the start the disease never became chronic, and others held that at the start it was chronic and never became acute.

Dr. ALLEN JONES of Buffalo did not think that we ought to throw out the term chronic rheumatism until we had seen demonstrated positively either the specific cause for acute articular rheumatism or a specific cause for acute rheumatism and arthritis deformans.

Dr. DELANCEY ROCHESTER of Buffalo said that the treatment outlined by Dr. Skinner was impracticable to the general practitioner because of lack of apparatus. He thought the general practitioner could get good results by care and watchfulness, and that the application of hot air, though not so hot as advocated, was productive of good results. He also recommended the use of the cabinet and of friction.

How the General Practitioner Should Treat Gonorrhœa.—Dr. FERD. C. VALENTINE of New York presented this paper and offered the following conclusions: (1) Every general practitioner was practically competent to treat successfully uncomplicated anterior gonorrhœa, if he would devote as much attention to this as he did to any one other disease. (2) Every patient with gonorrhœa was entitled to the services of his family physician, just as much as though he had acquired some other disease in consequence of drunkenness or other violation of morals. (3) The general practitioner who declined to treat uncomplicated anterior gonorrhœa avoided one of his most sacred duties to the profession and to humanity. (4) The patient who, because he had gonorrhœa, refused the services of his family physician was likely to become an opponent of scientific medicine, to the detriment of his health, that of his family, and that of the community. (5) The scientific treatment of this form of gonorrhœa was perfectly within the power of the general practitioner. (6) The irrigation treatment was as yet the most effective method and was most in accord with the modern scientific understanding of the disease.

Problems for the Tuberculous Convalescent.—Dr. A. MANSFIELD HOLMES of Denver, Colo., read this paper. He said that the patient required suitable and nutritious food as well as pure air and sunshine; that without suitable food the fresh air and sunshine availed but little. It was difficult to impress patients with the importance of proper living, and for this reason sanatoria treatment surpassed home treatment. The danger lurked in a latent form long after all subjective symptoms had disappeared. To form a correct estimate of convalescence, one should form a composite picture of all the available clinical evidence. If there was a gradual gain in weight extending over a comparatively long period, and if this gain was accompanied by a gain in strength, which was also permanent, and if the cough, sputum, and bacilli diminished and disappeared, a cure might be considered as practically established.

Election of Officers.—*Chairman*, Dr. Richard Cabot of Boston; *Secretary*, Dr. Joseph Miller of Chicago; *Executive Committee*, Drs. Frank A. Jones of Memphis, Tenn., W. S. Thayer of Baltimore, and Alexander Lambert of New York.

SECTION ON DISEASES OF CHILDREN.

Third Day—Thursday, June 9.

Hæmaturia as the Earliest or Only Symptom of Infantile Scurvy.—Dr. JOHN LOVETT MORSE of Boston reported a number of cases illustrating the fact that hæmaturia was a not uncommon symptom of infantile scurvy. It might be the earliest symptom of infantile scurvy, and therefore, for a time, the only symptom. Scurvy was the most common cause of uncomplicated hæmaturia in infancy.

Dr. WILLIAM L. STOWELL of New York City said that this entire subject of disturbances of the blood in children was still very much confused. If there was a special germ or diathesis underlying the condition, it had not yet been found, nor had a special remedy been discovered. Hæmaturia was probably a more common symptom in these cases than was generally supposed. A more systematic examination of the urine of young infants was desirable.

Dr. H. M. MCCLANAHAN of Omaha called attention to the value of Dr. Morse's paper from a clinical standpoint. Scurvy was readily curable if recognized within a reasonable time, before secondary changes had taken place.

Dr. J. ROSS SNYDER of Birmingham, Ala., called attention to the fact that this early and important symptom of scurvy had probably been frequently overlooked.

Intestinal Obstruction in Children.—Dr. JOHN F. ERDMANN of New York City, in this paper, discussed intussusception, strangulated hernia, post-operative bands, and Meckel's diverticulum as possible causes of intestinal obstruction in children. The major part of the paper, however, was devoted to intussusception. The diagnosis of this condition was not difficult, although the symptomatology, as given in the former text books on diseases of children, etc., should be rewritten with a view of placing most stress upon blood or bloody mucus in the stools, instead of upon the presence of a sausage-shaped tumor. In over 60 per cent. of a series of twenty-eight cases seen by Dr. Erdmann, twenty-four of which he operated on, no tumor of any kind was palpable per rectum or through the abdominal wall. On the other hand, there was not a single case in which blood or bloody mucus was not found either upon the diaper, in the commode, or expelled from the anus after digital examination. Sudden pain was almost invariably the first symptom that the child manifested; then a degree of shock, varying in intensity, and efforts at defecation took place. These symptoms were followed by manifestations of spasmodic pains, accompanied by a peculiar whining cry or fits of crying. During the first hour or two, the abdomen was lax, and no marked evidence of pain was produced by palpation. No tumor could be felt unless the intussusception was of considerable extent and took place rapidly. After a few hours, depending upon the degree of obstruction, abdominal distension and evidences of complete obstruction occurred. Although some fæces might be expelled with the bloody rectal contents, they were due entirely to the fact that those contents were below the point of obstruction. When a tumor was present, it was not usually the proverbial sausage-shaped tumor, but was more apt to be round or nodulated, and moderately movable. There was usually an accelerated pulse, and an elevation of temperature from one to two and one-half degrees.

Rectal enemas during the first few hours were not productive of harm, and might, though rarely, be followed by reduction. This occurred but three times in the twenty-eight cases observed by the writer. The condition usually demanded prompt surgical interference, and his experience had led him to oppose temporising with air inflation or water injection. Although these little patients bore operative interference quite well, it was significant that his greatest mortality rate occurred in those cases that required the longest time. Chloroform was the anæsthetic used in all his cases. The incisio was invariably

made in the middle third of the right rectus, and usually did not exceed two inches in length.

Dr. ISAAC A. ABT of Chicago called attention to the fact that all cases of intestinal obstruction in children were not of mechanical origin. Some were of a paralytic nature occurring in the course of pneumonia and other systemic affections. Others were apparently dependent on the ingestion of certain kinds of food, producing ptomain poisoning and intestinal infection. The speaker said he did not believe that such cases could be benefited by surgical interference.

Dr. LOUIS FISCHER of New York City said his experience with this class of cases had impressed him with the belief that children did not bear laparotomy well. He could recall at least six cases in which laparotomy was done, and all resulted fatally.

Dr. S. W. KELLEY of Cleveland, Ohio, said that spontaneous reduction was occasionally seen in intussusception, and it might take place under the use of opium, but the use of the drug should be limited to the beginning of the attack. The method of inflating the bowel with air was useful in certain cases if properly done, and was preferable to water pressure. One objection to the use of air was that it was difficult to gauge the amount of pressure. He had overcome this difficulty to some extent by first introducing air, and then water, which could be more easily handled and by which the air pressure was regulated. He thought a pressure of four or five pounds was sufficient, and this should be kept up for a period of from 15 to 25 minutes. He considered this more effective than a higher pressure kept up for a shorter time.

Dr. SAMUEL MCC. HAMILL of Philadelphia said it had been shown experimentally that irritation of the rectum produced reversed peristalsis, and this fact might have some bearing on the spontaneous reduction occurring in some cases of intussusception.

Dr. A. JACOBI of New York City said that the reversed peristaltic wave would probably be interrupted at the place of intussusception.

Dr. JOHN LOVETT MORSE of Boston said that their experience at the Infant's Hospital in Boston indicated that babies bore not only laparotomies, but other severe operations, well, provided they were kept warm during the operation.

Dr. Erdmann, in closing, said that the introduction of air or water in these cases usually proved ineffective, and was so much time lost. One reason why the injection method was ineffective was that the air or water could not be held in, and readily escaped through the sphincter. The danger of rupture of the gut must also be borne in mind. After the intussusception had existed for any length of time, reduction by the injection method was out of the question. In such cases the coats of the intestine were soggy and œdematous, and very careful manipulation was necessary to effect reduction. As regards the mortality of the operation, Dr. Erdmann said that during the past fourteen months he had operated six times, with two deaths. One of these died of status lymphaticus twenty-four hours after the operation; the other case was a very severe one, necessitating the excision of ten inches of the ileum, and an end-to-end anastomosis. Children, as a rule, bore operation well.

Perinephritis in Children.—Dr. WISNER R. TOWNSEND of New York said the term perinephritis was used by most writers to describe an inflammation in the tissues surrounding the kidney. The condition was not of frequent occurrence. He reported six cases in children seen at the Hospital for the Relief of the Ruptured and Crippled during the years 1894–1903. In not a single one of these cases was the correct diagnosis made by the attending physician who first saw the patient; all were sent to the clinic to have either spinal or hip braces applied. Gibney and others state that an erroneous diagnosis was made in over 50 per cent. of the cases seen. Only in rare instances should any difficulty arise correctly interpreting the symptoms in a case of beginning perinephritis. After the abscess had formed, the diagnosis was usually very easily made. In most instances, the etiological factor was obscure. Among them he mentioned exposure to cold, a strain or sprain, a blow or fall on the side, constipation, excessive exercise, jarring of the body, etc. The secondary form might follow infection of any part of the body, and had been seen in all forms of kidney lesions, especially in pyonephrosis, pyelitis and stone in the kidney, or after operations on the kidney, ureter, bladder, or urethra. The first symptom of a primary perinephritis was usually pain, which might be very severe in character. It was most frequently felt in the region of the kidney, near the vertebræ. It might be mistaken for neuralgia or lumbago, or it might extend downward and simulate sciatica. As movement of the body tended to aggravate the pain, the spine was generally held rigid, and it was due to this fact that so many of these cases were mistaken for Pott's disease. As the disease was of an inflammatory type, chills or rigors, followed by fever and septic temperature were among the early symptoms. Constipation was the rule. The treatment should meet the indications. If seen early, rest in bed, laxatives, and mild stimulation were indicated. After an abscess had formed, prompt surgical interference was imperative.

Dr. JACOBI said that constipation was not only a symptom of this condition, but also an important factor in its causation, both in the child and the adult. In the latter the constipation was generally severe, and of many years' standing. He could recall only four cases of perinephritis in children.

Diagnosis of Enlarged Bronchial Lymph Nodes in Children.—Dr. ALFRED FRIEDLANDER of Cincinnati stated that the lymphatic glands constituted a filtration apparatus. Given the factors of rapid growth on the one hand, and of poorly developed powers of resistance on the other, it could readily be seen that the period of childhood must necessarily be accompanied by marked reactive irritation and inflammation of the entire glandular system. During this period the mucous membranes were prone to irritation, with resulting inflammation. This, together with faulty conditions of hygiene and development, not infrequently taxed the filtration system to its utmost capacity. From the nature of things, we should expect to find inflammation of the tracheobronchial glands to be enormously common. The three groups of these glands, the tracheal, the tracheobronchial, and the peribronchial, intercommunicated freely; they received the lymphatics of the trachea and bronchi, the lungs and the pleuræ, and were directly connected with the mesenteric lymphatic nodes. Simple adenitis of these glands was very frequently the only precursor of a far more serious tuberculous involvement. There could be no doubt that many cases of enlarged bronchial glands tended to recovery without subsequent tuberculous infection, but the danger of such infection was always present. One of the early symptoms suggestive of enlarged bronchial glands was the peculiar paroxysmal cough; this resembled the cough of pertussis, excepting that there was not crowing inspiration. The paroxysms were often very violent, and exhausting, and might end in vomiting. Dyspnœa on even slight exertion, without demonstrable cardiac lesion, was frequently present. The appetite was capricious; the child was not well-nourished, and usually anæmic. There might or might not be an afternoon rise of temperature. Hoarseness, more or less constant, was often noted. Listlessness was frequently one of the early symptoms noticed by the parents.

The Importance of an Early Aural Examination in Acute Diseases of Children.—Dr. JAMES F. MCKERNON of New York emphasized the importance of frequent otoscopic examinations during the acute diseases of children, so that the presence of any pathological condition might be early recognized and treated. Otoscopic examination in very young children was by no means

an easy matter to those not constantly practising it; in the first place, the specula used were often too large; secondly, the auricle was drawn upward, backward and outward, and in this way the major portion of the lumen of the canal was shut off, whereas if the auricle were drawn gently downward and backward the canal was opened and the deeper structures exposed. In many cases, upon inspecting the drum membrane, when middle-ear disease was suspected, the drum, while white and prominent, showed not the slightest vestige of congestion, but if its surface be brushed with a cotton-tipped probe, the white-looking drum would be replaced by a bulging, reddened, and angry-looking surface, which showed the true condition of the middle ear after the exfoliated epithelium had been brushed away. In other cases complicating exanthemata, the upper half of the drum membrane appeared normal save for a slight tinge of congestion along the superior border of Shrapnell's membrane, while the lower half, and particularly that portion of the drum corresponding to the tubal opening in the middle ear, looked lustreless, and had a grayish, mottled appearance. This showed that already the mucous membrane of the tube and that portion around the tubal entrance was swollen and pouring fourth a serous exudate which demanded an immediate evacuation through an opening in the drum if we wished to cut short the process and prevent the disease from attacking structures higher up. In young children suffering from the acute exanthemata, Dr. McKernon said he thought an aural complication should be looked for each day. In a large number of the cases there was no symptom pointing to an aural condition until after the damage had occurred, namely, a spontaneous rupture, with destruction of a portion of the drum membrane, which might easily have been avoided had otoscopy been practised frequently. Ear complications should also be looked for in acute gastro-intestinal conditions, pneumonia, grippe, acute follicular tonsillitis, and typhoid fever.

Dr. Herman Jarecky of New York City said that in connection with the acute exanthemata, children who suffered from adenoids were particularly liable to middle-ear complications on account of the imperfect drainage. In typhoid fever the ear complications were probably so frequently overlooked on account of the general apathetic condition of the patient. In any case in which the ears were involved, if there was any bulging of the drum membrane, it should be promptly incised. This operation was a simple one, and could be done by the general practitioner as well as by the specialist.

Dr. Samuel Walker of Chicago said that otitis media could simulate almost any disease of childhood. There was nothing more important in the treatment of children than the routine and thorough examination of the ear.

Dr. Samuel McC. Hamill of Philadelphia said that of seven cases of typhoid fever in his wards at the hospital, three were complicated by otitis media. In the majority of such cases that he had seen, the complication occurred almost at the point of the defervescence in the temperature.

Dr. Louis Fischer said that, according to his experience, the temperature in connection with middle-ear suppuration was peculiar, and a rather uncertain guide. So much so, that he had come to look upon it as not a very positive symptom of that condition, especially during the infectious diseases. He regarded irrigation and cleansing of the nasal cavities as a very important factor in the production of middle-ear disease.

Dr. S. W. S. Toms of Nyack, N. Y., reported an instance in which cleansing of the nose in a child that was suffering from purulent rhinitis was followed by a double otitis media.

Dr. Thomas S. Southworth of New York City said that a certain percentage of patients with infectious diseases would develop an otitis media, whether the nose was irrigated or not, and the number would probably be reduced rather than increased by carefully cleansing the nasopharynx, where absorption of infectious material was so apt to occur.

Dr. McKernon, in closing, said he never used a spray or douche in the nose or nasopharynx. In young infants, excessive secretions could be wiped out with a cotton-tipped probe; in older children the head could be held to one side, and the cleansing fluid gently allowed to run through the nose. In reply to a question as to whether he advocated paracentesis in every case of bulging of the drum, Dr. McKernon said that he did, and in a certain number of the cases he would make the incision without waiting for the bulging.

Some Physical Signs in Infants and Children Not Sufficiently Emphasized.—Drs. Samuel McClintock Hamill and Theo. Le Boutillier of Philadelphia presented this paper, which contained the results of a systematic examination of the hearts and lungs of infants and children in the Out-Patient Department of the Howard and Polyclinic Hospitals, of Philadelphia, and showed important variations in the anatomical structures in the child as compared with those in the adult.

The Management of Hernia in Infancy and Childhood, with Results of Operative Treatment.—Dr. William B. Coley of New York, in discussing the question of whether the treatment should be mechanical or operative, expressed the opinion that the truss should be tried up to four years of age; rarely after that. The truss should be applied as soon as the hernia was discovered, and worn day and night. In cases in which the truss failed to correct the hernia, or when strangulation occurred, or when the hernia was irreducible, or associated with hydrocele, an operation should be done without delay. In a case in which a truss had never been worn, and which was not seen until after the age of four years, the question of mechanical or operative treatment had to be decided according to the circumstances of the patient. An operation saved time, and the cure was more likely to be permanent in 4 per cent. of his cases; since that time it had been less than 1 per cent. Almost any operative treatment succeeded in children much better than in adults.

Chorea.—Dr. W. C. Hollopeter of Philadelphia said that the treatment of chorea which he had found most satisfactory was the hydropathic, which he described as follows: The child was placed in a bath at a temperature that would prove no shock or surprise to it. A temperature of from 90° to 98° F. was usually satisfactory. The child, when once placed in the bath, was entertained by the nurse or mother by placing some playthings or floating toys in the water. Draughts should be guarded against, and the temperature of the water should be maintained sufficiently high. The bath could be prolonged for one or two hours, and given twice daily, the whole body being submerged, excepting the head and neck. At least ten minutes of the time could be profitably devoted to gentle, superficial massage of the arms, legs and trunk. Dr. Hollopeter said he had treated forty or fifty patients by this method, with the result of shortening the duration of the attacks from three months to six weeks.

Diseases of Children Occasioned by Affections of the Nose: The Necessity for Recognition and Treatment.—Dr. Louis J. Lautenbach of Philadelphia stated that children were great sufferers from obstructions of the nostrils. They were very prone to diseased conditions affecting the nose, and occluding the passageway. The mischief thus occasioned was common, and unfortunately often very serious to the life of the child, as well as to its health. Along the respiratory apparatus, tonsillitis, pharyngitis, laryngitis, and particularly bronchitis and pneumonia were commonly so caused—in great part by the mouth-breathing. Stomach and intestinal disorders were frequent results of nasal disease. Nervous affections, and lack of mental and physical development were by no means unusual. General lack of vitality and that in-

definable something called a general cold were frequent resultants. Lack of development of the dental arches and irregularities in tooth formation, as well as placement could very often be traced directly to nasal disease; the widespread mischief thus caused lasting often throughout life. An impartial, unbiased examination would nearly always develop a satisfactory diagnosis. The connection between the secondary conditions and the primary cause might not at first be clear, but when once understood, the local and general treatment could generally be instituted harmoniously, and the effective results would more than repay for the difficulties encountered. Fortunately, nasal troubles in children were easily cured, as a rule.

A Study of a Cas Conjoining Myxœdema and Diabetes Mellitus.—Dr. AUGUST ADRIAN STRASSER of Arlington, N. J., read a most carefully prepared paper on this subject and presented a number of diet tables.

The following officers of the section were elected for the ensuing year: *Chairman*, Dr. John Lovett Morse of Boston; *Vice-Chairman*, Dr. William E. Darnell of Atlantic City; *Secretary*, Dr. J. Ross Snyder of Birmingham, Ala.; *Member of the House of Delegates*, Dr. W. C. Hollopeter of Philadelphia.

Books Received.

While the MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

GOLDEN RULES OF ANÆSTHESIA. By Dr. R. J PROBYN-WILLIAMS. Series No. XIV. 48mo, 67 pages John Wright & Co., Bristol, England. Price, 1 shilling.

THE MEANING OF A MODERN HOSPITAL. By W. BRUCE CLARKE, M.A., M.B. OXON., F.R.C.S. 8vo, 47 pages. Longmans, Green & Co., London, England. Price, 1 shilling net.

THE ELEMENTS OF KELLGREN'S MANUAL TREATMENT. By Dr. EDGAR F. CYRIAX. 8vo, 506 pages. Illustrated. Muslin. William Wood & Co., New York. Price, $4 net.

RAILWAY AND OTHER ACCIDENTS WITH RELATION TO INJURY AND DISEASE OF THE NERVOUS SYSTEM. A BOOK FOR COURT USE. By ALLAN MCLANE HAMILTON, M.D., F.R.C.S. 8vo, 351 pages. Illustrated. Muslin. William Wood & Co., New York. Price, $3.50 net.

LECTURES ON CLINICAL PSYCHIATRY. By Dr. EMIL KRAEPELIN. Authorized translation from the German. Revised and edited by Dr. THOMAS JOHNSTONE. 8vo, 308 pages. Muslin. William Wood & Co., New York. Price, $3.50 net.

MEDICAL DIAGNOSIS: SPECIAL DIAGNOSIS OF INTERNAL MEDICINE. By Dr. WILHELM V. LEUBE. Translated from the sixth German edition by Dr. JULIUS L. SALINGER. 8vo, 1058 pages. Illustrated. Muslin. D. Appleton & & Company, New York.

BLOOD IMMUNITY AND BLOOD RELATIONSHIP: A DEMONSTRATION OF CERTAIN BLOOD-RELATIONSHIPS AMONGST ANIMALS BY MEANS OF THE PRECIPITIN TEST FOR BLOOD. By GEORGE H. F. NUTTALL, M.A., M D., Ph.D. Including Original Researches by G. S. Graham-Smith, M.A., M.B., D.P.H. and T.S.P. Strangeways, M.A., M.R.C.S. 8vo, 444 pages. Muslin. University Press. Cambridge.

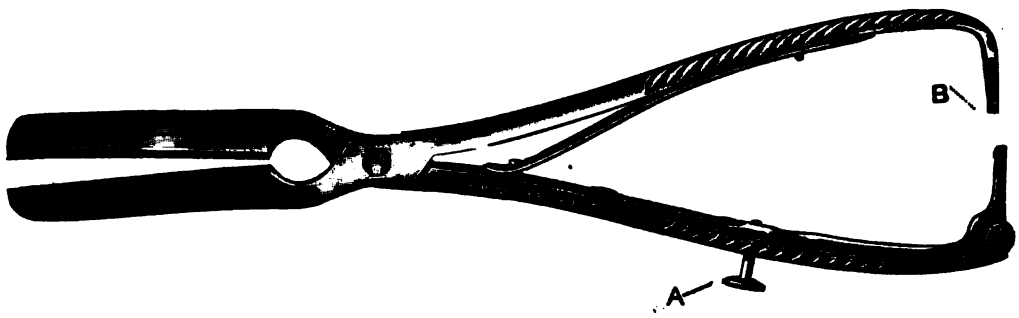
AMERICAN EDITION OF NOTHNAGEL'S PRACTICE. DISEASES OF THE INTESTINES AND PERITONEUM. By Dr. HERMANN NOTHNAGEL. Edited, with additions by Dr. HUMPHREY D. ROLLESTON. 8vo, 1032 pages. Illustrated, Muslin. W. B. Saunders & Company, Philadelphia, Pa. Price, $5 net.

New Instruments.

AN AUTOMATIC HEMORRHOID CLAMP.

BY MARTIN W. WARE, M.D.,
NEW YORK.

A NUMBER of hemorrhoid clamps exist, that seemingly fulfil our requirements, but they one and all call for the additional hands of an assistant to manipulate the screw that secures the blades. The greatest drawback to such an arrangement, therefore is, the multiplication of hands about the operative field.



To obviate this drawback is the object of this clamp devised. The construction permits of its being operated by one hand of the surgeon, the other being free for every other manipulation. The hemorrhoidal mass may thus be seized with the left hand, and the clamp applied to it. The pressure of the right operates the ratchet (B) at the head of the handles, and thus the blades are held securely. It is not intended that this mechanism should have the effect of the angiotribe, but merely to facilitate the application of the clamp, as ordinarily used heretofore.

The cauterization of the hemorrhoid completed, the pressure of the pin (A) in contact with the spring mechanism, releases the rachet, and the handles are forced apart with greater or less rapidity, dependent upon a relaxation in the grasp of the handles.

A clamp thus easily operated permits us to dispense with an extra assistant. Rapidity of operation and greater cleanliness are thus more easily obtained. The instrument can be taken apart and thoroughly sterilized,

1198 LEXINGTON AVENUE.

Splenic Anæmia.—J. H. Davenport and H. C. Pitts report a case of this nature, their patient being a girl of sixteen years. In addition to a severe anæmia she showed a mass rising from the right side of the pelvis to within about two inches of the navel, separate from and in front of the uterus. By vaginal examination it was movable and not tender. The greater part was on the right side, but it crossed the median line. It seemed probable that it was an ovarian cyst. An exploratory laparotomy was deemed advisable, and the mass was found to be the spleen with a long, slim pedicle. The viscus was not removed and the patient rallied well but died some two weeks later after a persistent vomiting of dark bloody fluid. In reviewing the literature, the authors note that the general consensus of opinion seems to be that early removal of the enlarged spleen gives the best hope of cure. Sippy has collected seven cases, which he thinks were probably ones of splenic anæmia and in which splenectomy was done. But of these seven, five apparently recovered entirely, while two died from hemorrhage. He makes the assertion that the mortality following splenectomy in this disease is much less than in leukæmia. Treatment with iron and arsenic sometimes gives marked improvement, and perhaps should be tried before resorting to operation.—*Yale Medical Journal.*

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending June 18, 1904:

	Cases.	Deaths.
Measles	652	15
Diphtheria and croup	375	50
Scarlet fever	190	16
Smallpox	...	...
Varicella	63	...
Tuberculosis	362	156
Typhoid fever	32	7
Cerebrospinal meningitis	...	53

The Early Diagnosis of Cirrhosis of the Liver, Considered from the Pathological Standpoint.—W. W. Ford has made a study of this subject based on a serious of 500 autopsies. In 49 of these cases, advanced cirrhosis occurred as the direct or accessory cause of death. Sixteen of these cases are directly associated with chronic interstitial nephritis, with secondary hyperthrophy and dilatation of the heart; 8 are associated with pure cardiac insufficiency, without renal complications. The majority of the 49 cases are examples of atrophic cirrhosis. Over 50 per cent. are definitely associated with arteriosclerosis. Next in point of frequency to the cases of atrophic cirrhosis, come the cases of syphilitic cirrhosis of the liver. Out of the whole series, only 2 can be considered hypertrophic in character. Parenchymatous degeneration of the liver cells occurred in 26 cases. Fatty degeneration was found in 158 cases. With a few exceptions, the cases of beginning cirrhosis of the liver are associated with renal disease, cardiac affections, and arteriosclerosis. The writer in referring to the attempt to solve the ultimate problems of this disease, calls attention to the triad of deities which Olsen would hold responsible for arteriosclerosis, Mars, Vulcan, and Venus.

A Study of the Condition of the Upper Air Passages Before and After Intubation of the Larynx. Also, an Inquiry into the Method of Feeding Employed in the Cases.—Louis Fischer presents the results of his studies of a series of cases of intubation. Not one of these cases had a normal throat at the time of intubation. Adenoid vegetations, enlarged tonsils, and chronic rhinopharyngitis were met with in almost every case. When the danger of diphtheritic laryngeal stenosis in a child is considered, it is important, if possible, to restore normal conditions in the rhinopharynx. Greater attention should be bestowed on the nose, as the most fatal cases are those of nasal diphtheria in which general sepsis follows. It is interesting to note that all of the children in this series that recovered had been breast-fed. This form of feeding must have had an important bearing on their bony development as well as their muscular structure. No chronic cough was encountered which could be attributed to the wearing of the tube. Comparing an equal number of children who never suffered with diphtheria nor were intubated, of the same age and development, it was found that they suffered with pneumonia and other infectious diseases in the same proportion as the children in this series. The larynx showed a tolerance for the tube for many weeks. One of these patients wore a tube twenty-six days, another twenty-five days. A properly fitting tube constructed of rubber leaves no evidence of chronic inflammation directly traceable to the tube, nor could any case be found in which the origin of catarrh was due to this cause. Although many of these children were decidedly rachitic, no deformity of the chest due to imperfect oxygenization could be attributed to the effects of the intubation tube. If children's throats are in a normal condition the risk of infection is reduced to a minimum.—*Archives of Pediatrics*, February, 1904.

A New and Simple Method for Obtaining the Sputum in Children.—Leonard Findlay describes a method of obtaining the sputum in children as follows: With a piece of gauze on the forefinger, the pharynx, and especially the epiglottis, is irritated so as to induce coughing, and any expectoration that is coughed up is swept out of the mouth with the finger before it has time to be swallowed. The quantity obtained varies. Several attempts may be necessary. The writer has had gratifying results with this method. He believes that this procedure has not previously been described in English.—*Archives of Pediatrics*.

Health Report.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended June 18, 1904:

SMALLPOX UNITED STATES.

			CASES	DEATHS
California, San Francisco	May	29–June 5	1	..
District of Columbia, Washington	May	28–June 4	7	..
Florida, Jacksonville	June	4–11	1	..
Georgia, Macon	June	4–11	1	..
Illinois, Chicago	June	4–11	1	..
Iowa, Dubuque	June	4–11	2	..
Kentucky, Covington	June	4–11	2	..
Louisiana, New Orleans	June	4–11	5	..
Maryland, Baltimore	June	4–11	6	..
Michigan, Detroit	June	4–11	3	..
Grand Rapids	June	4–11	1	..
Missouri, St. Louis	May	28–June 4	22	..
Nebraska, Omaha	June	4–11	3	..
New Hampshire, Manchester	June	4–11	8	..
New York, Buffalo	May	28–June 4	5	..
New York	June	4–11	..	1
Ohio, Cincinnati	May	27–June 3	10	..
Dayton	June	4–11	2	..
Toledo	June	4–11	1	..
Zanesville	Apr.	30–May 7	1	..
Pennsylvania, Altoona	May	4–11	4	..
Philadelphia	June	4–11	4	2
Pittsburg	June	4–11	2	..
South Carolina, Greenville	May	28–June 4	2	..
Tennessee, Memphis	June	4–11	4	..
Nashville	June	4–11	2	..
Washington, Tacoma	May	29–June 6	1	..
Wisconsin, Milwaukee	June	4–11	6	..

SMALLPOX —FOREIGN.

Austria, Prague	May	14–21	12	..
Brasil, Campinhas	Apr.	17	Epidemic	
Canada, Winnipeg	May	27–June 4	2	..
China, Canton	Apr.	26	Present	
Colombia, Barranquilla	May	23–29	..	1
France, Paris	May	21–28	13	..
Great Britain, Bradford	May	7–21	11	..
Bristol	May	14–21	5	..
Dundee	May	21–28	1	..
Edinburg	May	21–28	2	..
Glasgow	May	27–June 3	334	1
Hull	May	14–28	8	..
London	May	21–28	33	2
Manchester	May	14–28	6	..
New Castle on Tyne	May	21–28	2	..
Nottingham	May	21–28	7	..
Sheffield	May	14–21	2	..
South Shields	May	14–28	15	..
India, Bombay	May	3–17	46	..
Karachi	May	8–15	..	7
Italy, Leghorn	Apr.	10–17	1	..
Palermo	May	7–14	1	..
Japan, Nagasaki	May	1–10	40	18
Panama, Panama	May	22–June 5	81	..
Russia, Moscow	May	14–21	15	5
Odessa	May	21–28	5	..
St. Petersburg	May	14–28	25	7

YELLOW FEVER.

Costa Rica, Limon	May	21–June 4	3	..
Ecuador, Guayaquil	May	11–25	..	24
Mexico, Coatzacoalcos	May	20–28	3	..
Jallipan	May	21–28	2	..
Merida	May	22–June 4	5	1
Salina Cruz	May	28–June 4	1	1
Tehuantepec	May	22–June 4	11	2
Vera Cruz	June	4–11	1	1

CHOLERA.

India, Madras	Apr.	30–May 6	..	1
Turkey in Asia	To May	9	165	130

PLAGUE—INSULAR.

Hawaii, Honolulu	June	8	..	1

PLAGUE—FOREIGN.

Africa, Cape Colony	May	9–16	1	..
Arabia, Aden	May	15–24	4	2
Argentina, Tucuman	May	7	Present	
Australia, Brisbane	Apr.	16–30	4	2
Sydney	Apr	9–26	4	1
Egypt, Port Said	Apr.	30–May 7	3	3
All Egypt	Apr.	30–May 7	41	18
Formosa	Apr.	23–May 14	1222	842
India, Bombay	May	10–17	..	567
Karachi	May	8–15	127	105
Peru, Lima	May	7–14	9	6

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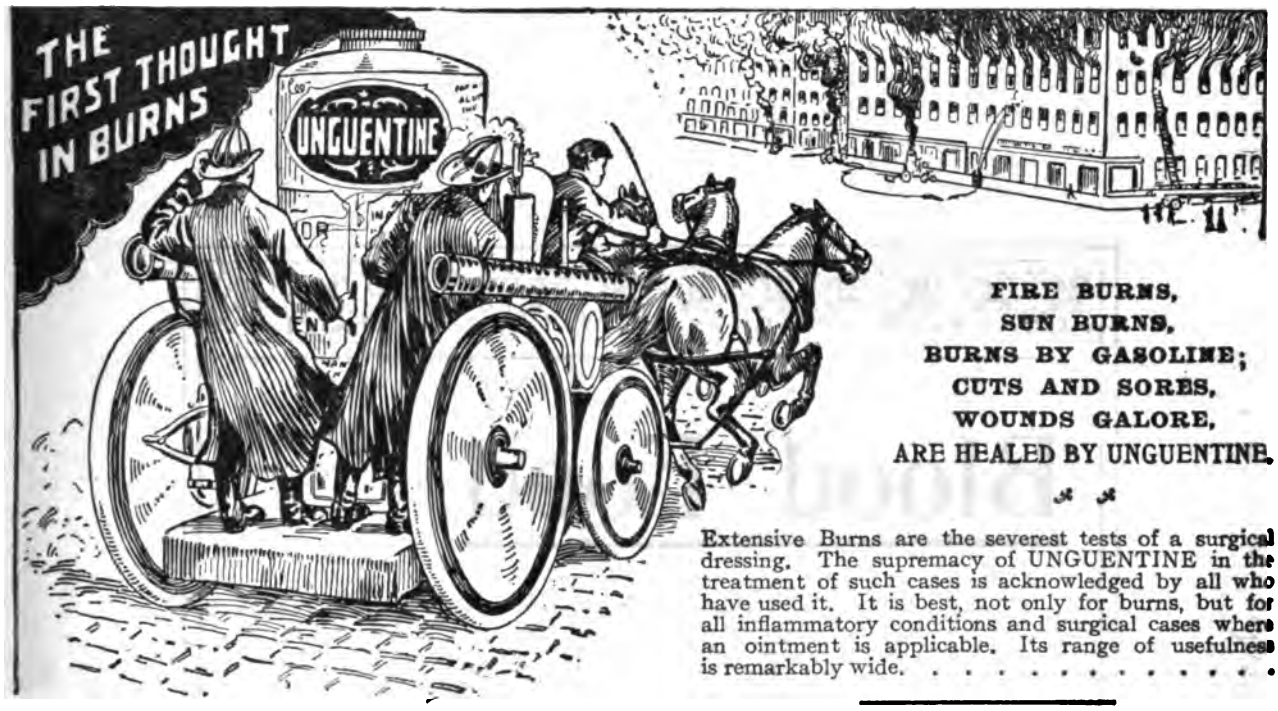

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NATIONAL AND STATE MEDICAL SOCIETIES OF AMERICA.

NATIONAL.

AMERICAN MEDICAL ASSOCIATION

Annual Meeting at Atlantic City, June 7, 8, 9 and 10, 1904.
GEO. H. SIMMONS, M. D., Sec., Chicago, Ill. JOHN H. MUSSER, M. D., Prest., Philadelphia, Pa.

AMERICAN ASSOCIATION OF GENITO URINARY SURGEONS

Annual Meeting at St. Louis, Mo., May , 1904.
JOHN VANDER POEL, M. D., Sec., 36 West 39th St., New York City. EDWIN C. BURNETT, M. D., Prest., St. Louis, Mo.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

Annual Meeting at St. Louis, Mo., Sept. 13, 14 and 15, 1904.
WILLIAM W. POTTER, M. D., Sec., 284 Franklin St., Buffalo, N. Y. WALTER B. DORSETT, M. D. Prest., St. Louis, Mo.

AMERICAN ACADEMY OF MEDICINE

Annual Meeting at Atlantic City, N. J., June 4 1904.
CHARLES MCINTIRE, M. D., Sec., Easton, Pa. JOHN B. ROBERTS, M. D., Prest., Philadelphia, Pa.

ASSOCIATION OF AMERICAN PHYSICIANS

Annual Meeting at Washington, D. C., May 10 and 11, 1904.
HENRY HUN, M. D., Sec., 149 Washington Ave., Albany, N. Y. WM. T. COUNCILMAN, M. D., Prest., Boston, Mass.

AMERICAN ACADEMY OF RAILWAY SURGEONS

Annual Meeting at Chicago, Ill., 1904.
T. B. LACEY, M. D., Sec., Council Bluffs, Ia. S. C. PLUMMER, M. D., Prest., Chicago, Ill.

AMERICAN DERMATOLOGICAL ASSOCIATION

Annual Meeting at Niagara Falls, N. Y., June 2, 3 and 4, 1904.
CHAS. J. WHITE, M. D., Sec., 259 Marlborough St., Boston, Mass. JOSEPH ZEISLER, M. D., Prest., Chicago, Ill.

AMERICAN GYNECOLOGICAL SOCIETY

Annual Meeting at Boston, Mass., May 26, 27 and 28, 1904.
J. RIDDLE GOFFE, M. D., Sec., 29 W. 46th St., New York City. EDWARD REYNOLDS, M. D., Prest., Boston, Mass.

AMERICAN NEUROLOGICAL ASSOCIATION

Annual Meeting at St. Louis, Mo., September, 15, 16, 17, 1904.
GRAEME M. HAMMOND, M. D., Sec., 58 West 45th St., New York City. JAMES W. PUTNAM, M. D., Prest., Buffalo, N. Y.

AMERICAN LARYNGOLOGICAL ASSOCIATION

Annual Meeting at Atlantic City, N. J., , 1904.
JAMES E. NEWCOMB, M. D., Sec., 118 W. 69th St, New York City. J. H. HARTMAN, M. D., Prest., Baltimore, Md.

AMERICAN OPHTHALMOLOGICAL SOCIETY

Annual Meeting at July 20, 1904.
S. B. ST. JOHN, M. D., Sec., 26 Pratt St., Hartford, Conn. C. S. BULL, M. D., Prest. New York, N. Y.

AMERICAN ORTHOPEDIC ASSOCIATION

Annual Meeting at Atlantic City, N. J., June 8, 9 and 10, 1904.
JOHN RIDLON, M.D., Sec., 92 State Street, Chicago, Ill. R. H. SAYRE, M.D., Prest., New York, N. Y.

AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION

Annual Meeting at St. Louis, Mo., September 13, 14, 15 and 16, 1904.
CLARENCE E. SKINNER, M. D., Sec., New Haven, Conn. A. D. ROCKWELL, M. D., Prest., New York, N. Y.

AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION

Annual Meeting at St. Louis, Mo., May , 1904.
C. B. BURR, M. D., Sec., Flint, Mich. A. B. RICHARDSON, M. D., Prest., Washington, D. C.

THE ASSOCIATION OF AMERICAN ANATOMISTS

Annual Meeting at
D. S. LAMB, M. D., Sec. GEO. S. HUNTINGTON, M. D., Prest.,
800 Tenth St., N. W., Washington, D. C. New York City.

AMERICAN CLIMATOLOGICAL ASSOCIATION

Annual Meeting at Philadelphia, Pa., June 2, 3 and 4, 1904.
GUY HINSDALE, M. D., Sec., Hot Springs, Va. JAMES E. WILSON, M. D., Prest., Philadelphia, Pa.

AMERICAN PEDIATRIC SOCIETY

Annual Meeting at Detroit, Mich., May , 1904.
SAMUEL S. ADAMS, M. D., Sec., 1 Dupont Circle, Washington, D. C. A. CAILLE, M. D., Prest., New York, N. Y.

THE AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY.

Annual Meeting at Chicago, Ill., May 30, 31, and June 1. 1904.
WENDELL C. PHILLIPS, M. D., Sec., 40 W 47 St., New York City. NORVAL H. PIERCE, M. D. Prest., Chicago, Ill.

AMERICAN OTOLOGICAL SOCIETY.

Annual Meeting at , 1904.
FREDERICK L. JACK, M. D., Sec., 215 Beacon St., Boston, Mass. B. ALEXANDER RANDALL, M. D., Prest., Philadelphia, Pa.

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting at St. Louis, Mo., , 1904.
DUDLEY P. ALLEN, M. D., Sec., Cleveland, Ohio. N. P. DANDRIDGE, M. D., Prest., Cincinnati, Ohio.

THE INTERNATIONAL ASSOCIATION OF RAILWAY SURGEONS.

Annual Meeting at Chicago, Ill., May , 1904.
LOUIS J. MITCHELL, M. D., Sec., 65 Randolph st., Chicago, Ill. JAS. H. FORD, M. D., Prest., Indianapolis Ind.

AMERICAN THERAPEUTIC SOCIETY.

Annual Meeting at New York, N. Y., June 2, 3 and 4, 1904.
N. P. BARNES, M. D., Sec., Washington, D. C. HOWARD H. BARKER, M. D., Prest., Washington, D. C.

AMERICAN UROLOGICAL ASSOCIATION.

Annual Meeting at Atlantic City, N. J., June 10 and 11, 1904.
FERD. C. VALENTINE, M. D., Sec., 81 W. 61 St., New York. RAMON GUITERAS, M. D., Prest., 75 W. 55 St., New York.

THE ACADEMY OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY.

Annual Meeting at Denver, Colo., August 24, 25 and 26, 1904.
DERRICK T. VAIL, M. D., Sec., Cincinnati, O. EDWARD JACKSON, M. D., Prest., Denver, Colo.

CANADIAN MEDICAL ASSOCIATION.

Annual Meeting at Vancouver, B. C., August 23–26, 1904.
GEORGE ELLIOTT, M. D., Sec., 129 John St., Toronto, Canada. SIMON J. TUNSTALL, M. D., Prest., Vancouver, B. C.

THE ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.

Annual Meeting at St. Louis, Mo., Oct. 10–15, 1904.
Maj. J. E. PILCHER, U.S.V., M.D., Sec,. Carlisle, Pa. Med. Director J. C. WISE, U.S.N., M.D., Prest., Washington, D. C.

SEABOARD MEDICAL ASSOCIATION.

Annual Meeting at Washington, N. C., December , 1904.
JNO. RO BAGBY, M. D., Sec., Newport News, Va. M. BOLTON, M. D., Prest., Rich Square, N. C.

TRI-STATE MEDICAL SOCIETY.

Annual Meeting at St. Louis, Mo., May , 1904.
R. B. H. GRADWOHL, M. D., Sec., St. Louis, Mo. W. B. LAFORCE, M. D., Prest., Ottumwa, Ia.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Annual Meeting at , 1904.
HENRY ENOS TULEY, M. D., Sec., 111 W. Kentucky St., Louisville, Ky. EDWIN WALKER, M. D., Prest., Evansville, Ind.

MEDICAL SOCIETY OF THE MISSOURI VALLEY

Annual Meeting at Council Bluffs, Ia., August 24, 1904.
CHAS. WOOD FASSETT, M. D., Sec., St. Joseph, Mo. A. D. WILKINSON, M. D., Prest., Lincoln, Neb.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Annual Meeting at Birmingham, Ala., Dec. 13, 14, and 15, 1904.
W. D. HAGGARD, M. D., Sec., Nashville, Tenn. F. W. MCRAE, M. D., Prest., Atlanta, Ga.

WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Annual Meeting at
GEORGE H. SIMMONS, M. D., Sec., Chicago, Ill. A. H. FERGUSON, M. D., Prest., Chicago, Ill.

STATE.

MEDICAL ASSOCIATION OF THE STATE OF ALABAMA.

Annual Meeting at Mobile, Ala., April , 1904.
LEWIS C. MORRIS, M. D., Sec., Montgomery, Ala. M. B. CAMERON, M. D., Prest., Sumterville, Ala.

ARIZONA MEDICAL ASSOCIATION.

Annual Meeting at Tuscon, Ariz., April 27 and 28, 1904.
J. W. FOSS, M. D., Sec., Phoenix, Ariz. L. P. DAMERON, M. D., Prest., Phoenix, Ariz.

ARKANSAS MEDICAL SOCIETY.

Annual Meeting at
J. P. RUNYAN, M. D., sec., Little Rock, Ark. C. R. SHINAULT, M. D., Prest., Helena, Ark.

CONNECTICUT MEDICAL SOCIETY.

Annual Meeting at New Haven, Conn., May 25 and 26, 1904.
N. E. WORDIN, M. D., Sec., 274 Fairfield Ave., Bridgeport, Conn. S. B. ST JOHN, M. D., Prest., Hartford, Conn.

THE MEDICAL SOCIETY OF THE STATE OF CALIFORNIA.

Annual Meetng at Paso Robles, Cal., April 19-22, 1904.
GEO. H. EVANS, M. D., Sec., 807 Sutter St., San Francisco, Cal. H. BERT ELLIS, M. D., Prest., Los Angeles, Cal.

COLORADO STATE MEDICAL SOCIETY.

Annual Meeting at Denver, Colo., October 4, 5 and 6, 1904.
J. M. BLAINE, M. D., Sec., Denver, Colo. T. H. HAWKINS, M. D., Prest., Denver, Colo.

MEDICAL ASSOCIATION, DISTRICT OF COLUMBIA.

Semi-Annual Meeting at Washington, D. C., April 5, 1904.
D. W. PRENTISS, M. D., Sec., Washington, D. C. A. F. A. KING, M. D., Prest., Washington, D. C.

DELAWARE STATE MEDICAL SOCIETY.

Annual Meeting at Lewes, Del., June 12, 1904.
JOHN PALMER, JR., M. D., Sec., 1900 Delaware Ave., Wilmington, Del. H. G. M. KOLLOCK, M. D., Prest., Newark, Del.

FLORIDA MEDICAL ASSOCIATION.

Annual Meeting at Live Oak, Fla., April 20, 1904.
J. D. FERNANDEZ, M. D., Sec., Jacksonville, Fla. DE WITT WEBB, M. D., Prest. St. Augustine, Fla.

MEDICAL ASSOCIATION OF GEORGIA.

Annual Meeting at Macon, Ga., April 20, 21 and 22, 1904.
LOUIS H. JONES, M. D., Sec., Atlanta, Ga. H. MCHATTON, M. D., Prest., Macon, Ga.

ILLINOIS STATE MEDICAL SOCIETY.

Annual Meeting at Bloomington, Ill., May 17, 18 and 19, 1904.
EDMUND W. WEIS, M. D., Sec., Ottawa, Ill. CARL E. BLACK, M. D., Prest., Jacksonville. Ill.

NATIONAL AND STATE MEDICAL SOCIETIES OF AMERICA.

INDIANA STATE MEDICAL ASSOCIATION.

Annual Meeting at Indianapolis, Ind., May 19 and 20, 1904.

F. C. Heath, M. D., Sec., 427 Newton Claypool Bldg., Indianapolis, Ind.
Jonas Stewart, M. D., Prest., Anderson, Ind.

IOWA STATE MEDICAL SOCIETY.

Annual Meeting at Des Moines, Iowa, May 18, 19 and 20, 1904.

V. L. Treynor, M. D., Sec., Council Bluffs, Ia.
J. A. Scroggs, M. D., Prest. Keokuk, Ia.

HAWAIIAN TERRITORIAL MEDICAL SOCIETY.

Annual Meeting at Honolulu, H. T., December 8, 1904.

J. T. McDonald M. D., Sec., Honolulu, H. T.
W. L. Moore, M. D., Prest., Honolulu, H. T.

INDIAN TERRITORY MEDICAL ASSOCIATION.

Annual Meeting at Holdenville, I. T., June 7, 8 and 9, 1904.

R. J. Cranill, M. D., Sec, McAlester, Ind. Ter.
W. A. Tolleson, M. D., Prest., Eufaula, Ind. Ter.

IDAHO STATE MEDICAL SOCIETY.

Annual Meeting at Lewiston, Idaho, Oct. 6 and 7, 1904.

Ed. E. Maxey, M. D., Sec., Boise, Idaho.
J. L. Conant, Jr., M. D. Prest., Genesee, Idaho.

KANSAS MEDICAL SOCIETY.

Annual Meeting at , 1904.

C. A. Huffman, M. D. Sec., Columbus, Kan.
W. E. McVey, M. D., Prest., Topeka, Kan.

KENTUCKY STATE MEDICAL ASSOCIATION.

Annual Meeting at , 1904.

J. B. Bullitt, M. D., Sec., Louisville, Ky.
Sterle Bailey, M. D., Prest., Stanford, Ky.

LOUISIANA STATE MEDICAL SOCIETY.

Annual Meeting at New Orleans, La., May 10, 11 and 12, 1904.

Wm. M. Perkins, M. D., Sec., 168 University Pl., New Orleans, La.
J. M. Barrier, M. D., Prest., Delhi, La.

MAINE MEDICAL ASSOCIATION.

Annual Meeting at Portland, Me., June 1, 2 and 3, 1904.

Walter E. Tobie, M. D., Sec., 126 Free St., Portland, Me.
Augustus S. Thayer, M. D., Prest., Portland, Me.

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

Annual Meeting at Baltimore, Md., April 26, 27 and 28, 1904.

J. Williams Lord, M. D., Sec., 1011 N. Charles St., Baltimore, Md.
Eugene F. Cordell, M. D., Prest., 855 N. Eutaw St., Baltimore, Md.

THE MASSACHUSETTS MEDICAL SOCIETY.

Annual Meeting at Boston, Mass., June 7 and 8, 1904.

F. W. Goss, M. D., Sec., Roxbury, Mass.
G. E. Francis, M. D., Prest., Worcester, Mass.

THE MICHIGAN STATE MEDICAL SOCIETY.

Annual Meeting at Grand Rapids, Mich., May 25, 26 and 27, 1904.

A. P. Biddle, M. D., Sec., Detroit, Mich.
Wm. F. Breakey, M. D., Prest., Ann Arbor, Mich.

MINNESOTA STATE MEDICAL SOCIETY.

Annual Meeting at Minneapolis, Minn., , 1904.

Thomas McDavitt, M. D., Sec., St. Paul, Minn.
C. L. Greene, M. D., Prest., St. Paul, Minn.

MISSISSIPPI STATE MEDICAL ASSOCIATION.

Annual Meeting at Jackson, Miss., April 20, 1904.

J. J. Haralson, M. D., Sec., Forest, Miss.
C. D. Mitchell, M. D., Prest., Pontotoc, Miss.

MISSOURI STATE MEDICAL ASSOCIATION.

Annual Meeting at , 1904.

C. M. Nicholson, M. D., Sec., St. Louis, Mo.
Woodson Moss, M. D., Prest., Columbia, Mo.

THE MONTANA STATE MEDICAL ASSOCIATION.

Annual Meeting at Butte, Mont., May 18, 1904.

B. C. Brooke, M. D., Sec., Helena, Mont.
Louis Bernheim, M. D., Prest., Butte, Mont.

NEW HAMPSHIRE MEDICAL SOCIETY.

Annual Meeting at Concord, N. H., May 19 and 20, 1904.

Granville P. Conn, M. D., Sec., Concord, N H.
Ezra Mitchell, M. D. Prest., Lancaster. N H.

NEW YORK STATE MEDICAL ASSOCIATION.

Annual Meeting at New York City, Oct. 17-20, 1904.

Guy Davenport Lombard, M. D., Sec., 16 East 31 St., New York City.
Wm. H. Thornton, M. D., Prest. Buffalo, N. Y.

THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Annual Meeting at Albany, N. Y., January 26-28, 1904.

F. C. Curtis, M. D., Sec., 17 Washington Ave., Albany, N. Y.
A. T. Bristow, M. D., Prest., Brooklyn, N. Y.

MEDICAL SOCIETY OF NEW JERSEY.

Annual Meeting at Atlantic City, N. J., June 21, 22 and 23, 1904.

Wm. J. Chandler, M. D., Sec., South Orange, N. J.
Henry Mitchell, M. D., Prest., Asbury Park, N. J.

NEBRASKA STATE MEDICAL SOCIETY.

Annual Meeting at Omaha, Neb., May 3, 4 and 5. 1904.

A. D. Wilkinson, M. D., Sec., 24 Burr Block, Lincoln, Neb.
B. F. Crummer, M. D., Prest., Omaha, Neb.

THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA.

Annual Meeting at Raleigh, N. C., , 1904.

J. Howell Way, M. D., Sec., Waynesville, N. C.
H. B. Weaver, M. D., Prest., Asheville, N. C.

NEW MEXICO MEDICAL SOCIETY.

Annual Meeting at Albuquerque, N. Mex., May , 1904.

J. Frank McConnell, M. D., Sec., Las Cruces, N. M.
Geo. C. Bryan, M. D., Prest., Alamogordo, N. M.

NORTH DAKOTA STATE MEDICAL SOCIETY.

Annual Meeting at Fargo, N. Dak., May 21 and 22, 1904.

C. L. Brimi, M. D., Sec., Cooperstown, N. Dak.
Wm. H. Badenstab, M. D., Prest., New Salem, N. Dak.

OHIO STATE MEDICAL ASSOCIATION.

Annual Meeting at Cleveland, O., May 18, 19 and 20, 1904.

Frank Winders, M. D., Sec., Columbus, Ohio.
Chas. S. Hamilton, M. D., Prest., Columbus, Ohio.

OREGON STATE MEDICAL SOCIETY.

Annual Meeting at Portland, Ore., , 1904.

L. H. Hamilton, M. D., Sec., Portland, Ore.
W. T. Williamson, M. D., Prest., Salem, Ore.

ONTARIO MEDICAL ASSOCIATION.

Annual Meeting at

Harold C. Parsons, M. D., Sec., Toronto, Canada.
J. C. Mitchell, M. D., Prest., Toronto, Canada.

NEW BRUNSWICK MEDICAL SOCIETY.

Annual Meeting at , 1904.

J H. Scammell, M. D., Sec., St. John, N. B.
G. A. B. Addy, M. D., Prest., St. John, N. B.

THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Annual Meeting at Pittsburgh, Pa., Sept. 27, 28 and 29, 1904.

Cyrus L. Stevens, M. D., Sec., Athens, Pa.
William B. Ulrich, M. D., Prest., Chester, Pa.

RHODE ISLAND MEDICAL SOCIETY.

Annual Meeting at Providence, R. I., June 2, 1904.

Stephen A. Welch, M. D., Sec., Providence, R. I.
Wm. R. White, M. D., Prest., Providence, R. I.

SOUTH DAKOTA STATE MEDICAL SOCIETY.

Annual Meeting at Redfield, S. D., , 1904.

Wm. Edwards, M. D., Sec., Bowdle, S. Dak.
B. A. Bobb, M. D., Prest. Mitchell, S. Dak.

SOUTH CAROLINA MEDICAL ASSOCIATION.

Annual Meeting at Darlington, S. C., April 20, 1904.

T. P. Whaley, M. D., Sec., 113 Wentworth St., Charleston, S. C.
E. F. Darby, M. D., Prest., Magnolia, S. C.

THE MEDICAL SOCIETY OF THE STATE OF TENNESSEE.

Annual Meeting at Chattanooga, Tenn., April 12, 1904.

D. J. Roberts, M. D., Sec., Nashville, Tenn.
L. A. McSwain, M. D., Prest., Paris, Tenn.

THE TEXAS STATE MEDICAL SOCIETY.

Annual Meeting at Austin, Tex., April 26, 1904.

H. A. West, M. D., Sec., Galveston, Tex.
Frank Paschal, M. D., Prest., San Antonio, Tex.

UTAH STATE MEDICAL SOCIETY.

Annual Meeting at , 1904.

Geo. E. Robison, M. D., Sec., Provo, Utah.
A. C. McLean, M. D., Prest., Salt Lake City, Utah.

VERMONT STATE MEDICAL SOCIETY.

Annual Meeting at Rutland, Vt., October 13 and 14, 1904.

Geo. H. Gorham, M. D., Sec., Bellows Falls, Vt.
W. N. Bryant, M. D., Prest., Ludlow, Vt.

MEDICAL SOCIETY OF VIRGINIA.

Annual Meeting at Richmond, Va., Oct. , 1904.

Landon B. Edwards, M. D., Sec., Richmond, Va.
Joseph A. Gale, M. D., Prest., Roanoke, Va.

WASHINGTON STATE MEDICAL SOCIETY.

Annual Meeting at Seattle, Wash., July 12, 13 and 14, 1904.

F. H. Cox, M. D., Sec., Seattle, Wash.
Charles McCutcheon, M. D., Prest., Tacoma, Wash.

STATE MEDICAL SOCIETY OF WISCONSIN

Annual Meeting at Milwaukee, Wis., June 22, 1904.

C. S. Sheldon, M. D., Sec., Madison, Wis.
F. E. Waleridge, M. D., Prest., Milwaukee, Wis.

THE WEST VIRGINIA STATE MEDICAL ASSOCIATION.

Annual Meeting at Fairmount, W. Va., May , 1904.

William W. Golden, M. D., Sec., Elkins, W. Va.
T. L. Barber, M. D., Prest., Charleston, W. Va.

WYOMING STATE MEDICAL SOCIETY.

Annual Meeting at Rawlins, Wyo., Sept. 13, 1904.

H. S. Finney, M. D., Sec., Rawlins, Wyo.
J. L. Wicks, M. D., Prest., Evanston, Wyo.

Details are wanting in several instances, either because dates are not yet fixed, or because no response has been made to our request for information.

CONSUMPTION

One of the greatest dangers of consumption is its insidious onset. The patient remains unsuspicious of the disease. Bronchitis!—Maybe—but alas, too late, is he conscious of the consuming disease.

Do not turn away your eyes from this. Your interests cannot afford it because we will be of assistance to you, if you have any tubercular patients. Perhaps the lungs are not affected, yet this applies to any tissue of the body.

McArthur's Syrup of Hypophosphites

Has stood the test during many years for unequaled efficacy in the treatment of Tuberculosis. It has proved itself, time and time again, to be positively beneficial in this condition in the hands of prominent observers, clinicians, and what is more, average practicing physicians, hundreds of whom have written us their admiring enconiums in its behalf, and it is the enthusiastic conviction of many that its effect is truly specific.

Space limits our placing before you in detail the merits of our preparation, but we wish to send you our Pamphlet on Tuberculosis, our Chart on Diseases of the Lungs and Throat, a 1904 Calendar, a Sample Bottle (one-quarter of regular size), free to any physician applying, and to correspond with you in accordance with medical ethics.

THE McARTHUR HYPOPHOSPHITE CO.

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He appreciates, also, the psychic value of artistic design and finish, and finds in

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For Eczema, Furunculosis, Acne, Sycosis, Pemphigus, Herpes, Ivy Poisoning

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DIOVIBURNIA GERMILETUM NEUROSINE

Dysmenorrhea and Excessive Leucorrhea.

I very cheerfully give my testimony to Dioviburnia, prepared by an able pharmacist of this city. I have employed this medicine in cases of dysmenorrhea, suppression of catamenia, and in excessive leucorrhea, with satisfactory results. I recommend its trial, believing it will give entire satisfaction.

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Unexcelled in Dysmenorrhea.

I have used Dioviburnia sufficiently frequent to satisfy myself of its merits. It is unexcelled in painful dysmenorrhea, possessing antispasmodic properties exerted especially on the uterus.

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For a long while I have prescribed Dioviburnia, prepared by a well-known St. Louis pharmacist, in those painful functional disorders of the uterus and appendages occurring in cases that come under my care for renal and vesical diseases with results satisfactory.

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Dioviburnia is the best uterine tonic and antispasmodic, relieving the pains of dysmenorrhœa and regulator of the uterine functions. I freely give this recommendation of Dioviburnia, as it is neither a patented nor a secret medicine.

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"Eczema often proves the 'bete-noire' of the physician's life. The erythema, the papules, the vesicles or pustules, singular or in combination of all three lesions in their various forms or degrees, with more or less infiltration and intolerable itching, followed by desquamation, discharge or formation of crusts, coming in crops and with a persistence that seems unyielding, leads us to welcome an agent so admirable as 'Germiletum,' which relieves the itching and irritation instantly, and continuing the application of Germiletum this inveterate disease will be entirely eradicated."

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"Authorities—and our experience teaches that the most important step towards the amelioration of Chronic Nasal Catarrh is cleanliness. A generous use of alkaline antiseptic with spray, sufficiently stimulating to encourage the formation of new blood vessels and invigorate those that have remained, thus increasing nutrition and the formation of regenerative elements. Such remedial agent should be solvent to facilitate the removal of all offensive and excessive seretions with the accumulations. That which has proven in my hands the ideal solvent and stimulating alkaline antiseptic is Germiletum. By its persistent use twice or thrice daily, full strength or diluted where the mucous membrane is sensitive, will effecually cure the most advanced case of Chronic Nasal Catarrh. In chronic cases persistent treatment is necessary.

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"Very true; but in all the years that ichthyol has been employed, physicians have ardently wished for something as good as it which would be free from its disagreeable physical properties — abominable smell and staining qualities.

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Thigenol contains 10 per cent soluble organic sulphur; ichthyol contains only 8 per cent. Thigenol is odorless on use, whether in solutions, suppositories, ointments, tampons, although it has an odor in the container. Ichthyol has a nauseous, clinging smell.

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SYRUP HYPOPHOSPHITES COMP. WITH QUININE. STRYCHNINE AND MANGANESE.

1-128 grain Strychnine to teaspoonful.

The pharmaceutical skill displayed in making this favorite compound more stable and agreeable deserves the approbation of the profession.

SYRUPUS ROBORANS AS A TONIC DURING CONVALESCENSE HAS NO EQUAL.

As a nerve stimulant and restorative in wasting and debilitating diseases, as a constructive agent in Insomnia, Pneumonia, Tuberculosis, Bronchial Asthma, Marasmus, Strumous Diseases and General Debility, this compound has no superior. Owing to the solubility of the salts, addition can be made of Fowler's Solution, Syrup Iod. Iron, Iod. Potass., etc., giving the advantages of those remedies without interfering with the stability of the preparations. **SYRUPUS ROBORANS** is a perfect solution, and will keep in any climate.

Dr. W. O. Roberts says: "In cases convalescing from 'La Grippe,' Syrupus Roborans has no equal."

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Gentlemen: — The excellence of your preparations — **"SYRUPUS ROBORANS"** and **"PEPTIC ESSENCE COMP."**—cannot be questioned. I use both in my practice, and have always been pleased with the effect of each. Respectfully, J. M. MATHEWS, A.M., M.D.,

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Please note that Essence and Elixir Pepsin contain only Pepsin, while in

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we have all the digestive ferments. These are preserved in solution with C. P. Glycerine in a manner retaining their full therapeutic value, which is exerted in and beyond the stomach.

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A POWERFUL DIGESTIVE FLUID IN PALATABLE FORM.

It is a Stomachic Tonic, and relieves Indigestion, Flatulency, and has the remarkable property of arresting vomiting during pregnancy. It is a remedy of great value in Gastralgia, Enteralgia, Cholera Infantum, and intestinal derangements, especially those of an inflammatory character. For nursing mothers and teething children it has no superior. Besides mere digestive properties, Pepsin and Pancreatine have powerful soothing and sedative effects, and are therefore indicated in all gastric and intestinal derangements, and especially in inflammatory conditions. It is perfectly miscible with any appropriate medium. In certain cases the addition of Tr. Nux Vomica gives much satisfaction. Please write for Peter's Peptic Essence Comp., and you will not be disappointed. These preparations are held strictly in the hands of the medical profession, never having been advertised as popular remedies, nor put up with wrappers and circulars expatiating on the use of the Hypophosphites or Digestives, thus educating the public in the use of these valuable compounds.

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THERAPEUTIC ACTION is based in theory upon the following fundamental principles, its prime object being to keep the blood circulating in the diseased part:

The blood, which normally circulates fully and freely through the vascular system, is the food supply of the millions of cells which make up the body structure. Inflammation means certain successional deviations or interferences with the circulation in some part or parts. In health, the functions of the vascular system are automatically controlled by the central nervous system. Three-fourths of the body composition is fluid—chemically speaking, water, and as a magnet has affinity for particles of steel, so Antiphlogistine has affinity for water. Antiphlogistine is an antiseptic, a non-conductor of heat and a vasomotor stimulant. The skin may be regarded as a permeable membrane, separating two fluids of different densities, the blood and Antiphlogistine. If Antiphlogistine is applied hot under such conditions something definite happens and that scientifically—an interchange of fluids, most marked towards Antiphlogistine; hence the deduction that Antiphlogistine acts through reflex action and dialysis, the latter scientifically including the physical processes of exosmosis and endosmosis.

DEEP-SEATED STRUCTURES.—If Antiphlogistine is applied warm and thick, the thicker the better, for pneumonia, pleurisy, bronchitis, peritonitis, or any affection involving deep-seated structures, it maintains a uniform degree of heat for twenty-four hours or more; it stimulates the cutaneous reflexes, causing a contraction of the deep-seated and coincidently a dilatation of the superficial blood vessels; at the same time it attracts or draws the blood to the surface—flushes the superficial capillaries—bleeds but saves the blood; thus the aggravating symptoms will be almost always immediately ameliorated; congestion and pain are relieved; the temperature declines; blood pressure on the overworked heart is reduced; the muscular and nervous systems are relaxed and refreshing sleep is invited.

SUPERFICIAL STRUCTURES.—It is no longer proper to treat with the old fashioned bacteria-breeding flaxseed poultice, boils, felons, sprains, chronic ulcers, inflamed glands, periostitis and other types of inflammation involving comparatively superficial tissues. Antiphlogistine is a soothing antiseptic well adapted to sensitive and abraded surfaces. It draws out or absorbs the liquid exudate from the swollen and sensitive tissues, the result being that the blood is permitted to circulate freely through the affected area and nourishment is conveyed to the injured cells. Through reflex action and endosmosis a stimulating, alterative, tonic and soothing influence is exerted upon the affected cells, lymphatics and other tissues.

GENERAL DIRECTIONS.—Always heat in can (never on a cloth) by placing it in hot water. Do not allow water to get into the medicine. When as hot as can be borne, take a suitable knife and apply as quickly as possible, spreading the Antiphlogistine on the skin over the affected part, at least an eighth of an inch thick and covering promptly with a liberal supply of absorbent cotton and a suitable bandage or compress. Needless exposure to the air or contact with water markedly reduces the remedial value of Antiphlogistine, hence make all applications quickly. Remove dressings as soon as they will peel off nicely—in twelve to twenty-four hours.

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Bismuth : : Albuminate

(21% Metallic Bismuth)

Bismutose.—Succedanum to Subnitrate Bismuth in diseases of the gastro-intestinal canal of children and adults.

Bismutose is absolutely non-toxic and non-irritant even in two-ounce doses, and free from the metallic taste of the subnitrate.

Bismutose is practically insoluble in the stomach, but active in the intestines.

Indications: *Astringent* in intestinal disorders of nurslings, summer diarrhœas of children, and in acute, subacute and chronic catarrhal intestinal inflammation of children and adults. *Protective* in ulcerative, irritative, and fermentative processes of the digestive tract, Ulcers, Nervous Dyspepsia, Typhoid, etc.

DOSE: Large doses should be given. Children, 15 to 30 grains every hour; adults, ½ drachm to 1½ drachms, in milk or gruel. . .

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In endometritis and cervicitis accompanied by leucorrhea, it is of prime importance to equalize the circulation of the pelvis, reduce engorgement, and destroy bacilli causing the inflammatory process.

When all other means have failed and thorough curetting seems essential, try

Micajah's Medicated Uterine Wafer

This wafer, self-retained close to the os uteri, slowly dissolves, penetrating the diseased membrane.

In 3 or 4 days exfoliation begins to take place, and entire casts of the cervix and os are sometimes found after the hot water douche (100°-110°).

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Write for our concise, authoritative little book entitled "Hints on the Treatment of Diseases of Women," which will be sent prepaid with generous samples of the Wafers, by

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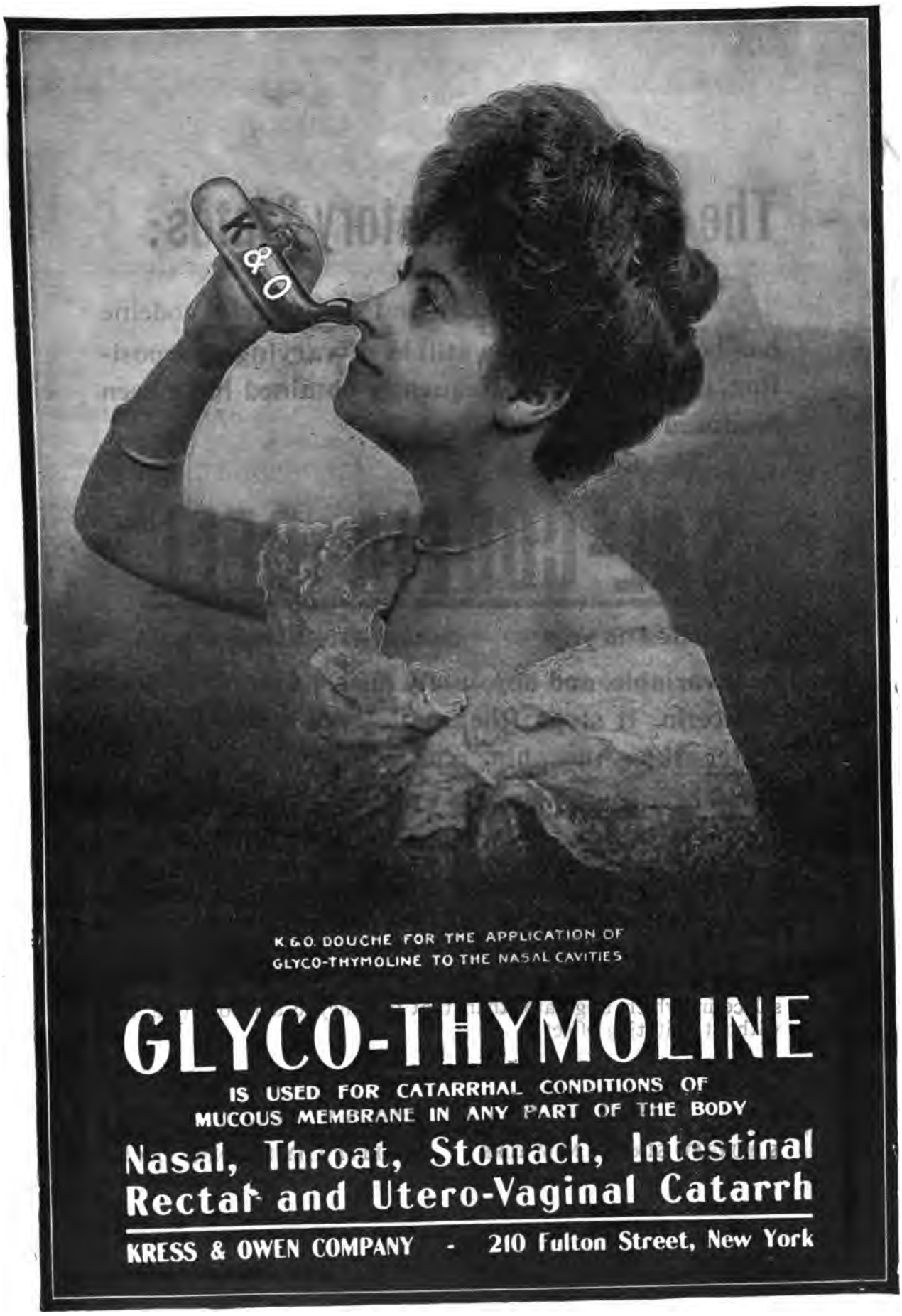

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**Nasal, Throat, Stomach, Intestinal
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Salacetin gr. v. Codeine Sulphate gr. 1-4.

is invariable, and absolutely pure. Combined with Salacetin, it stops Rheumatic and Neuralgic Pain better than morphia, and no constipation, drug habit, or inconvenience of any kind follows.

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URISEPTIN

GIVE your patient one tablespoonful in a teacup of hot water. You will find that his urine will contain Formaldehyd in thirty minutes; one or two teaspoonfuls every three or four hours will keep it that way. The urine is rendered antiseptic. Irritation and pain subside. Healing of irritated surfaces begins promptly. The increased flow of urine flushes the entire urinary tract.

FORMULA—A Lithium Compound of Formaldehyd dissolved in Aqueous Fluid Extract of Corn Silk and Couch Grass (24 grs. to fluid ounce).

DOSE—Tea to tablespoonful every three or four hours, preferably in hot water.

At your request we will send a full size $1.00) bottle, if you send 25 cts. to pay express.

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They possess the following advantages:

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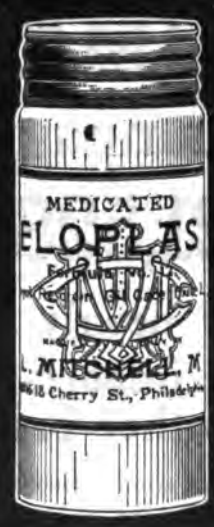

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A full-size jar of any one formula mailed just once to any physician remitting me 25 cents.

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For Haemorrhoids.—Hunyadi János is most efficient; by its gently laxative action it empties the bowel without strain, bleeding or irritation. For **CONSTIPATION**

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A Natural Laxative Mineral Water has no equal in any aperient offered to the Profession.

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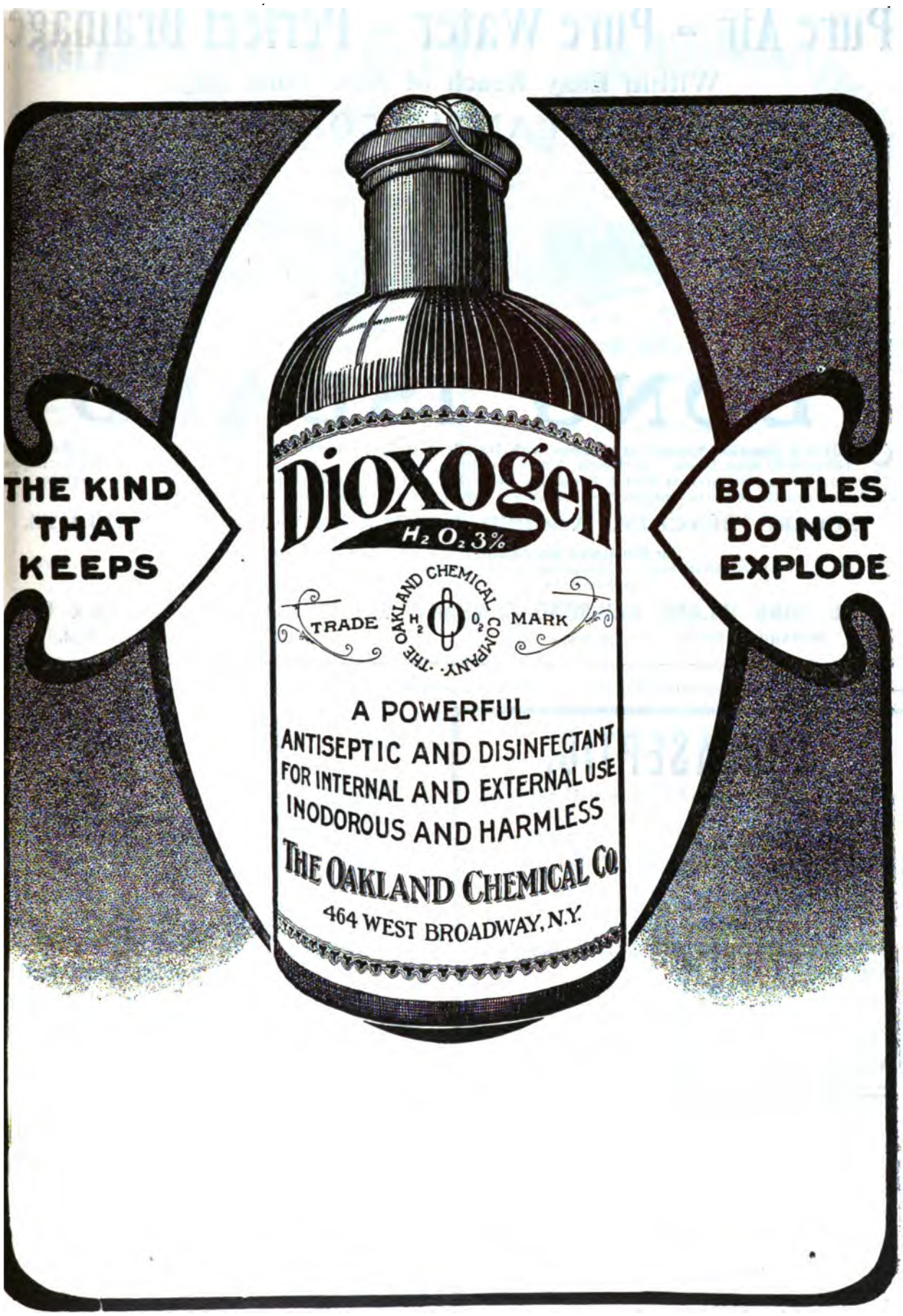
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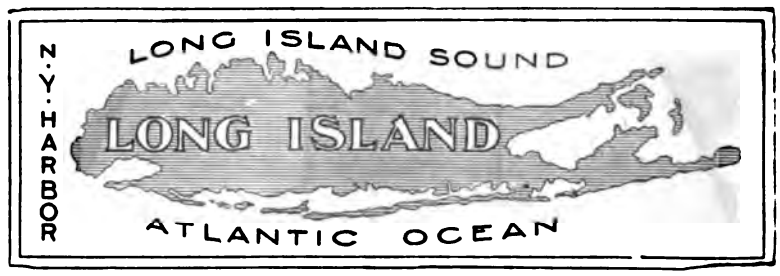

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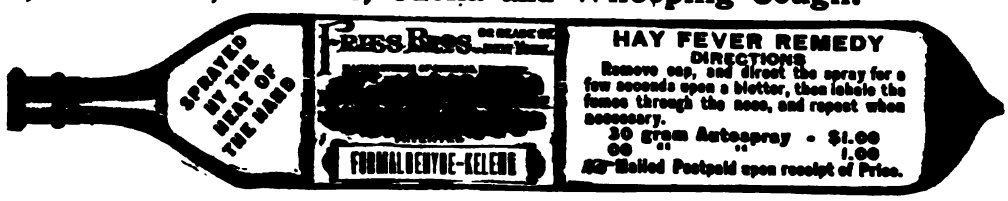
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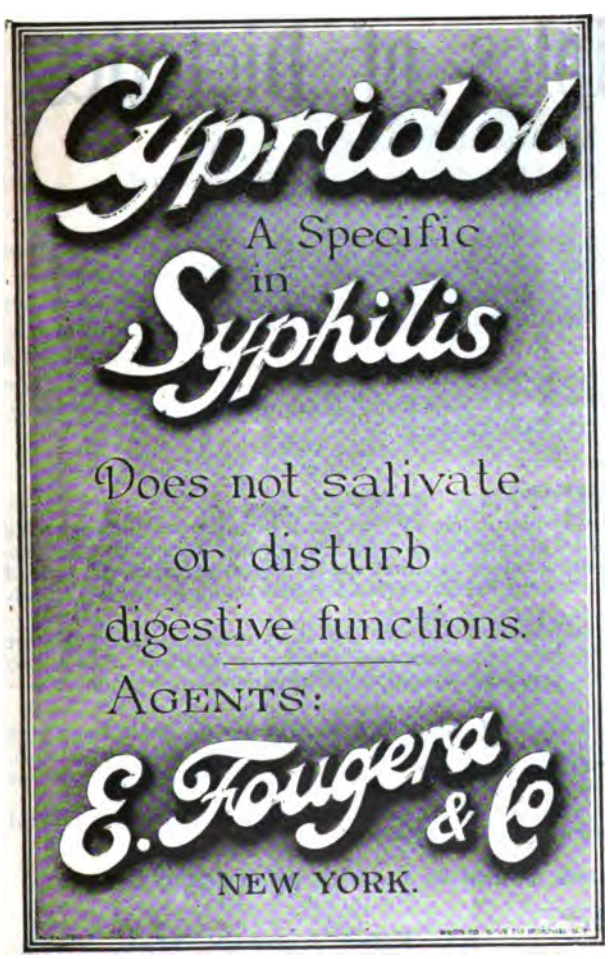

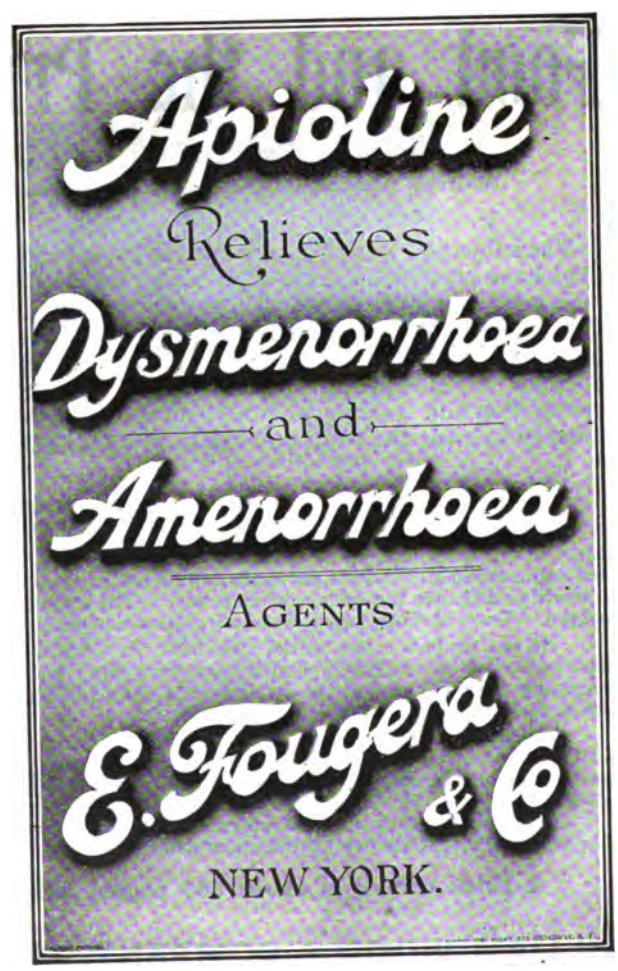

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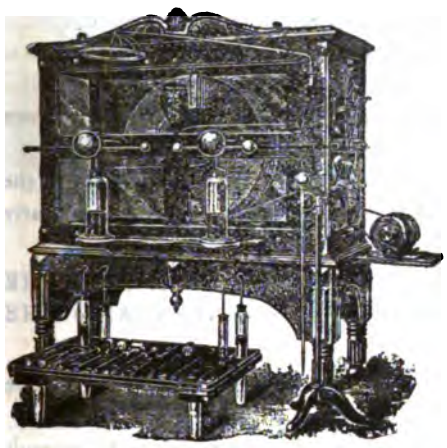

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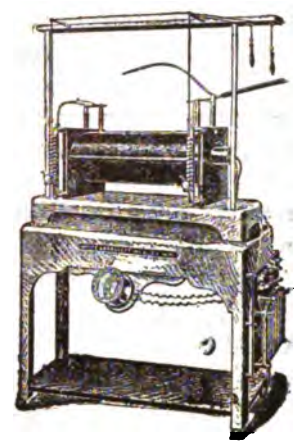

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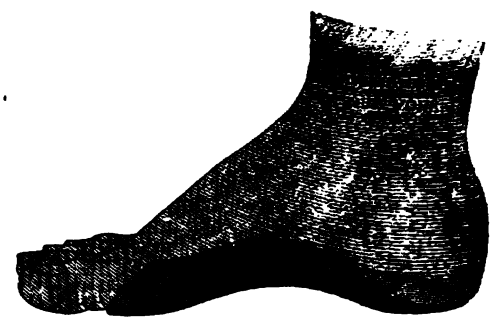

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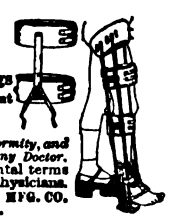

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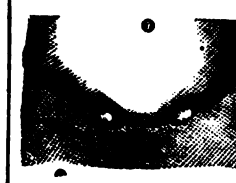

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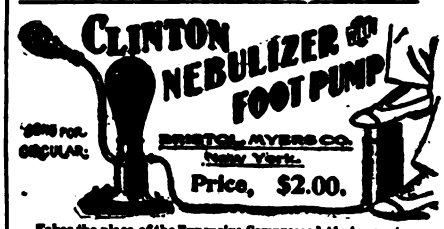

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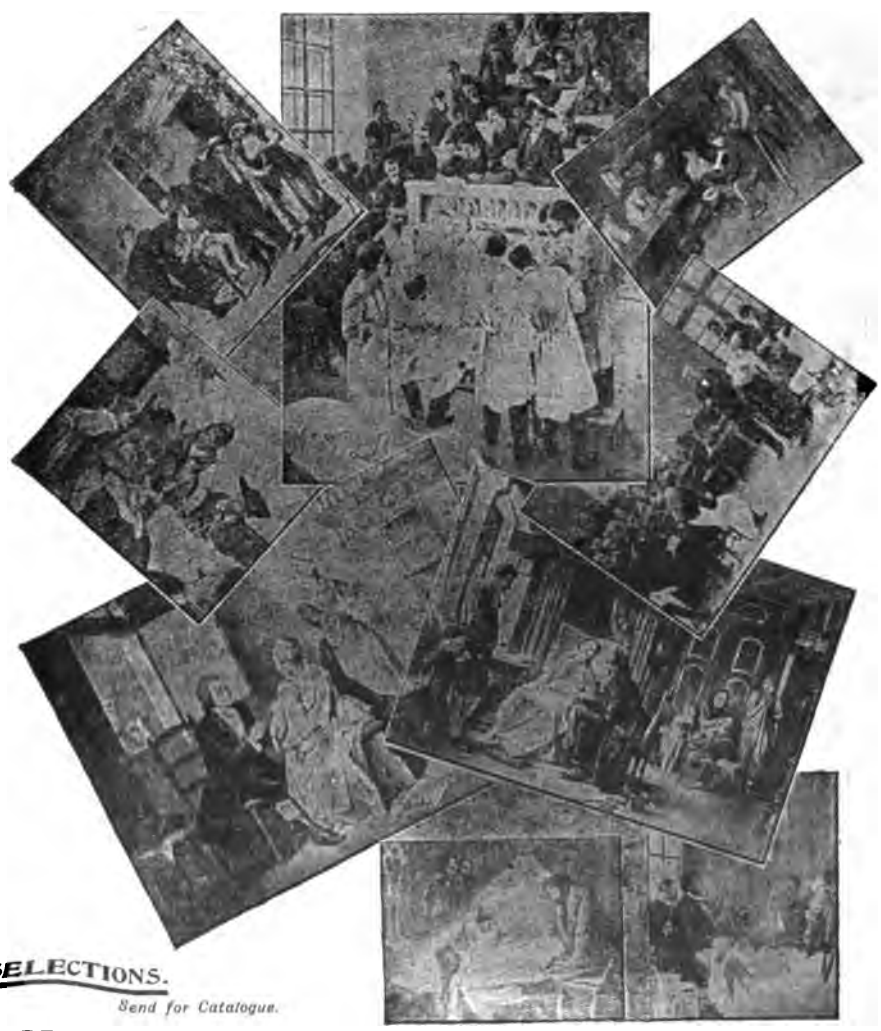

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